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Secure Hash Algorithm
Message Digest Length = 160

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One Block Message Sample

Input Message: "abc"

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Initial hash value:

H[0] = 67452301
H[1] = EFC DAB89
H[2] = 98BADC FE
H[3] = 10325476
H[4] = C3D2E1F0

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Block Contents:

W[0] = 61626380
W[1] = 00000000
W[2] = 00000000
W[3] = 00000000
W[4] = 00000000
W[5] = 00000000
W[6] = 00000000
W[7] = 00000000
W[8] = 00000000
W[9] = 00000000
W[10] = 00000000
W[11] = 00000000
W[12] = 00000000
W[13] = 00000000
W[14] = 00000000
W[15] = 00000018

	A	B	C	D	E
t= 0:	0116FC33	67452301	7BF36AE2	98BADC FE	10325476
t= 1:	8990536D	0116FC33	59D148C0	7BF36AE2	98BADC FE
t= 2:	A1390F08	8990536D	C045BF0C	59D148C0	7BF36AE2
t= 3:	CDD8E11B	A1390F08	626414DB	C045BF0C	59D148C0
t= 4:	CFD499DE	CDD8E11B	284E43C2	626414DB	C045BF0C
t= 5:	3FC7CA40	CFD499DE	F3763846	284E43C2	626414DB
t= 6:	993E30C1	3FC7CA40	B3F52677	F3763846	284E43C2
t= 7:	9E8C07D4	993E30C1	0FF1F290	B3F52677	F3763846
t= 8:	4B6AE328	9E8C07D4	664F8C30	0FF1F290	B3F52677
t= 9:	8351F929	4B6AE328	27A301F5	664F8C30	0FF1F290
t=10:	FBDA9E89	8351F929	12DAB8CA	27A301F5	664F8C30
t=11:	63188FE4	FBDA9E89	60D47E4A	12DAB8CA	27A301F5

t=12:	4607B664	63188FE4	7EF6A7A2	60D47E4A	12DAB8CA
t=13:	9128F695	4607B664	18C623F9	7EF6A7A2	60D47E4A
t=14:	196BEE77	9128F695	1181ED99	18C623F9	7EF6A7A2
t=15:	20BDD62F	196BEE77	644A3DA5	1181ED99	18C623F9
t=16:	4E925823	20BDD62F	C65AFB9D	644A3DA5	1181ED99
t=17:	82AA6728	4E925823	C82F758B	C65AFB9D	644A3DA5
t=18:	DC64901D	82AA6728	D3A49608	C82F758B	C65AFB9D
t=19:	FD9E1D7D	DC64901D	20AA99CA	D3A49608	C82F758B
t=20:	1A37B0CA	FD9E1D7D	77192407	20AA99CA	D3A49608
t=21:	33A23BFC	1A37B0CA	7F67875F	77192407	20AA99CA
t=22:	21283486	33A23BFC	868DEC32	7F67875F	77192407
t=23:	D541F12D	21283486	0CE88EFF	868DEC32	7F67875F
t=24:	C7567DC6	D541F12D	884A0D21	0CE88EFF	868DEC32
t=25:	48413BA4	C7567DC6	75507C4B	884A0D21	0CE88EFF
t=26:	BE35FBD5	48413BA4	B1D59F71	75507C4B	884A0D21
t=27:	4AA84D97	BE35FBD5	12104EE9	B1D59F71	75507C4B
t=28:	8370B52E	4AA84D97	6F8D7EF5	12104EE9	B1D59F71
t=29:	C5FBAF5D	8370B52E	D2AA1365	6F8D7EF5	12104EE9
t=30:	1267B407	C5FBAF5D	A0DC2D4B	D2AA1365	6F8D7EF5
t=31:	3B845D33	1267B407	717EEBD7	A0DC2D4B	D2AA1365
t=32:	046FAA0A	3B845D33	C499ED01	717EEBD7	A0DC2D4B
t=33:	2C0EBC11	046FAA0A	CEE1174C	C499ED01	717EEBD7
t=34:	21796AD4	2C0EBC11	811BEA82	CEE1174C	C499ED01
t=35:	DCBBB0CB	21796AD4	4B03AF04	811BEA82	CEE1174C
t=36:	0F511FD8	DCBBB0CB	085E5AB5	4B03AF04	811BEA82
t=37:	DC63973F	0F511FD8	F72EEC32	085E5AB5	4B03AF04
t=38:	4C986405	DC63973F	03D447F6	F72EEC32	085E5AB5
t=39:	32DE1CBA	4C986405	F718E5CF	03D447F6	F72EEC32
t=40:	FC87DEDf	32DE1CBA	53261901	F718E5CF	03D447F6
t=41:	970A0D5C	FC87DEDf	8CB7872E	53261901	F718E5CF
t=42:	7F193DC5	970A0D5C	FF21F7B7	8CB7872E	53261901
t=43:	EE1B1AAF	7F193DC5	25C28357	FF21F7B7	8CB7872E
t=44:	40F28E09	EE1B1AAF	5FC64F71	25C28357	FF21F7B7
t=45:	1C51E1F2	40F28E09	FB86C6AB	5FC64F71	25C28357
t=46:	A01B846C	1C51E1F2	503CA382	FB86C6AB	5FC64F71
t=47:	BEAD02CA	A01B846C	8714787C	503CA382	FB86C6AB
t=48:	BAF39337	BEAD02CA	2806E11B	8714787C	503CA382
t=49:	120731C5	BAF39337	AFAB40B2	2806E11B	8714787C
t=50:	641DB2CE	120731C5	EEBCE4CD	AFAB40B2	2806E11B
t=51:	3847AD66	641DB2CE	4481CC71	EEBCE4CD	AFAB40B2
t=52:	E490436D	3847AD66	99076CB3	4481CC71	EEBCE4CD
t=53:	27E9F1D8	E490436D	8E11EB59	99076CB3	4481CC71
t=54:	7B71F76D	27E9F1D8	792410DB	8E11EB59	99076CB3
t=55:	5E6456AF	7B71F76D	09FA7C76	792410DB	8E11EB59
t=56:	C846093F	5E6456AF	5EDC7DDB	09FA7C76	792410DB
t=57:	D262FF50	C846093F	D79915AB	5EDC7DDB	09FA7C76
t=58:	09D785FD	D262FF50	F211824F	D79915AB	5EDC7DDB
t=59:	3F52DE5A	09D785FD	3498BFD4	F211824F	D79915AB
t=60:	D756C147	3F52DE5A	4275E17F	3498BFD4	F211824F
t=61:	548C9CB2	D756C147	8FD4B796	4275E17F	3498BFD4
t=62:	B66C020B	548C9CB2	F5D5B051	8FD4B796	4275E17F
t=63:	6B61C9E1	B66C020B	9523272C	F5D5B051	8FD4B796
t=64:	19DFA7AC	6B61C9E1	ED9B0082	9523272C	F5D5B051
t=65:	101655F9	19DFA7AC	5AD87278	ED9B0082	9523272C

t=66:	0C3DF2B4	101655F9	0677E9EB	5AD87278	ED9B0082
t=67:	78DD4D2B	0C3DF2B4	4405957E	0677E9EB	5AD87278
t=68:	497093C0	78DD4D2B	030F7CAD	4405957E	0677E9EB
t=69:	3F2588C2	497093C0	DE37534A	030F7CAD	4405957E
t=70:	C199F8C7	3F2588C2	125C24F0	DE37534A	030F7CAD
t=71:	39859DE7	C199F8C7	8FC96230	125C24F0	DE37534A
t=72:	EDB42DE4	39859DE7	F0667E31	8FC96230	125C24F0
t=73:	11793F6F	EDB42DE4	CE616779	F0667E31	8FC96230
t=74:	5EE76897	11793F6F	3B6D0B79	CE616779	F0667E31
t=75:	63F7DAB7	5EE76897	C45E4FDB	3B6D0B79	CE616779
t=76:	A079B7D9	63F7DAB7	D7B9DA25	C45E4FDB	3B6D0B79
t=77:	860D21CC	A079B7D9	D8FDF6AD	D7B9DA25	C45E4FDB
t=78:	5738D5E1	860D21CC	681E6DF6	D8FDF6AD	D7B9DA25
t=79:	42541B35	5738D5E1	21834873	681E6DF6	D8FDF6AD

$H[0] = 67452301 + 42541B35 = A9993E36$
 $H[1] = EFC DAB89 + 5738D5E1 = 4706816A$
 $H[2] = 98BADC FE + 21834873 = BA3E2571$
 $H[3] = 10325476 + 681E6DF6 = 7850C26C$
 $H[4] = C3D2E1F0 + D8FDF6AD = 9CD0D89D$

Message Digest is
 A9993E36 4706816A BA3E2571 7850C26C 9CD0D89D

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Two Block Message Sample

Input Message:

"abcdbcdecdefdefgefghfghighijhijki jkljklmklmnlmnomnopnopq"

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Initial hash value:

$H[0] = 67452301$
 $H[1] = EFC DAB89$
 $H[2] = 98BADC FE$
 $H[3] = 10325476$
 $H[4] = C3D2E1F0$

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Block Contents:

$W[0] = 61626364$
 $W[1] = 62636465$
 $W[2] = 63646566$
 $W[3] = 64656667$
 $W[4] = 65666768$
 $W[5] = 66676869$
 $W[6] = 6768696A$

W[7] = 68696A6B
 W[8] = 696A6B6C
 W[9] = 6A6B6C6D
 W[10] = 6B6C6D6E
 W[11] = 6C6D6E6F
 W[12] = 6D6E6F70
 W[13] = 6E6F7071
 W[14] = 80000000
 W[15] = 00000000

	A	B	C	D	E
t= 0:	0116FC17	67452301	7BF36AE2	98BADCFE	10325476
t= 1:	EBF3B452	0116FC17	59D148C0	7BF36AE2	98BADCFE
t= 2:	5109913A	EBF3B452	C045BF05	59D148C0	7BF36AE2
t= 3:	2C4F6EAC	5109913A	BAFCED14	C045BF05	59D148C0
t= 4:	33F4AE5B	2C4F6EAC	9442644E	BAFCED14	C045BF05
t= 5:	96B85189	33F4AE5B	0B13DBAB	9442644E	BAFCED14
t= 6:	DB04CB58	96B85189	CCFD2B96	0B13DBAB	9442644E
t= 7:	45833F0F	DB04CB58	65AE1462	CCFD2B96	0B13DBAB
t= 8:	C565C35E	45833F0F	36C132D6	65AE1462	CCFD2B96
t= 9:	6350AFDA	C565C35E	D160CFC3	36C132D6	65AE1462
t=10:	8993EA77	6350AFDA	B15970D7	D160CFC3	36C132D6
t=11:	E19ECAA2	8993EA77	98D42BF6	B15970D7	D160CFC3
t=12:	8603481E	E19ECAA2	E264FA9D	98D42BF6	B15970D7
t=13:	32F94A85	8603481E	B867B2A8	E264FA9D	98D42BF6
t=14:	B2E7A8BE	32F94A85	A180D207	B867B2A8	E264FA9D
t=15:	42637E39	B2E7A8BE	4CBE52A1	A180D207	B867B2A8
t=16:	6B068048	42637E39	ACB9EA2F	4CBE52A1	A180D207
t=17:	426B9C35	6B068048	5098DF8E	ACB9EA2F	4CBE52A1
t=18:	944B1BD1	426B9C35	1AC1A012	5098DF8E	ACB9EA2F
t=19:	6C445652	944B1BD1	509AE70D	1AC1A012	5098DF8E
t=20:	95836DA5	6C445652	6512C6F4	509AE70D	1AC1A012
t=21:	09511177	95836DA5	9B111594	6512C6F4	509AE70D
t=22:	E2B92DC4	09511177	6560DB69	9B111594	6512C6F4
t=23:	FD224575	E2B92DC4	C254445D	6560DB69	9B111594
t=24:	EEB82D9A	FD224575	38AE4B71	C254445D	6560DB69
t=25:	5A142C1A	EEB82D9A	7F48915D	38AE4B71	C254445D
t=26:	2972F7C7	5A142C1A	BBAE0B66	7F48915D	38AE4B71
t=27:	D526A644	2972F7C7	96850B06	BBAE0B66	7F48915D
t=28:	E1122421	D526A644	CA5CBDF1	96850B06	BBAE0B66
t=29:	05B457B2	E1122421	3549A991	CA5CBDF1	96850B06
t=30:	A9C84BEC	05B457B2	78448908	3549A991	CA5CBDF1
t=31:	52E31F60	A9C84BEC	816D15EC	78448908	3549A991
t=32:	5AF3242C	52E31F60	2A7212FB	816D15EC	78448908
t=33:	31C756A9	5AF3242C	14B8C7D8	2A7212FB	816D15EC
t=34:	E9AC987C	31C756A9	16BCC90B	14B8C7D8	2A7212FB
t=35:	AB7C32EE	E9AC987C	4C71D5AA	16BCC90B	14B8C7D8
t=36:	5933FC99	AB7C32EE	3A6B261F	4C71D5AA	16BCC90B
t=37:	43F87AE9	5933FC99	AADF0CBB	3A6B261F	4C71D5AA
t=38:	24957F22	43F87AE9	564CFF26	AADF0CBB	3A6B261F
t=39:	ADEB7478	24957F22	50FE1EBA	564CFF26	AADF0CBB
t=40:	D70E5010	ADEB7478	89255FC8	50FE1EBA	564CFF26
t=41:	79BCFB08	D70E5010	2B7ADD1E	89255FC8	50FE1EBA
t=42:	F9BCB8DE	79BCFB08	35C39404	2B7ADD1E	89255FC8

t=43:	633E9561	F9BCB8DE	1E6F3EC2	35C39404	2B7ADD1E
t=44:	98C1EA64	633E9561	BE6F2E37	1E6F3EC2	35C39404
t=45:	C6EA241E	98C1EA64	58CFA558	BE6F2E37	1E6F3EC2
t=46:	A2AD4F02	C6EA241E	26307A99	58CFA558	BE6F2E37
t=47:	C8A69090	A2AD4F02	B1BA8907	26307A99	58CFA558
t=48:	88341600	C8A69090	A8AB53C0	B1BA8907	26307A99
t=49:	7E846F58	88341600	3229A424	A8AB53C0	B1BA8907
t=50:	86E358BA	7E846F58	220D0580	3229A424	A8AB53C0
t=51:	8D2E76C8	86E358BA	1FA11BD6	220D0580	3229A424
t=52:	CE892E10	8D2E76C8	A1B8D62E	1FA11BD6	220D0580
t=53:	EDEA95B1	CE892E10	234B9DB2	A1B8D62E	1FA11BD6
t=54:	36D1230A	EDEA95B1	33A24B84	234B9DB2	A1B8D62E
t=55:	776C3910	36D1230A	7B7AA56C	33A24B84	234B9DB2
t=56:	A681B723	776C3910	8DB448C2	7B7AA56C	33A24B84
t=57:	AC0A794F	A681B723	1DDB0E44	8DB448C2	7B7AA56C
t=58:	F03D3782	AC0A794F	E9A06DC8	1DDB0E44	8DB448C2
t=59:	9EF775C3	F03D3782	EB029E53	E9A06DC8	1DDB0E44
t=60:	36254B13	9EF775C3	BC0F4DE0	EB029E53	E9A06DC8
t=61:	4080D4DC	36254B13	E7BDDD70	BC0F4DE0	EB029E53
t=62:	2BFAF7A8	4080D4DC	CD8952C4	E7BDDD70	BC0F4DE0
t=63:	513F9CA0	2BFAF7A8	10203537	CD8952C4	E7BDDD70
t=64:	E5895C81	513F9CA0	0AFEBDEA	10203537	CD8952C4
t=65:	1037D2D5	E5895C81	144FE728	0AFEBDEA	10203537
t=66:	14A82DA9	1037D2D5	79625720	144FE728	0AFEBDEA
t=67:	6D17C9FD	14A82DA9	440DF4B5	79625720	144FE728
t=68:	2C7B07BD	6D17C9FD	452A0B6A	440DF4B5	79625720
t=69:	FD6EFFFF	2C7B07BD	5B45F27F	452A0B6A	440DF4B5
t=70:	112B96E3	FD6EFFFF	4B1EC1EF	5B45F27F	452A0B6A
t=71:	84065712	112B96E3	FF7DBBFF	4B1EC1EF	5B45F27F
t=72:	AB89FB71	84065712	C44AE5B8	FF7DBBFF	4B1EC1EF
t=73:	C5210E35	AB89FB71	A10195C4	C44AE5B8	FF7DBBFF
t=74:	352D9F4B	C5210E35	6AE27EDC	A10195C4	C44AE5B8
t=75:	1A0E0E0A	352D9F4B	7148438D	6AE27EDC	A10195C4
t=76:	D0D47349	1A0E0E0A	CD4B67D2	7148438D	6AE27EDC
t=77:	AD38620D	D0D47349	86838382	CD4B67D2	7148438D
t=78:	D3AD7C25	AD38620D	74351CD2	86838382	CD4B67D2
t=79:	8CE34517	D3AD7C25	6B4E1883	74351CD2	86838382

H[0] = 67452301 + 8CE34517 = F4286818

H[1] = EFCDAB89 + D3AD7C25 = C37B27AE

H[2] = 98BADCFE + 6B4E1883 = 0408F581

H[3] = 10325476 + 74351CD2 = 84677148

H[4] = C3D2E1F0 + 86838382 = 4A566572

=====
Block Contents:

W[0] = 00000000

W[1] = 00000000

W[2] = 00000000

W[3] = 00000000

W[4] = 00000000

W[5] = 00000000

W[6] = 00000000

W[7] = 00000000
 W[8] = 00000000
 W[9] = 00000000
 W[10] = 00000000
 W[11] = 00000000
 W[12] = 00000000
 W[13] = 00000000
 W[14] = 00000000
 W[15] = 000001C0

	A	B	C	D	E
t= 0:	2DF257E9	F4286818	B0DEC9EB	0408F581	84677148
t= 1:	4D3DC58F	2DF257E9	3D0A1A06	B0DEC9EB	0408F581
t= 2:	C352BB05	4D3DC58F	4B7C95FA	3D0A1A06	B0DEC9EB
t= 3:	EEF743C6	C352BB05	D34F7163	4B7C95FA	3D0A1A06
t= 4:	41E34277	EEF743C6	70D4AEC1	D34F7163	4B7C95FA
t= 5:	5443915C	41E34277	BBBDD0F1	70D4AEC1	D34F7163
t= 6:	E7FA0377	5443915C	D078D09D	BBBDD0F1	70D4AEC1
t= 7:	C6946813	E7FA0377	1510E457	D078D09D	BBBDD0F1
t= 8:	FDDE1DE1	C6946813	F9FE80DD	1510E457	D078D09D
t= 9:	B8538ACA	FDDE1DE1	F1A51A04	F9FE80DD	1510E457
t=10:	6BA94F63	B8538ACA	7F778778	F1A51A04	F9FE80DD
t=11:	43A2792F	6BA94F63	AE14E2B2	7F778778	F1A51A04
t=12:	FECD7BBF	43A2792F	DAEA53D8	AE14E2B2	7F778778
t=13:	A2604CA8	FECD7BBF	D0E89E4B	DAEA53D8	AE14E2B2
t=14:	258B0BAA	A2604CA8	FFB35EEF	D0E89E4B	DAEA53D8
t=15:	D9772360	258B0BAA	2898132A	FFB35EEF	D0E89E4B
t=16:	5507DB6E	D9772360	8962C2EA	2898132A	FFB35EEF
t=17:	A51B58BC	5507DB6E	365DC8D8	8962C2EA	2898132A
t=18:	C2EB709F	A51B58BC	9541F6DB	365DC8D8	8962C2EA
t=19:	D8992153	C2EB709F	2946D62F	9541F6DB	365DC8D8
t=20:	37482F5F	D8992153	F0BADC27	2946D62F	9541F6DB
t=21:	EE8700BD	37482F5F	F6264854	F0BADC27	2946D62F
t=22:	9AD594B9	EE8700BD	CDD20BD7	F6264854	F0BADC27
t=23:	8FBAA5B9	9AD594B9	7BA1C02F	CDD20BD7	F6264854
t=24:	88FB5867	8FBAA5B9	66B5652E	7BA1C02F	CDD20BD7
t=25:	EEC50521	88FB5867	63EEA96E	66B5652E	7BA1C02F
t=26:	50BCE434	EEC50521	E23ED619	63EEA96E	66B5652E
t=27:	5C416DAF	50BCE434	7BB14148	E23ED619	63EEA96E
t=28:	2429BE5F	5C416DAF	142F390D	7BB14148	E23ED619
t=29:	0A2FB108	2429BE5F	D7105B6B	142F390D	7BB14148
t=30:	17986223	0A2FB108	C90A6F97	D7105B6B	142F390D
t=31:	8A4AF384	17986223	028BEC42	C90A6F97	D7105B6B
t=32:	6B629993	8A4AF384	C5E61888	028BEC42	C90A6F97
t=33:	F15F04F3	6B629993	2292BCE1	C5E61888	028BEC42
t=34:	295CC25B	F15F04F3	DAD8A664	2292BCE1	C5E61888
t=35:	696DA404	295CC25B	FC57C13C	DAD8A664	2292BCE1
t=36:	CEF5AE12	696DA404	CA573096	FC57C13C	DAD8A664
t=37:	87D5B80C	CEF5AE12	1A5B6901	CA573096	FC57C13C
t=38:	84E2A5F2	87D5B80C	B3BD6B84	1A5B6901	CA573096
t=39:	03BB6310	84E2A5F2	21F56E03	B3BD6B84	1A5B6901
t=40:	C2D8F75F	03BB6310	A138A97C	21F56E03	B3BD6B84
t=41:	BFB25768	C2D8F75F	00EED8C4	A138A97C	21F56E03
t=42:	28589152	BFB25768	F0B63DD7	00EED8C4	A138A97C

t=43:	EC1D3D61	28589152	2FEC95DA	F0B63DD7	00EED8C4
t=44:	3CAED7AF	EC1D3D61	8A162454	2FEC95DA	F0B63DD7
t=45:	C3D033EA	3CAED7AF	7B074F58	8A162454	2FEC95DA
t=46:	7316056A	C3D033EA	CF2BB5EB	7B074F58	8A162454
t=47:	46F93B68	7316056A	B0F40CFA	CF2BB5EB	7B074F58
t=48:	DC8E7F26	46F93B68	9CC5815A	B0F40CFA	CF2BB5EB
t=49:	850D411C	DC8E7F26	11BE4EDA	9CC5815A	B0F40CFA
t=50:	7E4672C0	850D411C	B7239FC9	11BE4EDA	9CC5815A
t=51:	89FBD41D	7E4672C0	21435047	B7239FC9	11BE4EDA
t=52:	1797E228	89FBD41D	1F919CB0	21435047	B7239FC9
t=53:	431D65BC	1797E228	627EF507	1F919CB0	21435047
t=54:	2BDBB8CB	431D65BC	05E5F88A	627EF507	1F919CB0
t=55:	6DA72E7F	2BDBB8CB	10C7596F	05E5F88A	627EF507
t=56:	A8495A9B	6DA72E7F	CAF6EE32	10C7596F	05E5F88A
t=57:	E785655A	A8495A9B	DB69CB9F	CAF6EE32	10C7596F
t=58:	5B086C42	E785655A	EA1256A6	DB69CB9F	CAF6EE32
t=59:	A65818F7	5B086C42	B9E15956	EA1256A6	DB69CB9F
t=60:	7AAB101B	A65818F7	96C21B10	B9E15956	EA1256A6
t=61:	93614C9C	7AAB101B	E996063D	96C21B10	B9E15956
t=62:	F66D9BF4	93614C9C	DEAAC406	E996063D	96C21B10
t=63:	D504902B	F66D9BF4	24D85327	DEAAC406	E996063D
t=64:	60A9DA62	D504902B	3D9B66FD	24D85327	DEAAC406
t=65:	8B687819	60A9DA62	F541240A	3D9B66FD	24D85327
t=66:	083E90C3	8B687819	982A7698	F541240A	3D9B66FD
t=67:	F6226BBF	083E90C3	62DA1E06	982A7698	F541240A
t=68:	76C0563B	F6226BBF	C20FA430	62DA1E06	982A7698
t=69:	989DD165	76C0563B	FD889AEF	C20FA430	62DA1E06
t=70:	8B2C7573	989DD165	DDB0158E	FD889AEF	C20FA430
t=71:	AE1B8E7B	8B2C7573	66277459	DDB0158E	FD889AEF
t=72:	CA1840DE	AE1B8E7B	E2CB1D5C	66277459	DDB0158E
t=73:	16F3BABB	CA1840DE	EB86E39E	E2CB1D5C	66277459
t=74:	D28D83AD	16F3BABB	B2861037	EB86E39E	E2CB1D5C
t=75:	6BC02DFE	D28D83AD	C5BCEEAE	B2861037	EB86E39E
t=76:	D3A6E275	6BC02DFE	74A360EB	C5BCEEAE	B2861037
t=77:	DA955482	D3A6E275	9AF00B7F	74A360EB	C5BCEEAE
t=78:	58C0AAC0	DA955482	74E9B89D	9AF00B7F	74A360EB
t=79:	906FD62C	58C0AAC0	B6A55520	74E9B89D	9AF00B7F

H[0] = F4286818 + 906FD62C = 84983E44
H[1] = C37B27AE + 58C0AAC0 = 1C3BD26E
H[2] = 0408F581 + B6A55520 = BAAE4AA1
H[3] = 84677148 + 74E9B89D = F95129E5
H[4] = 4A566572 + 9AF00B7F = E54670F1

Message Digest is

84983E44 1C3BD26E BAAE4AA1 F95129E5 E54670F1

#####

Secure Hash Algorithm
Message Digest Length = 224

#####

One Block Message Sample

Input Message: "abc"

=====

Initial hash value:

H[0] = C1059ED8
H[1] = 367CD507
H[2] = 3070DD17
H[3] = F70E5939
H[4] = FFC00B31
H[5] = 68581511
H[6] = 64F98FA7
H[7] = BEFA4FA4

=====

Block Contents:

W[0] = 61626380
W[1] = 00000000
W[2] = 00000000
W[3] = 00000000
W[4] = 00000000
W[5] = 00000000
W[6] = 00000000
W[7] = 00000000
W[8] = 00000000
W[9] = 00000000
W[10] = 00000000
W[11] = 00000000
W[12] = 00000000
W[13] = 00000000
W[14] = 00000000
W[15] = 00000018

	A	B	C	D	E	F	G	H
t= 0:	0E96B2DA	C1059ED8	367CD507	3070DD17	0434225E	FFC00B31	68581511	64F98FA7
t= 1:	C20DAB6B	0E96B2DA	C1059ED8	367CD507	9CAB416F	0434225E	FFC00B31	68581511
t= 2:	AB113B7A	C20DAB6B	0E96B2DA	C1059ED8	82177FE8	9CAB416F	0434225E	FFC00B31
t= 3:	8253CC1A	AB113B7A	C20DAB6B	0E96B2DA	8346B27D	82177FE8	9CAB416F	0434225E
t= 4:	08A0DC0C	8253CC1A	AB113B7A	C20DAB6B	05B557DB	8346B27D	82177FE8	9CAB416F
t= 5:	B2CA3A91	08A0DC0C	8253CC1A	AB113B7A	898DC7BB	05B557DB	8346B27D	82177FE8
t= 6:	0B6B9023	B2CA3A91	08A0DC0C	8253CC1A	A2E49147	898DC7BB	05B557DB	8346B27D
t= 7:	F09D116D	0B6B9023	B2CA3A91	08A0DC0C	7A84120D	A2E49147	898DC7BB	05B557DB
t= 8:	ED6FA633	F09D116D	0B6B9023	B2CA3A91	C037FAAD	7A84120D	A2E49147	898DC7BB
t= 9:	55E6A367	ED6FA633	F09D116D	0B6B9023	AAE50091	C037FAAD	7A84120D	A2E49147
t=10:	0817E82B	55E6A367	ED6FA633	F09D116D	C8C53A2C	AAE50091	C037FAAD	7A84120D
t=11:	17142334	0817E82B	55E6A367	ED6FA633	DD4C7BE9	C8C53A2C	AAE50091	C037FAAD
t=12:	FC4F023E	17142334	0817E82B	55E6A367	87BEA51A	DD4C7BE9	C8C53A2C	AAE50091
t=13:	BE316902	FC4F023E	17142334	0817E82B	65141125	87BEA51A	DD4C7BE9	C8C53A2C
t=14:	1D80D178	BE316902	FC4F023E	17142334	4545F53A	65141125	87BEA51A	DD4C7BE9
t=15:	9F341A45	1D80D178	BE316902	FC4F023E	6A61C411	4545F53A	65141125	87BEA51A
t=16:	0F324DB9	9F341A45	1D80D178	BE316902	06C80D6A	6A61C411	4545F53A	65141125
t=17:	FFE7012B	0F324DB9	9F341A45	1D80D178	B7B601F4	06C80D6A	6A61C411	4545F53A
t=18:	62932AB8	FFE7012B	0F324DB9	9F341A45	763B627A	B7B601F4	06C80D6A	6A61C411

t=19: 5207D867 62932AB8 FFE7012B 0F324DB9 7FBBA936 763B627A B7B601F4 06C80D6A
t=20: 07D55CCB 5207D867 62932AB8 FFE7012B 9BA5A6EA 7FBBA936 763B627A B7B601F4
t=21: DECE98A4 07D55CCB 5207D867 62932AB8 293FFB5D 9BA5A6EA 7FBBA936 763B627A
t=22: E62A812E DECE98A4 07D55CCB 5207D867 28FE0FD9 293FFB5D 9BA5A6EA 7FBBA936
t=23: 57206FB8 E62A812E DECE98A4 07D55CCB C76084EA 28FE0FD9 293FFB5D 9BA5A6EA
t=24: 6A6ABCF0 57206FB8 E62A812E DECE98A4 B2614C5E C76084EA 28FE0FD9 293FFB5D
t=25: 937514F0 6A6ABCF0 57206FB8 E62A812E B42EC21C B2614C5E C76084EA 28FE0FD9
t=26: 82AF3FFB 937514F0 6A6ABCF0 57206FB8 BE6F6760 B42EC21C B2614C5E C76084EA
t=27: ECA3BCD5 82AF3FFB 937514F0 6A6ABCF0 1DCCBB10 BE6F6760 B42EC21C B2614C5E
t=28: 2D1576C4 ECA3BCD5 82AF3FFB 937514F0 01641929 1DCCBB10 BE6F6760 B42EC21C
t=29: FE3C8658 2D1576C4 ECA3BCD5 82AF3FFB FC4B36C5 01641929 1DCCBB10 BE6F6760
t=30: 0D7CCE07 FE3C8658 2D1576C4 ECA3BCD5 A4A4A3A4 FC4B36C5 01641929 1DCCBB10
t=31: CCE1951D 0D7CCE07 FE3C8658 2D1576C4 4BE9475C A4A4A3A4 FC4B36C5 01641929
t=32: 09B76257 CCE1951D 0D7CCE07 FE3C8658 0CCDD86 4BE9475C A4A4A3A4 FC4B36C5
t=33: F827767E 09B76257 CCE1951D 0D7CCE07 DB116DB7 0CCDD86 4BE9475C A4A4A3A4
t=34: E4A0BB48 F827767E 09B76257 CCE1951D 994E2BAC DB116DB7 0CCDD86 4BE9475C
t=35: D8BB1041 E4A0BB48 F827767E 09B76257 5B730ABB 994E2BAC DB116DB7 0CCDD86
t=36: 2A2E32F4 D8BB1041 E4A0BB48 F827767E 22E15C59 5B730ABB 994E2BAC DB116DB7
t=37: 0D275CA8 2A2E32F4 D8BB1041 E4A0BB48 F6C39382 22E15C59 5B730ABB 994E2BAC
t=38: 7902369C 0D275CA8 2A2E32F4 D8BB1041 D9F8C2E0 F6C39382 22E15C59 5B730ABB
t=39: F3C80288 7902369C 0D275CA8 2A2E32F4 00E3A7BB D9F8C2E0 F6C39382 22E15C59
t=40: 483BBA4D F3C80288 7902369C 0D275CA8 F0A8198C 00E3A7BB D9F8C2E0 F6C39382
t=41: D75D4D26 483BBA4D F3C80288 7902369C FCECDC4 F0A8198C 00E3A7BB D9F8C2E0
t=42: 0744B618 D75D4D26 483BBA4D F3C80288 03186FAA FCECDC4 F0A8198C 00E3A7BB
t=43: 9CCE9F01 0744B618 D75D4D26 483BBA4D A56F6BBF 03186FAA FCECDC4 F0A8198C
t=44: A3701BD9 9CCE9F01 0744B618 D75D4D26 AF1BEF5F A56F6BBF 03186FAA FCECDC4
t=45: 131D4C09 A3701BD9 9CCE9F01 0744B618 ECB77E1B AF1BEF5F A56F6BBF 03186FAA
t=46: FB3777D9 131D4C09 A3701BD9 9CCE9F01 1D601F44 ECB77E1B AF1BEF5F A56F6BBF
t=47: 847EA00E FB3777D9 131D4C09 A3701BD9 503A7B95 1D601F44 ECB77E1B AF1BEF5F
t=48: AAA69347 847EA00E FB3777D9 131D4C09 5EEB9930 503A7B95 1D601F44 ECB77E1B
t=49: 505CAF28 AAA69347 847EA00E FB3777D9 CE695893 5EEB9930 503A7B95 1D601F44
t=50: 675E0B02 505CAF28 AAA69347 847EA00E C22DD75F CE695893 5EEB9930 503A7B95
t=51: ABD26099 675E0B02 505CAF28 AAA69347 1409C3F8 C22DD75F CE695893 5EEB9930
t=52: 0DF9857A ABD26099 675E0B02 505CAF28 2D864D9F 1409C3F8 C22DD75F CE695893
t=53: 308B8799 0DF9857A ABD26099 675E0B02 02524F02 2D864D9F 1409C3F8 C22DD75F
t=54: 909CC059 308B8799 0DF9857A ABD26099 6F2A444A 02524F02 2D864D9F 1409C3F8
t=55: 8D25BD94 909CC059 308B8799 0DF9857A 1273C622 6F2A444A 02524F02 2D864D9F
t=56: F32141DA 8D25BD94 909CC059 308B8799 1771ED3F 1273C622 6F2A444A 02524F02
t=57: 8CE24395 F32141DA 8D25BD94 909CC059 F52F66A6 1771ED3F 1273C622 6F2A444A
t=58: 07BCD846 8CE24395 F32141DA 8D25BD94 149DB547 F52F66A6 1771ED3F 1273C622
t=59: 622D5E5B 07BCD846 8CE24395 F32141DA B6F4C630 149DB547 F52F66A6 1771ED3F
t=60: C693FC7A 622D5E5B 07BCD846 8CE24395 13DFB889 B6F4C630 149DB547 F52F66A6
t=61: 55D1C760 C693FC7A 622D5E5B 07BCD846 7E730E00 13DFB889 B6F4C630 149DB547
t=62: FD89031B 55D1C760 C693FC7A 622D5E5B 55489EE6 7E730E00 13DFB889 B6F4C630
t=63: 6203DE4A FD89031B 55D1C760 C693FC7A 2AEDB1B3 55489EE6 7E730E00 13DFB889

H[0] = C1059ED8 + 6203DE4A = 23097D22
H[1] = 367CD507 + FD89031B = 3405D822
H[2] = 3070DD17 + 55D1C760 = 8642A477
H[3] = F70E5939 + C693FC7A = BDA255B3
H[4] = FFC00B31 + 2AEDB1B3 = 2AADBCE4
H[5] = 68581511 + 55489EE6 = BDA0B3F7
H[6] = 64F98FA7 + 7E730E00 = E36C9DA7
H[7] = BEFA4FA4 + 13DFB889 = D2DA082D

Message Digest is

23097D22
3405D822 8642A477 BDA255B3 2AADBCE4 BDA0B3F7 E36C9DA7

=====

Two Block Message Sample

Input Message:

"abcdbcdecdefdefgefghfghighijhijhijkljklmklmnlmnomnopnopq"

=====

Initial hash value:

- H[0] = C1059ED8
- H[1] = 367CD507
- H[2] = 3070DD17
- H[3] = F70E5939
- H[4] = FFC00B31
- H[5] = 68581511
- H[6] = 64F98FA7
- H[7] = BEFA4FA4

=====

Block Contents:

- W[0] = 61626364
- W[1] = 62636465
- W[2] = 63646566
- W[3] = 64656667
- W[4] = 65666768
- W[5] = 66676869
- W[6] = 6768696A
- W[7] = 68696A6B
- W[8] = 696A6B6C
- W[9] = 6A6B6C6D
- W[10] = 6B6C6D6E
- W[11] = 6C6D6E6F
- W[12] = 6D6E6F70
- W[13] = 6E6F7071
- W[14] = 80000000
- W[15] = 00000000

	A	B	C	D	E	F	G	H
t= 0:	0E96B2BE	C1059ED8	367CD507	3070DD17	04342242	FFC00B31	68581511	64F98FA7
t= 1:	51D17D7B	0E96B2BE	C1059ED8	367CD507	2F8EA3D4	04342242	FFC00B31	68581511
t= 2:	FF1CBD7F	51D17D7B	0E96B2BE	C1059ED8	79A896FA	2F8EA3D4	04342242	FFC00B31
t= 3:	24BCC047	FF1CBD7F	51D17D7B	0E96B2BE	1F60795A	79A896FA	2F8EA3D4	04342242
t= 4:	7D56A6AC	24BCC047	FF1CBD7F	51D17D7B	DE395286	1F60795A	79A896FA	2F8EA3D4
t= 5:	745BEB11	7D56A6AC	24BCC047	FF1CBD7F	D863D132	DE395286	1F60795A	79A896FA
t= 6:	0DD41573	745BEB11	7D56A6AC	24BCC047	2E60D323	D863D132	DE395286	1F60795A
t= 7:	9A2541FD	0DD41573	745BEB11	7D56A6AC	08D2B348	2E60D323	D863D132	DE395286
t= 8:	3140E909	9A2541FD	0DD41573	745BEB11	95DFD707	08D2B348	2E60D323	D863D132
t= 9:	B2954925	3140E909	9A2541FD	0DD41573	05EF5E3D	95DFD707	08D2B348	2E60D323
t=10:	B2A874FB	B2954925	3140E909	9A2541FD	9DCAF118	05EF5E3D	95DFD707	08D2B348
t=11:	116CE44D	B2A874FB	B2954925	3140E909	0E6D566A	9DCAF118	05EF5E3D	95DFD707
t=12:	5FF9349A	116CE44D	B2A874FB	B2954925	08EB3305	0E6D566A	9DCAF118	05EF5E3D
t=13:	7FA9D65D	5FF9349A	116CE44D	B2A874FB	4657CF17	08EB3305	0E6D566A	9DCAF118
t=14:	006B1B16	7FA9D65D	5FF9349A	116CE44D	08D09E8D	4657CF17	08EB3305	0E6D566A
t=15:	B301C98A	006B1B16	7FA9D65D	5FF9349A	6FBFA1D	08D09E8D	4657CF17	08EB3305
t=16:	E623ECC0	B301C98A	006B1B16	7FA9D65D	2B3F859C	6FBFA1D	08D09E8D	4657CF17
t=17:	D9244A78	E623ECC0	B301C98A	006B1B16	E66D8D9C	2B3F859C	6FBFA1D	08D09E8D
t=18:	99C72726	D9244A78	E623ECC0	B301C98A	B26A409C	E66D8D9C	2B3F859C	6FBFA1D
t=19:	AB0CBED2	99C72726	D9244A78	E623ECC0	010D7C65	B26A409C	E66D8D9C	2B3F859C
t=20:	78062878	AB0CBED2	99C72726	D9244A78	5678A949	010D7C65	B26A409C	E66D8D9C
t=21:	D7C5C5D5	78062878	AB0CBED2	99C72726	B280360C	5678A949	010D7C65	B26A409C
t=22:	BAD2EE72	D7C5C5D5	78062878	AB0CBED2	0D4CD0C4	B280360C	5678A949	010D7C65
t=23:	BCF47346	BAD2EE72	D7C5C5D5	78062878	D6A19DC8	0D4CD0C4	B280360C	5678A949
t=24:	5ECC417B	BCF47346	BAD2EE72	D7C5C5D5	3337A11C	D6A19DC8	0D4CD0C4	B280360C

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t=25: E15BFA57 5ECC417B BCF47346 BAD2EE72 0CE15173 3337A11C D6A19DC8 0D4CD0C4
t=26: FAE6167B E15BFA57 5ECC417B BCF47346 73DBE5C7 0CE15173 3337A11C D6A19DC8
t=27: 991C3F99 FAE6167B E15BFA57 5ECC417B 8602A31F 73DBE5C7 0CE15173 3337A11C
t=28: 7055843B 991C3F99 FAE6167B E15BFA57 EB4DE5F8 8602A31F 73DBE5C7 0CE15173
t=29: 08DCFB6D 7055843B 991C3F99 FAE6167B 4606D126 EB4DE5F8 8602A31F 73DBE5C7
t=30: 2964B340 08DCFB6D 7055843B 991C3F99 213B3E63 4606D126 EB4DE5F8 8602A31F
t=31: 5B3677D0 2964B340 08DCFB6D 7055843B C9689CB0 213B3E63 4606D126 EB4DE5F8
t=32: 1EE0FE7D 5B3677D0 2964B340 08DCFB6D 14318A4D C9689CB0 213B3E63 4606D126
t=33: 6B918D6E 1EE0FE7D 5B3677D0 2964B340 216054A8 14318A4D C9689CB0 213B3E63
t=34: A6710D0D 6B918D6E 1EE0FE7D 5B3677D0 BC823A58 216054A8 14318A4D C9689CB0
t=35: 5E198FED A6710D0D 6B918D6E 1EE0FE7D C49933FE BC823A58 216054A8 14318A4D
t=36: 136C320A 5E198FED A6710D0D 6B918D6E 75687CCB C49933FE BC823A58 216054A8
t=37: 40EE0C43 136C320A 5E198FED A6710D0D F1C2CAF6 75687CCB C49933FE BC823A58
t=38: AA96D78C 40EE0C43 136C320A 5E198FED F48B4CEB F1C2CAF6 75687CCB C49933FE
t=39: 27C97B86 AA96D78C 40EE0C43 136C320A B556216A F48B4CEB F1C2CAF6 75687CCB
t=40: B07BD327 27C97B86 AA96D78C 40EE0C43 30EC2D76 B556216A F48B4CEB F1C2CAF6
t=41: D88D56BD B07BD327 27C97B86 AA96D78C DC2FA5A4 30EC2D76 B556216A F48B4CEB
t=42: 5C775077 D88D56BD B07BD327 27C97B86 5FAD6DB5 DC2FA5A4 30EC2D76 B556216A
t=43: 1526CCA3 5C775077 D88D56BD B07BD327 DA8A0B1C 5FAD6DB5 DC2FA5A4 30EC2D76
t=44: C09DDA14 1526CCA3 5C775077 D88D56BD D98EC23A DA8A0B1C 5FAD6DB5 DC2FA5A4
t=45: F885E124 C09DDA14 1526CCA3 5C775077 E4F23E41 D98EC23A DA8A0B1C 5FAD6DB5
t=46: 5447F0AD F885E124 C09DDA14 1526CCA3 BFB7497C E4F23E41 D98EC23A DA8A0B1C
t=47: E6227061 5447F0AD F885E124 C09DDA14 5B09619B BFB7497C E4F23E41 D98EC23A
t=48: 009CEBEA E6227061 5447F0AD F885E124 59ECAB46 5B09619B BFB7497C E4F23E41
t=49: 92B0D169 009CEBEA E6227061 5447F0AD 9A572B85 59ECAB46 5B09619B BFB7497C
t=50: 8D224E54 92B0D169 009CEBEA E6227061 32144602 9A572B85 59ECAB46 5B09619B
t=51: C1FCAC71 8D224E54 92B0D169 009CEBEA 4E98A8B7 32144602 9A572B85 59ECAB46
t=52: 8E6CE843 C1FCAC71 8D224E54 92B0D169 2C1823BE 4E98A8B7 32144602 9A572B85
t=53: 000F54DE 8E6CE843 C1FCAC71 8D224E54 F32CF2A8 2C1823BE 4E98A8B7 32144602
t=54: 2FE2AF3A 000F54DE 8E6CE843 C1FCAC71 20F763EE F32CF2A8 2C1823BE 4E98A8B7
t=55: 1FD539AF 2FE2AF3A 000F54DE 8E6CE843 5ACDBD62 20F763EE F32CF2A8 2C1823BE
t=56: 7F86644E 1FD539AF 2FE2AF3A 000F54DE 9FC10216 5ACDBD62 20F763EE F32CF2A8
t=57: 0E08DC77 7F86644E 1FD539AF 2FE2AF3A 2A4EA749 9FC10216 5ACDBD62 20F763EE
t=58: 0B9F4851 0E08DC77 7F86644E 1FD539AF 18B1DFB9 2A4EA749 9FC10216 5ACDBD62
t=59: DBCE97C3 0B9F4851 0E08DC77 7F86644E 6EC6BA5B 18B1DFB9 2A4EA749 9FC10216
t=60: 3CD78FE1 DBCE97C3 0B9F4851 0E08DC77 3E1CA2F1 6EC6BA5B 18B1DFB9 2A4EA749
t=61: 35F4BF1C 3CD78FE1 DBCE97C3 0B9F4851 BA1A8A1B 3E1CA2F1 6EC6BA5B 18B1DFB9
t=62: 86795A7D 35F4BF1C 3CD78FE1 DBCE97C3 2CE11258 BA1A8A1B 3E1CA2F1 6EC6BA5B
t=63: C14B4785 86795A7D 35F4BF1C 3CD78FE1 1108AC7F 2CE11258 BA1A8A1B 3E1CA2F1

```

```

H[0] = C1059ED8 + C14B4785 = 8250E65D
H[1] = 367CD507 + 86795A7D = BCF62F84
H[2] = 3070DD17 + 35F4BF1C = 66659C33
H[3] = F70E5939 + 3CD78FE1 = 33E5E91A
H[4] = FFC00B31 + 1108AC7F = 10C8B7B0
H[5] = 68581511 + 2CE11258 = 95392769
H[6] = 64F98FA7 + BA1A8A1B = 1F1419C2
H[7] = BEFA4FA4 + 3E1CA2F1 = FD16F295

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```

Block Contents:
W[0] = 00000000
W[1] = 00000000
W[2] = 00000000
W[3] = 00000000
W[4] = 00000000
W[5] = 00000000
W[6] = 00000000
W[7] = 00000000
W[8] = 00000000
W[9] = 00000000
W[10] = 00000000
W[11] = 00000000

```

W[12] = 00000000
W[13] = 00000000
W[14] = 00000000
W[15] = 000001C0

	A	B	C	D	E	F	G	H
t= 0:	692E407D	8250E65D	BCF62F84	66659C33	E4BE1E69	10C8B7B0	95392769	1F1419C2
t= 1:	608D83E1	692E407D	8250E65D	BCF62F84	3DDB8CEE	E4BE1E69	10C8B7B0	95392769
t= 2:	09BFA89F	608D83E1	692E407D	8250E65D	F5813490	3DDB8CEE	E4BE1E69	10C8B7B0
t= 3:	2375FBC5	09BFA89F	608D83E1	692E407D	C3E18529	F5813490	3DDB8CEE	E4BE1E69
t= 4:	717E79E7	2375FBC5	09BFA89F	608D83E1	77D39CCC	C3E18529	F5813490	3DDB8CEE
t= 5:	A9319748	717E79E7	2375FBC5	09BFA89F	FDBB9913	77D39CCC	C3E18529	F5813490
t= 6:	27A42F04	A9319748	717E79E7	2375FBC5	B999CCE4	FDBB9913	77D39CCC	C3E18529
t= 7:	3419081E	27A42F04	A9319748	717E79E7	54E69E21	B999CCE4	FDBB9913	77D39CCC
t= 8:	0AB393C2	3419081E	27A42F04	A9319748	AD29647E	54E69E21	B999CCE4	FDBB9913
t= 9:	006784EB	0AB393C2	3419081E	27A42F04	AFF457E7	AD29647E	54E69E21	B999CCE4
t=10:	ECD5C9DB	006784EB	0AB393C2	3419081E	9AF42A0E	AFF457E7	AD29647E	54E69E21
t=11:	4762E8F0	ECD5C9DB	006784EB	0AB393C2	8FB6F3D8	9AF42A0E	AFF457E7	AD29647E
t=12:	AF93B2A8	4762E8F0	ECD5C9DB	006784EB	97E63D39	8FB6F3D8	9AF42A0E	AFF457E7
t=13:	533C517C	AF93B2A8	4762E8F0	ECD5C9DB	7364BAE6	97E63D39	8FB6F3D8	9AF42A0E
t=14:	03C0A51B	533C517C	AF93B2A8	4762E8F0	3AFB010D	7364BAE6	97E63D39	8FB6F3D8
t=15:	5FD065BD	03C0A51B	533C517C	AF93B2A8	B8E64229	3AFB010D	7364BAE6	97E63D39
t=16:	18B268B5	5FD065BD	03C0A51B	533C517C	38EDA38D	B8E64229	3AFB010D	7364BAE6
t=17:	B87D63B4	18B268B5	5FD065BD	03C0A51B	25C2C397	38EDA38D	B8E64229	3AFB010D
t=18:	B1D846E0	B87D63B4	18B268B5	5FD065BD	D674405F	25C2C397	38EDA38D	B8E64229
t=19:	8BA0AED6	B1D846E0	B87D63B4	18B268B5	B8109422	D674405F	25C2C397	38EDA38D
t=20:	1485F843	8BA0AED6	B1D846E0	B87D63B4	1C58CD66	B8109422	D674405F	25C2C397
t=21:	238F4CDA	1485F843	8BA0AED6	B1D846E0	39B2EB5F	1C58CD66	B8109422	D674405F
t=22:	7031B061	238F4CDA	1485F843	8BA0AED6	4B8262AD	39B2EB5F	1C58CD66	B8109422
t=23:	D4E7EC62	7031B061	238F4CDA	1485F843	163C3AA0	4B8262AD	39B2EB5F	1C58CD66
t=24:	66582DF3	D4E7EC62	7031B061	238F4CDA	C0976260	163C3AA0	4B8262AD	39B2EB5F
t=25:	DEDB8199	66582DF3	D4E7EC62	7031B061	B73E2DEC	C0976260	163C3AA0	4B8262AD
t=26:	F8536917	DEDB8199	66582DF3	D4E7EC62	7C2AF9C4	B73E2DEC	C0976260	163C3AA0
t=27:	D7333B8A	F8536917	DEDB8199	66582DF3	B2B0B71A	7C2AF9C4	B73E2DEC	C0976260
t=28:	760847C1	D7333B8A	F8536917	DEDB8199	5898EFF2	B2B0B71A	7C2AF9C4	B73E2DEC
t=29:	7EABC6D7	760847C1	D7333B8A	F8536917	24DD3883	5898EFF2	B2B0B71A	7C2AF9C4
t=30:	90C49624	7EABC6D7	760847C1	D7333B8A	CCE25E67	24DD3883	5898EFF2	B2B0B71A
t=31:	0B876264	90C49624	7EABC6D7	760847C1	E4E4A53B	CCE25E67	24DD3883	5898EFF2
t=32:	04CB36C0	0B876264	90C49624	7EABC6D7	5403A391	E4E4A53B	CCE25E67	24DD3883
t=33:	D58CC34A	04CB36C0	0B876264	90C49624	B78767C3	5403A391	E4E4A53B	CCE25E67
t=34:	0ED14DD7	D58CC34A	04CB36C0	0B876264	FD9C9D99	B78767C3	5403A391	E4E4A53B
t=35:	5A89A942	0ED14DD7	D58CC34A	04CB36C0	790C4A20	FD9C9D99	B78767C3	5403A391
t=36:	4D30424C	5A89A942	0ED14DD7	D58CC34A	F95BF853	790C4A20	FD9C9D99	B78767C3
t=37:	47F58C5C	4D30424C	5A89A942	0ED14DD7	0EC9BE3B	F95BF853	790C4A20	FD9C9D99
t=38:	B5AD85D7	47F58C5C	4D30424C	5A89A942	CF9F1DBE	0EC9BE3B	F95BF853	790C4A20
t=39:	762FECBC	B5AD85D7	47F58C5C	4D30424C	15427ED3	CF9F1DBE	0EC9BE3B	F95BF853
t=40:	32ABE746	762FECBC	B5AD85D7	47F58C5C	4053E12E	15427ED3	CF9F1DBE	0EC9BE3B
t=41:	84ADB2A0	32ABE746	762FECBC	B5AD85D7	7CECE4E2	4053E12E	15427ED3	CF9F1DBE
t=42:	C6E1C5AF	84ADB2A0	32ABE746	762FECBC	42F9990B	7CECE4E2	4053E12E	15427ED3
t=43:	35E14BFA	C6E1C5AF	84ADB2A0	32ABE746	C9965792	42F9990B	7CECE4E2	4053E12E
t=44:	7410BFD8	35E14BFA	C6E1C5AF	84ADB2A0	CA54CE51	C9965792	42F9990B	7CECE4E2
t=45:	3FE9E763	7410BFD8	35E14BFA	C6E1C5AF	AE7CDB66	CA54CE51	C9965792	42F9990B
t=46:	853C3A00	3FE9E763	7410BFD8	35E14BFA	C2BE054D	AE7CDB66	CA54CE51	C9965792
t=47:	F7D035E7	853C3A00	3FE9E763	7410BFD8	F6D59D2C	C2BE054D	AE7CDB66	CA54CE51
t=48:	20BAE2B8	F7D035E7	853C3A00	3FE9E763	CAB73F06	F6D59D2C	C2BE054D	AE7CDB66
t=49:	AE6BF667	20BAE2B8	F7D035E7	853C3A00	52384D2F	CAB73F06	F6D59D2C	C2BE054D
t=50:	12E504E5	AE6BF667	20BAE2B8	F7D035E7	F9A8377F	52384D2F	CAB73F06	F6D59D2C
t=51:	F3497054	12E504E5	AE6BF667	20BAE2B8	D0AB7CFC	F9A8377F	52384D2F	CAB73F06
t=52:	9F166CDB	F3497054	12E504E5	AE6BF667	71B3459B	D0AB7CFC	F9A8377F	52384D2F
t=53:	CCD8FA44	9F166CDB	F3497054	12E504E5	0F557DDD	71B3459B	D0AB7CFC	F9A8377F
t=54:	F5E664BD	CCD8FA44	9F166CDB	F3497054	A679A5E9	0F557DDD	71B3459B	D0AB7CFC
t=55:	D4EA8C7E	F5E664BD	CCD8FA44	9F166CDB	2958CE2A	A679A5E9	0F557DDD	71B3459B
t=56:	E8C8FEC7	D4EA8C7E	F5E664BD	CCD8FA44	35F6800E	2958CE2A	A679A5E9	0F557DDD
t=57:	882ED69E	E8C8FEC7	D4EA8C7E	F5E664BD	30267D8E	35F6800E	2958CE2A	A679A5E9

t=58: 4EC725F6 882ED69E E8C8FEC7 D4EA8C7E CE1D1CE4 30267D8E 35F6800E 2958CE2A
t=59: 5C9CFC69 4EC725F6 882ED69E E8C8FEC7 C8242B92 CE1D1CE4 30267D8E 35F6800E
t=60: C9A31836 5C9CFC69 4EC725F6 882ED69E 9E40A370 C8242B92 CE1D1CE4 30267D8E
t=61: F754C16E C9A31836 5C9CFC69 4EC725F6 333E0B63 9E40A370 C8242B92 CE1D1CE4
t=62: 94314748 F754C16E C9A31836 5C9CFC69 1FBC63B0 333E0B63 9E40A370 C8242B92
t=63: F2E7A4B9 94314748 F754C16E C9A31836 9FFD8DAC 1FBC63B0 333E0B63 9E40A370

H[0] = 8250E65D + F2E7A4B9 = 75388B16
H[1] = BCF62F84 + 94314748 = 512776CC
H[2] = 66659C33 + F754C16E = 5DBA5DA1
H[3] = 33E5E91A + C9A31836 = FD890150
H[4] = 10C8B7B0 + 9FFD8DAC = B0C6455C
H[5] = 95392769 + 1FBC63B0 = B4F58B19
H[6] = 1F1419C2 + 333E0B63 = 52522525
H[7] = FD16F295 + 9E40A370 = 9B579605

Message Digest is

75388B16
512776CC 5DBA5DA1 FD890150 B0C6455C B4F58B19 52522525

#####

Secure Hash Algorithm
Message Digest Length = 256

#####

One Block Message Sample

Input Message: "abc"

=====

Initial hash value:

- H[0] = 6A09E667
- H[1] = BB67AE85
- H[2] = 3C6EF372
- H[3] = A54FF53A
- H[4] = 510E527F
- H[5] = 9B05688C
- H[6] = 1F83D9AB
- H[7] = 5BE0CD19

=====

Block Contents:

- W[0] = 61626380
- W[1] = 00000000
- W[2] = 00000000
- W[3] = 00000000
- W[4] = 00000000
- W[5] = 00000000
- W[6] = 00000000
- W[7] = 00000000
- W[8] = 00000000
- W[9] = 00000000
- W[10] = 00000000
- W[11] = 00000000
- W[12] = 00000000
- W[13] = 00000000
- W[14] = 00000000
- W[15] = 00000018

	A	B	C	D	E	F	G	H
t= 0:	5D6AEBCD	6A09E667	BB67AE85	3C6EF372	FA2A4622	510E527F	9B05688C	1F83D9AB
t= 1:	5A6AD9AD	5D6AEBCD	6A09E667	BB67AE85	78CE7989	FA2A4622	510E527F	9B05688C
t= 2:	C8C347A7	5A6AD9AD	5D6AEBCD	6A09E667	F92939EB	78CE7989	FA2A4622	510E527F
t= 3:	D550F666	C8C347A7	5A6AD9AD	5D6AEBCD	24E00850	F92939EB	78CE7989	FA2A4622
t= 4:	04409A6A	D550F666	C8C347A7	5A6AD9AD	43ADA245	24E00850	F92939EB	78CE7989
t= 5:	2B4209F5	04409A6A	D550F666	C8C347A7	714260AD	43ADA245	24E00850	F92939EB
t= 6:	E5030380	2B4209F5	04409A6A	D550F666	9B27A401	714260AD	43ADA245	24E00850
t= 7:	85A07B5F	E5030380	2B4209F5	04409A6A	0C657A79	9B27A401	714260AD	43ADA245
t= 8:	8E04ECB9	85A07B5F	E5030380	2B4209F5	32CA2D8C	0C657A79	9B27A401	714260AD
t= 9:	8C87346B	8E04ECB9	85A07B5F	E5030380	1CC92596	32CA2D8C	0C657A79	9B27A401
t=10:	4798A3F4	8C87346B	8E04ECB9	85A07B5F	436B23E8	1CC92596	32CA2D8C	0C657A79
t=11:	F71FC5A9	4798A3F4	8C87346B	8E04ECB9	816FD6E9	436B23E8	1CC92596	32CA2D8C
t=12:	87912990	F71FC5A9	4798A3F4	8C87346B	1E578218	816FD6E9	436B23E8	1CC92596

t=13: D932EB16 87912990 F71FC5A9 4798A3F4 745A48DE 1E578218 816FD6E9 436B23E8
t=14: C0645FDE D932EB16 87912990 F71FC5A9 0B92F20C 745A48DE 1E578218 816FD6E9
t=15: B0FA238E C0645FDE D932EB16 87912990 07590DCD 0B92F20C 745A48DE 1E578218
t=16: 21DA9A9B B0FA238E C0645FDE D932EB16 8034229C 07590DCD 0B92F20C 745A48DE
t=17: C2FBD9D1 21DA9A9B B0FA238E C0645FDE 846EE454 8034229C 07590DCD 0B92F20C
t=18: FE777BBF C2FBD9D1 21DA9A9B B0FA238E CC899961 846EE454 8034229C 07590DCD
t=19: E1F20C33 FE777BBF C2FBD9D1 21DA9A9B B0638179 CC899961 846EE454 8034229C
t=20: 9DC68B63 E1F20C33 FE777BBF C2FBD9D1 8ADA8930 B0638179 CC899961 846EE454
t=21: C2606D6D 9DC68B63 E1F20C33 FE777BBF E1257970 8ADA8930 B0638179 CC899961
t=22: A7A3623F C2606D6D 9DC68B63 E1F20C33 49F5114A E1257970 8ADA8930 B0638179
t=23: C5D53D8D A7A3623F C2606D6D 9DC68B63 AA47C347 49F5114A E1257970 8ADA8930
t=24: 1C2C2838 C5D53D8D A7A3623F C2606D6D 2823EF91 AA47C347 49F5114A E1257970
t=25: CDE8037D 1C2C2838 C5D53D8D A7A3623F 14383D8E 2823EF91 AA47C347 49F5114A
t=26: B62EC4BC CDE8037D 1C2C2838 C5D53D8D C74C6516 14383D8E 2823EF91 AA47C347
t=27: 77D37528 B62EC4BC CDE8037D 1C2C2838 EDFFBFF8 C74C6516 14383D8E 2823EF91
t=28: 363482C9 77D37528 B62EC4BC CDE8037D 6112A3B7 EDFFBFF8 C74C6516 14383D8E
t=29: A0060B30 363482C9 77D37528 B62EC4BC ADE79437 6112A3B7 EDFFBFF8 C74C6516
t=30: EA992A22 A0060B30 363482C9 77D37528 0109AB3A ADE79437 6112A3B7 EDFFBFF8
t=31: 73B33BF5 EA992A22 A0060B30 363482C9 BA591112 0109AB3A ADE79437 6112A3B7
t=32: 98E12507 73B33BF5 EA992A22 A0060B30 9CD9F5F6 BA591112 0109AB3A ADE79437
t=33: FE604DF5 98E12507 73B33BF5 EA992A22 59249DD3 9CD9F5F6 BA591112 0109AB3A
t=34: A9A7738C FE604DF5 98E12507 73B33BF5 085F3833 59249DD3 9CD9F5F6 BA591112
t=35: 65A0CFE4 A9A7738C FE604DF5 98E12507 F4B002D6 085F3833 59249DD3 9CD9F5F6
t=36: 41A65CB1 65A0CFE4 A9A7738C FE604DF5 0772A26B F4B002D6 085F3833 59249DD3
t=37: 34DF1604 41A65CB1 65A0CFE4 A9A7738C A507A53D 0772A26B F4B002D6 085F3833
t=38: 6DC57A8A 34DF1604 41A65CB1 65A0CFE4 F0781BC8 A507A53D 0772A26B F4B002D6
t=39: 79EA687A 6DC57A8A 34DF1604 41A65CB1 1EFBC0A0 F0781BC8 A507A53D 0772A26B
t=40: D6670766 79EA687A 6DC57A8A 34DF1604 26352D63 1EFBC0A0 F0781BC8 A507A53D
t=41: DF46652F D6670766 79EA687A 6DC57A8A 838B2711 26352D63 1EFBC0A0 F0781BC8
t=42: 17AA0DFE DF46652F D6670766 79EA687A DECD4715 838B2711 26352D63 1EFBC0A0
t=43: 9D4BAF93 17AA0DFE DF46652F D6670766 FDA24C2E DECD4715 838B2711 26352D63
t=44: 26628815 9D4BAF93 17AA0DFE DF46652F A80F11F0 FDA24C2E DECD4715 838B2711
t=45: 72AB4B91 26628815 9D4BAF93 17AA0DFE B7755DA1 A80F11F0 FDA24C2E DECD4715
t=46: A14C14B0 72AB4B91 26628815 9D4BAF93 D57B94A9 B7755DA1 A80F11F0 FDA24C2E
t=47: 4172328D A14C14B0 72AB4B91 26628815 FECF0BC6 D57B94A9 B7755DA1 A80F11F0
t=48: 05757CEB 4172328D A14C14B0 72AB4B91 BD714038 FECF0BC6 D57B94A9 B7755DA1
t=49: F11BFAA8 05757CEB 4172328D A14C14B0 6E5C390C BD714038 FECF0BC6 D57B94A9
t=50: 7A0508A1 F11BFAA8 05757CEB 4172328D 52F1CCF7 6E5C390C BD714038 FECF0BC6
t=51: 886E7A22 7A0508A1 F11BFAA8 05757CEB 49231C1E 52F1CCF7 6E5C390C BD714038
t=52: 101FD28F 886E7A22 7A0508A1 F11BFAA8 529E7D00 49231C1E 52F1CCF7 6E5C390C
t=53: F5702FDB 101FD28F 886E7A22 7A0508A1 9F4787C3 529E7D00 49231C1E 52F1CCF7
t=54: 3EC45CDB F5702FDB 101FD28F 886E7A22 E50E1B4F 9F4787C3 529E7D00 49231C1E
t=55: 38CC9913 3EC45CDB F5702FDB 101FD28F 54CB266B E50E1B4F 9F4787C3 529E7D00
t=56: FCD1887B 38CC9913 3EC45CDB F5702FDB 9B5E906C 54CB266B E50E1B4F 9F4787C3
t=57: C062D46F FCD1887B 38CC9913 3EC45CDB 7E44008E 9B5E906C 54CB266B E50E1B4F
t=58: FFB70472 C062D46F FCD1887B 38CC9913 6D83BFC6 7E44008E 9B5E906C 54CB266B
t=59: B6AE8FFF FFB70472 C062D46F FCD1887B B21BAD3D 6D83BFC6 7E44008E 9B5E906C
t=60: B85E2CE9 B6AE8FFF FFB70472 C062D46F 961F4894 B21BAD3D 6D83BFC6 7E44008E
t=61: 04D24D6C B85E2CE9 B6AE8FFF FFB70472 948D25B6 961F4894 B21BAD3D 6D83BFC6
t=62: D39A2165 04D24D6C B85E2CE9 B6AE8FFF FB121210 948D25B6 961F4894 B21BAD3D
t=63: 506E3058 D39A2165 04D24D6C B85E2CE9 5EF50F24 FB121210 948D25B6 961F4894

H[0] = 6A09E667 + 506E3058 = BA7816BF
H[1] = BB67AE85 + D39A2165 = 8F01CFEA
H[2] = 3C6EF372 + 04D24D6C = 414140DE
H[3] = A54FF53A + B85E2CE9 = 5DAE2223
H[4] = 510E527F + 5EF50F24 = B00361A3
H[5] = 9B05688C + FB121210 = 96177A9C

H[6] = 1F83D9AB + 948D25B6 = B410FF61
H[7] = 5BE0CD19 + 961F4894 = F20015AD

Message Digest is
BA7816BF 8F01CFEA
414140DE 5DAE2223 B00361A3 96177A9C B410FF61 F20015AD

=====
Two Block Message Sample

Input Message:
"abcdbcdecdefdefgefghfghighijhijkijkljklmklmnlmnomnopnopaq"

=====
Initial hash value:
H[0] = 6A09E667
H[1] = BB67AE85
H[2] = 3C6EF372
H[3] = A54FF53A
H[4] = 510E527F
H[5] = 9B05688C
H[6] = 1F83D9AB
H[7] = 5BE0CD19

=====
Block Contents:
W[0] = 61626364
W[1] = 62636465
W[2] = 63646566
W[3] = 64656667
W[4] = 65666768
W[5] = 66676869
W[6] = 6768696A
W[7] = 68696A6B
W[8] = 696A6B6C
W[9] = 6A6B6C6D
W[10] = 6B6C6D6E
W[11] = 6C6D6E6F
W[12] = 6D6E6F70
W[13] = 6E6F7071
W[14] = 80000000
W[15] = 00000000

	A	B	C	D	E	F	G	H
t= 0:	5D6AEBB1	6A09E667	BB67AE85	3C6EF372	FA2A4606	510E527F	9B05688C	1F83D9AB
t= 1:	2F2D5FCF	5D6AEBB1	6A09E667	BB67AE85	4EB1CFCE	FA2A4606	510E527F	9B05688C
t= 2:	97651825	2F2D5FCF	5D6AEBB1	6A09E667	62D5C49E	4EB1CFCE	FA2A4606	510E527F
t= 3:	4A8D64D5	97651825	2F2D5FCF	5D6AEBB1	6494841B	62D5C49E	4EB1CFCE	FA2A4606
t= 4:	F921C212	4A8D64D5	97651825	2F2D5FCF	05C4F88A	6494841B	62D5C49E	4EB1CFCE
t= 5:	55C8EF48	F921C212	4A8D64D5	97651825	7FF91C94	05C4F88A	6494841B	62D5C49E
t= 6:	485835B7	55C8EF48	F921C212	4A8D64D5	39A5B2CA	7FF91C94	05C4F88A	6494841B

t= 7: D237E6DB 485835B7 55C8EF48 F921C212 A401D211 39A5B2CA 7FF91C94 05C4F88A
t= 8: 359F2BCE D237E6DB 485835B7 55C8EF48 C09FFEC4 A401D211 39A5B2CA 7FF91C94
t= 9: 3A474B2B 359F2BCE D237E6DB 485835B7 9037B3B8 C09FFEC4 A401D211 39A5B2CA
t=10: B8E2B4CB 3A474B2B 359F2BCE D237E6DB 443ED29E 9037B3B8 C09FFEC4 A401D211
t=11: 1762215C B8E2B4CB 3A474B2B 359F2BCE EE1C97A8 443ED29E 9037B3B8 C09FFEC4
t=12: 101A4861 1762215C B8E2B4CB 3A474B2B 839A0FC9 EE1C97A8 443ED29E 9037B3B8
t=13: D68E6457 101A4861 1762215C B8E2B4CB 9243F8AF 839A0FC9 EE1C97A8 443ED29E
t=14: DD16CBB3 D68E6457 101A4861 1762215C 9162ADED 9243F8AF 839A0FC9 EE1C97A8
t=15: C3486194 DD16CBB3 D68E6457 101A4861 1496A54F 9162ADED 9243F8AF 839A0FC9
t=16: B9DCACB1 C3486194 DD16CBB3 D68E6457 D4F64250 1496A54F 9162ADED 9243F8AF
t=17: 046A193E B9DCACB1 C3486194 DD16CBB3 885370B6 D4F64250 1496A54F 9162ADED
t=18: F402F058 046A193E B9DCACB1 C3486194 6F433549 885370B6 D4F64250 1496A54F
t=19: 2139187B F402F058 046A193E B9DCACB1 7C304206 6F433549 885370B6 D4F64250
t=20: D70AC17D 2139187B F402F058 046A193E 7CC6B262 7C304206 6F433549 885370B6
t=21: 1B2B66B8 D70AC17D 2139187B F402F058 D560B028 7CC6B262 7C304206 6F433549
t=22: AE2E2D4F 1B2B66B8 D70AC17D 2139187B F074FC95 D560B028 7CC6B262 7C304206
t=23: 59FCE6B9 AE2E2D4F 1B2B66B8 D70AC17D A2C7D51D F074FC95 D560B028 7CC6B262
t=24: 4A885065 59FCE6B9 AE2E2D4F 1B2B66B8 763597FB A2C7D51D F074FC95 D560B028
t=25: 573221DA 4A885065 59FCE6B9 AE2E2D4F 36E74EB4 763597FB A2C7D51D F074FC95
t=26: 128661DA 573221DA 4A885065 59FCE6B9 1162D575 36E74EB4 763597FB A2C7D51D
t=27: 73F858AF 128661DA 573221DA 4A885065 E77C797F 1162D575 36E74EB4 763597FB
t=28: 74BCF468 73F858AF 128661DA 573221DA 72ABAEC D E77C797F 1162D575 36E74EB4
t=29: DF7151A0 74BCF468 73F858AF 128661DA 7629C961 72ABAEC D E77C797F 1162D575
t=30: EB43F3ED DF7151A0 74BCF468 73F858AF 0635D880 7629C961 72ABAEC D E77C797F
t=31: 5581AB07 EB43F3ED DF7151A0 74BCF468 DF980085 0635D880 7629C961 72ABAEC D
t=32: 9FC905C8 5581AB07 EB43F3ED DF7151A0 A94D2AF1 DF980085 0635D880 7629C961
t=33: 9CE5A62F 9FC905C8 5581AB07 EB43F3ED 6EF3B6BD A94D2AF1 DF980085 0635D880
t=34: 1DF8E885 9CE5A62F 9FC905C8 5581AB07 2A9E048E 6EF3B6BD A94D2AF1 DF980085
t=35: 0786DCE8 1DF8E885 9CE5A62F 9FC905C8 DE2A21D1 2A9E048E 6EF3B6BD A94D2AF1
t=36: 2C55D3A6 0786DCE8 1DF8E885 9CE5A62F B067C1AF DE2A21D1 2A9E048E 6EF3B6BD
t=37: A985B4BE 2C55D3A6 0786DCE8 1DF8E885 F72BF353 B067C1AF DE2A21D1 2A9E048E
t=38: 91AC9D5D A985B4BE 2C55D3A6 0786DCE8 68D8D590 F72BF353 B067C1AF DE2A21D1
t=39: 7E4D30B8 91AC9D5D A985B4BE 2C55D3A6 9F5B9B6D 68D8D590 F72BF353 B067C1AF
t=40: 7E056794 7E4D30B8 91AC9D5D A985B4BE 423B26C0 9F5B9B6D 68D8D590 F72BF353
t=41: 508A16AB 7E056794 7E4D30B8 91AC9D5D 45459D97 423B26C0 9F5B9B6D 68D8D590
t=42: B62C7013 508A16AB 7E056794 7E4D30B8 80A92A00 45459D97 423B26C0 9F5B9B6D
t=43: 167361DE B62C7013 508A16AB 7E056794 41DD3844 80A92A00 45459D97 423B26C0
t=44: DE71E2F2 167361DE B62C7013 508A16AB FF61C636 41DD3844 80A92A00 45459D97
t=45: 18F0D19D DE71E2F2 167361DE B62C7013 6B88472C FF61C636 41DD3844 80A92A00
t=46: 165BE9CD 18F0D19D DE71E2F2 167361DE A483F080 6B88472C FF61C636 41DD3844
t=47: 13D82741 165BE9CD 18F0D19D DE71E2F2 A7802A4D A483F080 6B88472C FF61C636
t=48: 017B9D99 13D82741 165BE9CD 18F0D19D AEB10B60 A7802A4D A483F080 6B88472C
t=49: 543C99A1 017B9D99 13D82741 165BE9CD 16F134B6 AEB10B60 A7802A4D A483F080
t=50: 758CA97A 543C99A1 017B9D99 13D82741 100CF2EA 16F134B6 AEB10B60 A7802A4D
t=51: 81C1CDE0 758CA97A 543C99A1 017B9D99 5C47EB7B 100CF2EA 16F134B6 AEB10B60
t=52: B8D55619 81C1CDE0 758CA97A 543C99A1 1C806A61 5C47EB7B 100CF2EA 16F134B6
t=53: 1D6DE87A B8D55619 81C1CDE0 758CA97A 3443BED4 1C806A61 5C47EB7B 100CF2EA
t=54: F907B313 1D6DE87A B8D55619 81C1CDE0 61A41711 3443BED4 1C806A61 5C47EB7B
t=55: 9E57C4A0 F907B313 1D6DE87A B8D55619 EEC13548 61A41711 3443BED4 1C806A61
t=56: 71629856 9E57C4A0 F907B313 1D6DE87A 2F6C8C4E EEC13548 61A41711 3443BED4
t=57: 7C015A2C 71629856 9E57C4A0 F907B313 CB9D3DD0 2F6C8C4E EEC13548 61A41711
t=58: 921FCCB6 7C015A2C 71629856 9E57C4A0 43D8A034 CB9D3DD0 2F6C8C4E EEC13548
t=59: E18F259A 921FCCB6 7C015A2C 71629856 51E15869 43D8A034 CB9D3DD0 2F6C8C4E
t=60: BCFCE922 E18F259A 921FCCB6 7C015A2C 962D8621 51E15869 43D8A034 CB9D3DD0
t=61: F6F443F8 BCFCE922 E18F259A 921FCCB6 ACC75916 962D8621 51E15869 43D8A034
t=62: 86126910 F6F443F8 BCFCE922 E18F259A 2FC08F85 ACC75916 962D8621 51E15869
t=63: 1BDC6F6F 86126910 F6F443F8 BCFCE922 25D2430A 2FC08F85 ACC75916 962D8621

H[0] = 6A09E667 + 1BDC6F6F = 85E655D6
 H[1] = BB67AE85 + 86126910 = 417A1795
 H[2] = 3C6EF372 + F6F443F8 = 3363376A
 H[3] = A54FF53A + BCFCE922 = 624CDE5C
 H[4] = 510E527F + 25D2430A = 76E09589
 H[5] = 9B05688C + 2FC08F85 = CAC5F811
 H[6] = 1F83D9AB + ACC75916 = CC4B32C1
 H[7] = 5BE0CD19 + 962D8621 = F20E533A

=====

Block Contents:

W[0] = 00000000
 W[1] = 00000000
 W[2] = 00000000
 W[3] = 00000000
 W[4] = 00000000
 W[5] = 00000000
 W[6] = 00000000
 W[7] = 00000000
 W[8] = 00000000
 W[9] = 00000000
 W[10] = 00000000
 W[11] = 00000000
 W[12] = 00000000
 W[13] = 00000000
 W[14] = 00000000
 W[15] = 000001C0

	A	B	C	D	E	F	G	H
t= 0:	7C20C838	85E655D6	417A1795	3363376A	4670AE6E	76E09589	CAC5F811	CC4B32C1
t= 1:	7C3C0F86	7C20C838	85E655D6	417A1795	8C51BE64	4670AE6E	76E09589	CAC5F811
t= 2:	FD1EEBDC	7C3C0F86	7C20C838	85E655D6	AF71B9EA	8C51BE64	4670AE6E	76E09589
t= 3:	F268FAA9	FD1EEBDC	7C3C0F86	7C20C838	E20362EF	AF71B9EA	8C51BE64	4670AE6E
t= 4:	185A5D79	F268FAA9	FD1EEBDC	7C3C0F86	8DFF3001	E20362EF	AF71B9EA	8C51BE64
t= 5:	3EEB6C06	185A5D79	F268FAA9	FD1EEBDC	FE20CDA6	8DFF3001	E20362EF	AF71B9EA
t= 6:	89BBA3F1	3EEB6C06	185A5D79	F268FAA9	0A34DF03	FE20CDA6	8DFF3001	E20362EF
t= 7:	BF9A93A0	89BBA3F1	3EEB6C06	185A5D79	059ABDD1	0A34DF03	FE20CDA6	8DFF3001
t= 8:	2C096744	BF9A93A0	89BBA3F1	3EEB6C06	ABFA465B	059ABDD1	0A34DF03	FE20CDA6
t= 9:	2D964E86	2C096744	BF9A93A0	89BBA3F1	AA27ED82	ABFA465B	059ABDD1	0A34DF03
t=10:	5B35025B	2D964E86	2C096744	BF9A93A0	10E77723	AA27ED82	ABFA465B	059ABDD1
t=11:	5EB4EC40	5B35025B	2D964E86	2C096744	E11B4548	10E77723	AA27ED82	ABFA465B
t=12:	35EE996D	5EB4EC40	5B35025B	2D964E86	5C24E2A2	E11B4548	10E77723	AA27ED82
t=13:	D74080FA	35EE996D	5EB4EC40	5B35025B	68AA893F	5C24E2A2	E11B4548	10E77723
t=14:	0CEA5CBC	D74080FA	35EE996D	5EB4EC40	60356548	68AA893F	5C24E2A2	E11B4548
t=15:	16A8CC79	0CEA5CBC	D74080FA	35EE996D	0FCB1F6F	60356548	68AA893F	5C24E2A2
t=16:	F16F634E	16A8CC79	0CEA5CBC	D74080FA	8B21CDC1	0FCB1F6F	60356548	68AA893F
t=17:	23DCB6C2	F16F634E	16A8CC79	0CEA5CBC	CA9182D3	8B21CDC1	0FCB1F6F	60356548
t=18:	DCFF40FD	23DCB6C2	F16F634E	16A8CC79	69BF7B95	CA9182D3	8B21CDC1	0FCB1F6F
t=19:	76F1A2BC	DCFF40FD	23DCB6C2	F16F634E	0DC84BB1	69BF7B95	CA9182D3	8B21CDC1
t=20:	20AAD899	76F1A2BC	DCFF40FD	23DCB6C2	CC4769F2	0DC84BB1	69BF7B95	CA9182D3
t=21:	D44DC81A	20AAD899	76F1A2BC	DCFF40FD	5BACE62D	CC4769F2	0DC84BB1	69BF7B95
t=22:	F13AE55B	D44DC81A	20AAD899	76F1A2BC	966AA287	5BACE62D	CC4769F2	0DC84BB1
t=23:	A4195B91	F13AE55B	D44DC81A	20AAD899	EDDBD6ED	966AA287	5BACE62D	CC4769F2
t=24:	4984FA79	A4195B91	F13AE55B	D44DC81A	A530D939	EDDBD6ED	966AA287	5BACE62D
t=25:	AA6CB982	4984FA79	A4195B91	F13AE55B	0B5EEE44	A530D939	EDDBD6ED	966AA287
t=26:	9450FBBC	AA6CB982	4984FA79	A4195B91	09166DDA	0B5EEE44	A530D939	EDDBD6ED
t=27:	0D936BAB	9450FBBC	AA6CB982	4984FA79	6E495D4B	09166DDA	0B5EEE44	A530D939

t=28: D958B529 0D936BAB 9450FBBC AA6CB982 C2FA99B1 6E495D4B 09166DDA 0B5EEEE4
t=29: 1CFA5EB0 D958B529 0D936BAB 9450FBBC 6C49DB9F C2FA99B1 6E495D4B 09166DDA
t=30: 02EF3A5F 1CFA5EB0 D958B529 0D936BAB 5DA10665 6C49DB9F C2FA99B1 6E495D4B
t=31: B0EAB1C5 02EF3A5F 1CFA5EB0 D958B529 F6D93952 5DA10665 6C49DB9F C2FA99B1
t=32: 0BFBA73C B0EAB1C5 02EF3A5F 1CFA5EB0 8B99E3A9 F6D93952 5DA10665 6C49DB9F
t=33: 4BD1DF96 0BFBA73C B0EAB1C5 02EF3A5F 905E44AC 8B99E3A9 F6D93952 5DA10665
t=34: 9907F1B6 4BD1DF96 0BFBA73C B0EAB1C5 66C3043D 905E44AC 8B99E3A9 F6D93952
t=35: ECDE4E0D 9907F1B6 4BD1DF96 0BFBA73C 5DC119E6 66C3043D 905E44AC 8B99E3A9
t=36: 2F11C939 ECDE4E0D 9907F1B6 4BD1DF96 FED4CE1D 5DC119E6 66C3043D 905E44AC
t=37: D949682B 2F11C939 ECDE4E0D 9907F1B6 32D99008 FED4CE1D 5DC119E6 66C3043D
t=38: ADCA7A96 D949682B 2F11C939 ECDE4E0D C6CCE4FF 32D99008 FED4CE1D 5DC119E6
t=39: 221B8A5A ADCA7A96 D949682B 2F11C939 0B82C5EB C6CCE4FF 32D99008 FED4CE1D
t=40: 12D97845 221B8A5A ADCA7A96 D949682B E4213CA2 0B82C5EB C6CCE4FF 32D99008
t=41: 2C794876 12D97845 221B8A5A ADCA7A96 FF6759BA E4213CA2 0B82C5EB C6CCE4FF
t=42: 8300FCA2 2C794876 12D97845 221B8A5A E0E3457C FF6759BA E4213CA2 0B82C5EB
t=43: F2AD6322 8300FCA2 2C794876 12D97845 CC48C7F3 E0E3457C FF6759BA E4213CA2
t=44: 0F154E11 F2AD6322 8300FCA2 2C794876 6F9517CB CC48C7F3 E0E3457C FF6759BA
t=45: 104A7DB4 0F154E11 F2AD6322 8300FCA2 5348E8F6 6F9517CB CC48C7F3 E0E3457C
t=46: 0B3303A7 104A7DB4 0F154E11 F2AD6322 BBE1C39A 5348E8F6 6F9517CB CC48C7F3
t=47: D7354D5B 0B3303A7 104A7DB4 0F154E11 AAD55B6B BBE1C39A 5348E8F6 6F9517CB
t=48: B736D7A6 D7354D5B 0B3303A7 104A7DB4 68F25260 AAD55B6B BBE1C39A 5348E8F6
t=49: 2748E5EC B736D7A6 D7354D5B 0B3303A7 D4B58576 68F25260 AAD55B6B BBE1C39A
t=50: D8AABCF9 2748E5EC B736D7A6 D7354D5B 27844711 D4B58576 68F25260 AAD55B6B
t=51: 1A6BCF6A D8AABCF9 2748E5EC B736D7A6 FF5E99D0 27844711 D4B58576 68F25260
t=52: 4ECA6FA0 1A6BCF6A D8AABCF9 2748E5EC 989ED071 FF5E99D0 27844711 D4B58576
t=53: EC02560A 4ECA6FA0 1A6BCF6A D8AABCF9 7151DF8E 989ED071 FF5E99D0 27844711
t=54: D9F0C115 EC02560A 4ECA6FA0 1A6BCF6A 624150C4 7151DF8E 989ED071 FF5E99D0
t=55: 92952710 D9F0C115 EC02560A 4ECA6FA0 226806D6 624150C4 7151DF8E 989ED071
t=56: 20D4D0E4 92952710 D9F0C115 EC02560A 4E515A4D 226806D6 624150C4 7151DF8E
t=57: 4348EB1F 20D4D0E4 92952710 D9F0C115 C21EDDF9 4E515A4D 226806D6 624150C4
t=58: 286FE5F0 4348EB1F 20D4D0E4 92952710 54076664 C21EDDF9 4E515A4D 226806D6
t=59: 1C4CDD9 286FE5F0 4348EB1F 20D4D0E4 F487A853 54076664 C21EDDF9 4E515A4D
t=60: A9F181DD 1C4CDD9 286FE5F0 4348EB1F 27CCB387 F487A853 54076664 C21EDDF9
t=61: B25CEF29 A9F181DD 1C4CDD9 286FE5F0 2AA1BB13 27CCB387 F487A853 54076664
t=62: 908C2123 B25CEF29 A9F181DD 1C4CDD9 9A392956 2AA1BB13 27CCB387 F487A853
t=63: 9EA7148B 908C2123 B25CEF29 A9F181DD 2C5C4ED0 9A392956 2AA1BB13 27CCB387

H[0] = 85E655D6 + 9EA7148B = 248D6A61
H[1] = 417A1795 + 908C2123 = D20638B8
H[2] = 3363376A + B25CEF29 = E5C02693
H[3] = 624CDE5C + A9F181DD = 0C3E6039
H[4] = 76E09589 + 2C5C4ED0 = A33CE459
H[5] = CAC5F811 + 9A392956 = 64FF2167
H[6] = CC4B32C1 + 2AA1BB13 = F6ECEDD4
H[7] = F20E533A + 27CCB387 = 19DB06C1

Message Digest is

248D6A61 D20638B8
E5C02693 0C3E6039 A33CE459 64FF2167 F6ECEDD4 19DB06C1

#####

Secure Hash Algorithm
Message Digest Length = 384

#####

One Block Message Sample

Input Message: "abc"

=====

Initial hash value:

- H[0] = CBBB9D5DC1059ED8
- H[1] = 629A292A367CD507
- H[2] = 9159015A3070DD17
- H[3] = 152FECD8F70E5939
- H[4] = 67332667FFC00B31
- H[5] = 8EB44A8768581511
- H[6] = DB0C2E0D64F98FA7
- H[7] = 47B5481DBEFA4FA4

=====

Block Contents:

- W[0] = 6162638000000000
- W[1] = 0000000000000000
- W[2] = 0000000000000000
- W[3] = 0000000000000000
- W[4] = 0000000000000000
- W[5] = 0000000000000000
- W[6] = 0000000000000000
- W[7] = 0000000000000000
- W[8] = 0000000000000000
- W[9] = 0000000000000000
- W[10] = 0000000000000000
- W[11] = 0000000000000000
- W[12] = 0000000000000000
- W[13] = 0000000000000000
- W[14] = 0000000000000000
- W[15] = 0000000000000018

	A/E	B/F	C/G	D/H
t= 0:	470994AD30873F88	CBBB9D5DC1059ED8	629A292A367CD507	9159015A3070DD17
	BD03F724BE6075F9	67332667FFC00B31	8EB44A8768581511	DB0C2E0D64F98FA7
t= 1:	2E91230306A12AE0	470994AD30873F88	CBBB9D5DC1059ED8	629A292A367CD507
	5E1B4E1695372B9E	BD03F724BE6075F9	67332667FFC00B31	8EB44A8768581511
t= 2:	EEBE5D379BE707AD	2E91230306A12AE0	470994AD30873F88	CBBB9D5DC1059ED8
	54074A65AEF34336	5E1B4E1695372B9E	BD03F724BE6075F9	67332667FFC00B31
t= 3:	E308483153E15AD6	EEBE5D379BE707AD	2E91230306A12AE0	470994AD30873F88
	086C5B2D36A89178	54074A65AEF34336	5E1B4E1695372B9E	BD03F724BE6075F9
t= 4:	3A7A023C593D8479	E308483153E15AD6	EEBE5D379BE707AD	2E91230306A12AE0
	8AA1144850633794	086C5B2D36A89178	54074A65AEF34336	5E1B4E1695372B9E
t= 5:	333199A85F92B052	3A7A023C593D8479	E308483153E15AD6	EEBE5D379BE707AD
	7A6316F0EF047CE7	8AA1144850633794	086C5B2D36A89178	54074A65AEF34336
t= 6:	76F0741213DD2EF6	333199A85F92B052	3A7A023C593D8479	E308483153E15AD6

74063CBA385F0675 7A6316F0EF047CE7 8AA1144850633794 086C5B2D36A89178
t= 7: 02F2A04D3AAB1629 76F0741213DD2EF6 333199A85F92B052 3A7A023C593D8479
1688B9BF14980FC0 74063CBA385F0675 7A6316F0EF047CE7 8AA1144850633794
t= 8: 73E5B2A1704A0349 02F2A04D3AAB1629 76F0741213DD2EF6 333199A85F92B052
FD00139F705907D0 1688B9BF14980FC0 74063CBA385F0675 7A6316F0EF047CE7
t= 9: BF3F67BA12882648 73E5B2A1704A0349 02F2A04D3AAB1629 76F0741213DD2EF6
652E311D4F0A4257 FD00139F705907D0 1688B9BF14980FC0 74063CBA385F0675
t=10: 33254508BB2EA48D BF3F67BA12882648 73E5B2A1704A0349 02F2A04D3AAB1629
9E18991C4F39F0BA 652E311D4F0A4257 FD00139F705907D0 1688B9BF14980FC0
t=11: C1FDB2A0205EA0E5 33254508BB2EA48D BF3F67BA12882648 73E5B2A1704A0349
04732E8BC4044582 9E18991C4F39F0BA 652E311D4F0A4257 FD00139F705907D0
t=12: 185F9FF038A50F39 C1FDB2A0205EA0E5 33254508BB2EA48D BF3F67BA12882648
8B4ACFC4D2B8AFE6 04732E8BC4044582 9E18991C4F39F0BA 652E311D4F0A4257
t=13: E5F06744C0D7563A 185F9FF038A50F39 C1FDB2A0205EA0E5 33254508BB2EA48D
2FA93D1CE9523015 8B4ACFC4D2B8AFE6 04732E8BC4044582 9E18991C4F39F0BA
t=14: 7E32DC0E9F414783 E5F06744C0D7563A 185F9FF038A50F39 C1FDB2A0205EA0E5
3A9950AAA5E75884 2FA93D1CE9523015 8B4ACFC4D2B8AFE6 04732E8BC4044582
t=15: 1EAB6159AE87EF6D 7E32DC0E9F414783 3A9950AAA5E75884 2FA93D1CE9523015
153B895CFBC436C5 3A9950AAA5E75884 2FA93D1CE9523015 185F9FF038A50F39
t=16: 33EF2CEBBF1739AA 1EAB6159AE87EF6D 7E32DC0E9F414783 3A9950AAA5E75884
9D1A64BAF1D366AA 153B895CFBC436C5 3A9950AAA5E75884 2FA93D1CE9523015
t=17: 7DF1B65F1B87D6CA 33EF2CEBBF1739AA 1EAB6159AE87EF6D 7E32DC0E9F414783
5B6E369D36E8E181 9D1A64BAF1D366AA 153B895CFBC436C5 3A9950AAA5E75884
t=18: 63A24014A34BB0F6 7DF1B65F1B87D6CA 33EF2CEBBF1739AA 1EAB6159AE87EF6D
E13E610EAE680D85 5B6E369D36E8E181 9D1A64BAF1D366AA 153B895CFBC436C5
t=19: F1AABD313309509B 63A24014A34BB0F6 7DF1B65F1B87D6CA 33EF2CEBBF1739AA
674385F0D87DB94F E13E610EAE680D85 5B6E369D36E8E181 9D1A64BAF1D366AA
t=20: 9BA737AE88A72C64 F1AABD313309509B 63A24014A34BB0F6 7DF1B65F1B87D6CA
3FC2614C43906C0F 674385F0D87DB94F E13E610EAE680D85 5B6E369D36E8E181
t=21: 042C2DC9A5BF558A 9BA737AE88A72C64 F1AABD313309509B 63A24014A34BB0F6
19316BEB88E01F2 3FC2614C43906C0F 674385F0D87DB94F E13E610EAE680D85
t=22: 7799C75ACC748C0F 042C2DC9A5BF558A 9BA737AE88A72C64 F1AABD313309509B
A7BBD65BF64F58C8 19316BEB88E01F2 3FC2614C43906C0F 674385F0D87DB94F
t=23: CCF99A80F92BF002 7799C75ACC748C0F 042C2DC9A5BF558A 9BA737AE88A72C64
E52A24FAE4E8FC9B A7BBD65BF64F58C8 19316BEB88E01F2 3FC2614C43906C0F
t=24: AE993474363EFE68 CCF99A80F92BF002 7799C75ACC748C0F 042C2DC9A5BF558A
587F308D58681928 E52A24FAE4E8FC9B A7BBD65BF64F58C8 19316BEB88E01F2
t=25: 335063D1A2AEC92F AE993474363EFE68 CCF99A80F92BF002 7799C75ACC748C0F
C2D6D65E38C6EA79 587F308D58681928 E52A24FAE4E8FC9B A7BBD65BF64F58C8
t=26: 53A78B0CCA01BA37 335063D1A2AEC92F AE993474363EFE68 CCF99A80F92BF002
3B65A26C3C92C8F3 C2D6D65E38C6EA79 587F308D58681928 E52A24FAE4E8FC9B
t=27: AB7FFA529F622930 53A78B0CCA01BA37 335063D1A2AEC92F AE993474363EFE68
B9D8A2F2762901EA 3B65A26C3C92C8F3 C2D6D65E38C6EA79 587F308D58681928
t=28: E428BB43AFE3D63E AB7FFA529F622930 53A78B0CCA01BA37 335063D1A2AEC92F
6A8527525F898726 B9D8A2F2762901EA 3B65A26C3C92C8F3 C2D6D65E38C6EA79
t=29: BBED541A5128088C E428BB43AFE3D63E AB7FFA529F622930 53A78B0CCA01BA37
7973AADBDE294BE9 6A8527525F898726 B9D8A2F2762901EA 3B65A26C3C92C8F3
t=30: 4C5C38DF7EC8BAF4 BBED541A5128088C E428BB43AFE3D63E AB7FFA529F622930
422CEEA0200E9EE4 7973AADBDE294BE9 6A8527525F898726 B9D8A2F2762901EA
t=31: 4BA456EC244033ED 4C5C38DF7EC8BAF4 BBED541A5128088C E428BB43AFE3D63E
7CF40857056D86B0 422CEEA0200E9EE4 7973AADBDE294BE9 6A8527525F898726
t=32: AA4A6AB2AC5F5DD8 4BA456EC244033ED 4C5C38DF7EC8BAF4 BBED541A5128088C
AD2B1ECFB5BFC556 7CF40857056D86B0 422CEEA0200E9EE4 7973AADBDE294BE9
t=33: 9CB941F2CED774B3 AA4A6AB2AC5F5DD8 4BA456EC244033ED 4C5C38DF7EC8BAF4
029F66C7B4569BF0 AD2B1ECFB5BFC556 7CF40857056D86B0 422CEEA0200E9EE4
t=34: 39265F358594DE27 9CB941F2CED774B3 AA4A6AB2AC5F5DD8 4BA456EC244033ED
3F7B1C260C82E54F 029F66C7B4569BF0 AD2B1ECFB5BFC556 7CF40857056D86B0
t=35: 09CCA487D39B02A1 39265F358594DE27 9CB941F2CED774B3 AA4A6AB2AC5F5DD8

	4A22B37B58A5B1B0	3F7B1C260C82E54F	029F66C7B4569BF0	AD2B1ECFB5BFC556
t=36:	D48D97CE438CF4F0	09CCA487D39B02A1	39265F358594DE27	9CB941F2CED774B3
	A239E00B8BAA0410	4A22B37B58A5B1B0	3F7B1C260C82E54F	029F66C7B4569BF0
t=37:	D6F41E25A8B634D6	D48D97CE438CF4F0	09CCA487D39B02A1	39265F358594DE27
	25755CB8179DD0B0	A239E00B8BAA0410	4A22B37B58A5B1B0	3F7B1C260C82E54F
t=38:	54078334358573B4	D6F41E25A8B634D6	D48D97CE438CF4F0	09CCA487D39B02A1
	0E419FB0802B0EFC	25755CB8179DD0B0	A239E00B8BAA0410	4A22B37B58A5B1B0
t=39:	DB24F9A03F4FFF6B	54078334358573B4	D6F41E25A8B634D6	D48D97CE438CF4F0
	D30E99B4B394B090	0E419FB0802B0EFC	25755CB8179DD0B0	A239E00B8BAA0410
t=40:	3604C53A845EFC37	DB24F9A03F4FFF6B	54078334358573B4	D6F41E25A8B634D6
	791B2B4AF7338B99	D30E99B4B394B090	0E419FB0802B0EFC	25755CB8179DD0B0
t=41:	F41B1C0EEE89BDC6	3604C53A845EFC37	DB24F9A03F4FFF6B	54078334358573B4
	E319B77D9E4E87F9	791B2B4AF7338B99	D30E99B4B394B090	0E419FB0802B0EFC
t=42:	36644AE374632E3A	F41B1C0EEE89BDC6	3604C53A845EFC37	DB24F9A03F4FFF6B
	458250878A3972B2	E319B77D9E4E87F9	791B2B4AF7338B99	D30E99B4B394B090
t=43:	88806F6AE9FCD65B	36644AE374632E3A	F41B1C0EEE89BDC6	3604C53A845EFC37
	CFDE2E6EA54FA576	458250878A3972B2	E319B77D9E4E87F9	791B2B4AF7338B99
t=44:	51DCAA36995C301D	88806F6AE9FCD65B	36644AE374632E3A	F41B1C0EEE89BDC6
	E37F778353998050	CFDE2E6EA54FA576	458250878A3972B2	E319B77D9E4E87F9
t=45:	EF5E3885A2F238DF	51DCAA36995C301D	88806F6AE9FCD65B	36644AE374632E3A
	740E347F24E18FDA	E37F778353998050	CFDE2E6EA54FA576	458250878A3972B2
t=46:	EB3753F4283F4818	EF5E3885A2F238DF	51DCAA36995C301D	88806F6AE9FCD65B
	0AE48CF840BB8BE9	740E347F24E18FDA	E37F778353998050	CFDE2E6EA54FA576
t=47:	A6998D63A5D09E04	EB3753F4283F4818	EF5E3885A2F238DF	51DCAA36995C301D
	E21095012EE0B72A	0AE48CF840BB8BE9	740E347F24E18FDA	E37F778353998050
t=48:	D3698FB64DF175B0	A6998D63A5D09E04	EB3753F4283F4818	EF5E3885A2F238DF
	C2F0B90FFCE80739	E21095012EE0B72A	0AE48CF840BB8BE9	740E347F24E18FDA
t=49:	317A3B295B991914	D3698FB64DF175B0	A6998D63A5D09E04	EB3753F4283F4818
	1CADFF2E6CB5AA4D	C2F0B90FFCE80739	E21095012EE0B72A	0AE48CF840BB8BE9
t=50:	0941DA08148BA463	317A3B295B991914	D3698FB64DF175B0	A6998D63A5D09E04
	833EB9A4BB5A073E	1CADFF2E6CB5AA4D	C2F0B90FFCE80739	E21095012EE0B72A
t=51:	494AC238D68C3D0B	0941DA08148BA463	317A3B295B991914	D3698FB64DF175B0
	80C8FC138E645028	833EB9A4BB5A073E	1CADFF2E6CB5AA4D	C2F0B90FFCE80739
t=52:	C87E9168DB9E97DE	494AC238D68C3D0B	0941DA08148BA463	317A3B295B991914
	65CF7F6A829ACA04	80C8FC138E645028	833EB9A4BB5A073E	1CADFF2E6CB5AA4D
t=53:	EDB4448879391DBB	C87E9168DB9E97DE	494AC238D68C3D0B	0941DA08148BA463
	7729C85475DD318F	65CF7F6A829ACA04	80C8FC138E645028	833EB9A4BB5A073E
t=54:	073775C2456DC7DB	EDB4448879391DBB	C87E9168DB9E97DE	494AC238D68C3D0B
	A9CCA0B6266B1D77	7729C85475DD318F	65CF7F6A829ACA04	80C8FC138E645028
t=55:	54DE8857B24AFAF7	073775C2456DC7DB	EDB4448879391DBB	C87E9168DB9E97DE
	8DE51CFF2AE4B068	A9CCA0B6266B1D77	7729C85475DD318F	65CF7F6A829ACA04
t=56:	8A9CDD80F7F09C05	54DE8857B24AFAF7	073775C2456DC7DB	EDB4448879391DBB
	A60BA5E9EBAEB96A	8DE51CFF2AE4B068	A9CCA0B6266B1D77	7729C85475DD318F
t=57:	3EEB22A7524D8D7F	8A9CDD80F7F09C05	54DE8857B24AFAF7	073775C2456DC7DB
	E2E6830B139DF58F	A60BA5E9EBAEB96A	8DE51CFF2AE4B068	A9CCA0B6266B1D77
t=58:	0ED77C9CDE8883D3	3EEB22A7524D8D7F	8A9CDD80F7F09C05	54DE8857B24AFAF7
	38413A2052387A9E	E2E6830B139DF58F	A60BA5E9EBAEB96A	8DE51CFF2AE4B068
t=59:	E64E4135F9D30DBC	0ED77C9CDE8883D3	3EEB22A7524D8D7F	8A9CDD80F7F09C05
	45B640454C75C349	38413A2052387A9E	E2E6830B139DF58F	A60BA5E9EBAEB96A
t=60:	1CA93A293D544328	E64E4135F9D30DBC	0ED77C9CDE8883D3	3EEB22A7524D8D7F
	EFBEF83A35C0319E	45B640454C75C349	38413A2052387A9E	E2E6830B139DF58F
t=61:	3DC764F89E54043A	1CA93A293D544328	E64E4135F9D30DBC	0ED77C9CDE8883D3
	A57784945550CF94	EFBEF83A35C0319E	45B640454C75C349	38413A2052387A9E
t=62:	56FB5883F1C87A05	3DC764F89E54043A	1CA93A293D544328	E64E4135F9D30DBC
	F5198A41EB80E022	A57784945550CF94	EFBEF83A35C0319E	45B640454C75C349
t=63:	24A1124262A331C7	56FB5883F1C87A05	3DC764F89E54043A	1CA93A293D544328
	06EDACAE67B54AD	F5198A41EB80E022	A57784945550CF94	EFBEF83A35C0319E
t=64:	EB85D19201C89694	24A1124262A331C7	56FB5883F1C87A05	3DC764F89E54043A

	9CED24983EEC8723	06EDACAE6E7B54AD	F5198A41EB80E022	A57784945550CF94
t=65:	CC981AB3A59C1DB4	EB85D19201C89694	24A1124262A331C7	56FB5883F1C87A05
	EAC5516336BC8882	9CED24983EEC8723	06EDACAE6E7B54AD	F5198A41EB80E022
t=66:	CEEF5D997E148B44	CC981AB3A59C1DB4	EB85D19201C89694	24A1124262A331C7
	617BBF70BB165212	EAC5516336BC8882	9CED24983EEC8723	06EDACAE6E7B54AD
t=67:	689EDF608A8E3F14	CEEF5D997E148B44	CC981AB3A59C1DB4	EB85D19201C89694
	3280D88472C100FD	617BBF70BB165212	EAC5516336BC8882	9CED24983EEC8723
t=68:	1E6E0255AB88079F	689EDF608A8E3F14	CEEF5D997E148B44	CC981AB3A59C1DB4
	F2001138439902B1	3280D88472C100FD	617BBF70BB165212	EAC5516336BC8882
t=69:	8C5D3B7FDAD66E70	1E6E0255AB88079F	689EDF608A8E3F14	CEEF5D997E148B44
	90D18EC8B69F0345	F2001138439902B1	3280D88472C100FD	617BBF70BB165212
t=70:	32E5ED8655871E9B	8C5D3B7FDAD66E70	1E6E0255AB88079F	689EDF608A8E3F14
	51105F6241313777	90D18EC8B69F0345	F2001138439902B1	3280D88472C100FD
t=71:	BCD5061679BE7336	32E5ED8655871E9B	8C5D3B7FDAD66E70	1E6E0255AB88079F
	454B99F654443AD0	51105F6241313777	90D18EC8B69F0345	F2001138439902B1
t=72:	E7D913B6678E78EF	BCD5061679BE7336	32E5ED8655871E9B	8C5D3B7FDAD66E70
	1FF613B5AA63776E	454B99F654443AD0	51105F6241313777	90D18EC8B69F0345
t=73:	E6B8CB8DFA3475AB	E7D913B6678E78EF	BCD5061679BE7336	32E5ED8655871E9B
	2E75F34303D39BB0	1FF613B5AA63776E	454B99F654443AD0	51105F6241313777
t=74:	FDD4A30E168C4AE5	E6B8CB8DFA3475AB	E7D913B6678E78EF	BCD5061679BE7336
	83A35DBE2A64FC26	2E75F34303D39BB0	1FF613B5AA63776E	454B99F654443AD0
t=75:	12AEB6268DFA3E14	FDD4A30E168C4AE5	E6B8CB8DFA3475AB	E7D913B6678E78EF
	F660943B276786F7	83A35DBE2A64FC26	2E75F34303D39BB0	1FF613B5AA63776E
t=76:	055B73814CF102B4	12AEB6268DFA3E14	FDD4A30E168C4AE5	E6B8CB8DFA3475AB
	C4B149710F5D6A71	F660943B276786F7	83A35DBE2A64FC26	2E75F34303D39BB0
t=77:	95D33150DE6DF44C	055B73814CF102B4	12AEB6268DFA3E14	FDD4A30E168C4AE5
	C7F7BFF08EBF0D30	C4B149710F5D6A71	F660943B276786F7	83A35DBE2A64FC26
t=78:	5306143F64497B00	95D33150DE6DF44C	055B73814CF102B4	12AEB6268DFA3E14
	CA06A219CC701096	C7F7BFF08EBF0D30	C4B149710F5D6A71	F660943B276786F7
t=79:	FF44D7E1849DBFB3	5306143F64497B00	95D33150DE6DF44C	055B73814CF102B4
	1952E0C3A227C0F2	CA06A219CC701096	C7F7BFF08EBF0D30	C4B149710F5D6A71

H[0] = CBBB9D5DC1059ED8 + FF44D7E2849DBFB3 = CB00753F45A35E8B
H[1] = 629A292A367CD507 + 5306143F64497B00 = B5A03D699AC65007
H[2] = 9159015A3070DD17 + 95D33151DE6DF44C = 272C32AB0EDED163
H[3] = 152FEC8D8F70E5939 + 055B73824CF102B4 = 1A8B605A43FF5BED
H[4] = 67332667FFC00B31 + 1952E0C4A227C0F2 = 8086072BA1E7CC23
H[5] = 8EB44A8768581511 + CA06A21ACC701096 = 58BAECA134C825A7
H[6] = DB0C2E0D64F98FA7 + C7F7BFF08EBF0D30 = A303EDDF3B89CD7
H[7] = 47B5481DBEFA4FA4 + C4B149718EBF0D30 = 0C66918ECE57BA15

Message Digest is

CB00753F 45A35E8B B5A03D69 9AC65007 272C32AB 0EDED163
1A8B605A 43FF5BED 8086072B A1E7CC23 58BAECA1 34C825A7

=====

Two Block Message Sample

Input Message:

"abcdefghijklmnopqrstu
abcdefghijklmnopqrstu"

=====

Initial hash value:

- H[0] = CBBB9D5DC1059ED8
- H[1] = 629A292A367CD507
- H[2] = 9159015A3070DD17
- H[3] = 152FEC8F70E5939
- H[4] = 67332667FFC00B31
- H[5] = 8EB44A8768581511
- H[6] = DB0C2E0D64F98FA7
- H[7] = 47B5481DBEFA4FA4

=====

Block Contents:

- W[0] = 6162636465666768
- W[1] = 6263646566676869
- W[2] = 636465666768696A
- W[3] = 6465666768696A6B
- W[4] = 65666768696A6B6C
- W[5] = 666768696A6B6C6D
- W[6] = 6768696A6B6C6D6E
- W[7] = 68696A6B6C6D6E6F
- W[8] = 696A6B6C6D6E6F70
- W[9] = 6A6B6C6D6E6F7071
- W[10] = 6B6C6D6E6F707172
- W[11] = 6C6D6E6F70717273
- W[12] = 6D6E6F7071727374
- W[13] = 6E6F707172737475
- W[14] = 8000000000000000
- W[15] = 0000000000000000

	A/E	B/F	C/G	D/H
t= 0:	4709949195EDA6F0 BD03F70923C6DD61	CBBB9D5DC1059ED8 67332667FFC00B31	629A292A367CD507 8EB44A8768581511	9159015A3070DD17 DB0C2E0D64F98FA7
t= 1:	78D3F8BC03A38303 AE067F071CD18A36	4709949195EDA6F0 BD03F70923C6DD61	CBBB9D5DC1059ED8 67332667FFC00B31	629A292A367CD507 8EB44A8768581511
t= 2:	ED59D30BEFF95306 C180C7A74ED5CF1F	78D3F8BC03A38303 AE067F071CD18A36	4709949195EDA6F0 BD03F70923C6DD61	CBBB9D5DC1059ED8 67332667FFC00B31
t= 3:	8E7FE2ABA3168F2B D92D19667920B327	ED59D30BEFF95306 C180C7A74ED5CF1F	78D3F8BC03A38303 AE067F071CD18A36	4709949195EDA6F0 BD03F70923C6DD61
t= 4:	1174F9B374A9263A DD371F2D13661C52	8E7FE2ABA3168F2B D92D19667920B327	ED59D30BEFF95306 C180C7A74ED5CF1F	78D3F8BC03A38303 AE067F071CD18A36
t= 5:	27AAAFB7FBEBF806B 21AF3C6430A9AF9C	1174F9B374A9263A DD371F2D13661C52	8E7FE2ABA3168F2B D92D19667920B327	ED59D30BEFF95306 C180C7A74ED5CF1F
t= 6:	B352D03A0BD34D65 69397DE9A30E1473	27AAAFB7FBEBF806B 21AF3C6430A9AF9C	1174F9B374A9263A DD371F2D13661C52	8E7FE2ABA3168F2B D92D19667920B327
t= 7:	412DB7F990563D7C 5062FD5924E2B62E	B352D03A0BD34D65 69397DE9A30E1473	27AAAFB7FBEBF806B 21AF3C6430A9AF9C	1174F9B374A9263A DD371F2D13661C52
t= 8:	0F79040546E6EDF7 6B6C511B25A6BDBC	412DB7F990563D7C 5062FD5924E2B62E	B352D03A0BD34D65 69397DE9A30E1473	27AAAFB7FBEBF806B 21AF3C6430A9AF9C
t= 9:	EBF02410F67B8EE7 DAC695B91543AE80	0F79040546E6EDF7 6B6C511B25A6BDBC	412DB7F990563D7C 5062FD5924E2B62E	B352D03A0BD34D65 69397DE9A30E1473
t=10:	97AA05D89B8DBE6D 83B8B72646C0B598	EBF02410F67B8EE7 DAC695B91543AE80	0F79040546E6EDF7 6B6C511B25A6BDBC	412DB7F990563D7C 5062FD5924E2B62E
t=11:	23D0A36B692118EB A5F6C5155E221E8C	97AA05D89B8DBE6D 83B8B72646C0B598	EBF02410F67B8EE7 DAC695B91543AE80	0F79040546E6EDF7 6B6C511B25A6BDBC
t=12:	E1041368D2FCA1A2 AE01675BFB003180	23D0A36B692118EB A5F6C5155E221E8C	97AA05D89B8DBE6D 83B8B72646C0B598	EBF02410F67B8EE7 DAC695B91543AE80

t=13: 45BD6F69EFEC540D E1041368D2FCA1A2 23D0A36B692118EB 97AA05D89B8DBE6D
C35CC50C1CF7EF98 AE01675BFB003180 A5F6C5155E221E8C 83B8B72646C0B598
t=14: C237FA23ABB9BC16 45BD6F69EFEC540D E1041368D2FCA1A2 23D0A36B692118EB
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t=15: B4092DF1C0F81853 C237FA23ABB9BC16 45BD6F69EFEC540D E1041368D2FCA1A2
008178E17FA649F2 A16C4F134B28923E C35CC50C1CF7EF98 AE01675BFB003180
t=16: 21E5C91D11809C13 B4092DF1C0F81853 C237FA23ABB9BC16 45BD6F69EFEC540D
A26DFA04ED8C9B63 008178E17FA649F2 A16C4F134B28923E C35CC50C1CF7EF98
t=17: 2C957137CD4304A5 21E5C91D11809C13 B4092DF1C0F81853 C237FA23ABB9BC16
6BE210614B10949B A26DFA04ED8C9B63 008178E17FA649F2 A16C4F134B28923E
t=18: 2180E61AFE322BC7 2C957137CD4304A5 21E5C91D11809C13 B4092DF1C0F81853
76396996200065F7 6BE210614B10949B A26DFA04ED8C9B63 008178E17FA649F2
t=19: F2911C11C96E5FF5 2180E61AFE322BC7 2C957137CD4304A5 21E5C91D11809C13
1BC2160F4F3711DC 76396996200065F7 6BE210614B10949B A26DFA04ED8C9B63
t=20: 5EAB10B19A5143A8 F2911C11C96E5FF5 2180E61AFE322BC7 2C957137CD4304A5
98D2B19D201F2BB6 1BC2160F4F3711DC 76396996200065F7 6BE210614B10949B
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4324C8CACCF7753C 98D2B19D201F2BB6 1BC2160F4F3711DC 76396996200065F7
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D49CEF5BD2DEC121 4324C8CACCF7753C 98D2B19D201F2BB6 1BC2160F4F3711DC
t=23: 1DB4EE606D2A7A96 33C6B4A0166B7C9C 29C5348D87CD5590 5EAB10B19A5143A8
B17D15B397521AB3 D49CEF5BD2DEC121 4324C8CACCF7753C 98D2B19D201F2BB6
t=24: 5CEF5B2F00142660 1DB4EE606D2A7A96 33C6B4A0166B7C9C 29C5348D87CD5590
789E540F22E13932 B17D15B397521AB3 D49CEF5BD2DEC121 4324C8CACCF7753C
t=25: FF74F4A162435903 5CEF5B2F00142660 1DB4EE606D2A7A96 33C6B4A0166B7C9C
6C0BE33DCC6E7572 789E540F22E13932 B17D15B397521AB3 D49CEF5BD2DEC121
t=26: 41740B736E9676A9 FF74F4A162435903 5CEF5B2F00142660 1DB4EE606D2A7A96
D8E401251592DA6C 6C0BE33DCC6E7572 789E540F22E13932 B17D15B397521AB3
t=27: 931059FE9279FF1D 41740B736E9676A9 FF74F4A162435903 5CEF5B2F00142660
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t=28: 356D08D982E2EAD4 931059FE9279FF1D 41740B736E9676A9 FF74F4A162435903
40C28C34B1BBE906 7F31116887EEA596 D8E401251592DA6C 6C0BE33DCC6E7572
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7A499AE05DA50BF2 40C28C34B1BBE906 7F31116887EEA596 D8E401251592DA6C
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4472B2E331DDFAB4 7A499AE05DA50BF2 40C28C34B1BBE906 7F31116887EEA596
t=31: 69C8F40EB38B6022 97901F333E662FDC 89DC825E7235C74B 356D08D982E2EAD4
177589502DD39AA2 4472B2E331DDFAB4 7A499AE05DA50BF2 40C28C34B1BBE906
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t=33: B4CB0DF332D108AB 4920943FFE52B207 69C8F40EB38B6022 97901F333E662FDC
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t=34: E7748FBF744A5240 B4CB0DF332D108AB 4920943FFE52B207 69C8F40EB38B6022
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t=35: 7416CA18D9E265E0 E7748FBF744A5240 B4CB0DF332D108AB 4920943FFE52B207
11200C2D47C082F8 0D7AB03208F1D7A5 8FE3D28097F18618 6B813A0D0CDF4991
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3024702447F76224 11200C2D47C082F8 0D7AB03208F1D7A5 8FE3D28097F18618
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6217C1C02153302C 3024702447F76224 11200C2D47C082F8 0D7AB03208F1D7A5
t=38: C418F6F90602C79A F638A568B53A2F8F 75476F5456E82F9C 7416CA18D9E265E0
87F0901C227ADBB3 6217C1C02153302C 3024702447F76224 11200C2D47C082F8
t=39: 4F1F4F21DF3DCF43 C418F6F90602C79A F638A568B53A2F8F 75476F5456E82F9C
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t=43: A4809BF6DA6AA8BD 741FA5DC290DD02C 820E75046567BACE 13EB82E4B98D0E67
BEC3D7E88C855194 ED40C88214823792 B16A9397472F0123 FB6C0E54D48D4F2D
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CCA47FBE31B335F4 29BDAB29EE472A23 2A1FFB84031B1B6C 2C82D09CF05CF687
t=49: 5D4F78C7A9BDBED2 C176009CF82FA842 0E574B8E0B35E452 B7E68364F07F017E
EAF198615E99FFDC CCA47FBE31B335F4 29BDAB29EE472A23 2A1FFB84031B1B6C
t=50: 51AB3BE828D8D13C 5D4F78C7A9BDBED2 C176009CF82FA842 0E574B8E0B35E452
BD527CD188FB59AE EAF198615E99FFDC CCA47FBE31B335F4 29BDAB29EE472A23
t=51: 4D639EF80D0F6D3E 51AB3BE828D8D13C 5D4F78C7A9BDBED2 C176009CF82FA842
B2611B90F90D732F BD527CD188FB59AE EAF198615E99FFDC CCA47FBE31B335F4
t=52: BBA9C9EFE0FBC6C8 4D639EF80D0F6D3E 51AB3BE828D8D13C 5D4F78C7A9BDBED2
FC0579337591A2C9 B2611B90F90D732F BD527CD188FB59AE EAF198615E99FFDC
t=53: 3405D7CAD2E8A689 BBA9C9EFE0FBC6C8 4D639EF80D0F6D3E 51AB3BE828D8D13C
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t=54: EA54D908505798B3 3405D7CAD2E8A689 BBA9C9EFE0FBC6C8 4D639EF80D0F6D3E
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t=55: BE31D1C0CCC143BC EA54D908505798B3 3405D7CAD2E8A689 BBA9C9EFE0FBC6C8
4FC2D4CAD0C91AFC EF48A48999108077 0F6649F64EC8E109 FC0579337591A2C9
t=56: 285A76D23F6A0073 BE31D1C0CCC143BC EA54D908505798B3 3405D7CAD2E8A689
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t=57: A714CEFF14BEBBC24 285A76D23F6A0073 BE31D1C0CCC143BC EA54D908505798B3
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t=59: 3A38FA3775D7007C 697CA14913A50A26 A714CEFF14BEBBC24 285A76D23F6A0073
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t=61: 0928B75C925F91E2 44EA14D8E450C844 3A38FA3775D7007C 697CA14913A50A26
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t=62: 6DB5469FA19C0E27 0928B75C925F91E2 44EA14D8E450C844 3A38FA3775D7007C
16BEEC0FEC168E79 79F4BE3C5A372911 5319374FB88DD485 E26F3A21E9A27691
t=63: 384E3159898A7362 6DB5469FA19C0E27 0928B75C925F91E2 44EA14D8E450C844
55FA3AD1102298A8 16BEEC0FEC168E79 79F4BE3C5A372911 5319374FB88DD485
t=64: 483C64D3FDEBF828 384E3159898A7362 6DB5469FA19C0E27 0928B75C925F91E2
1A238431921EA75E 55FA3AD1102298A8 16BEEC0FEC168E79 79F4BE3C5A372911
t=65: C9464988A1939BCF 483C64D3FDEBF828 384E3159898A7362 6DB5469FA19C0E27
E3F3F08AC90F86CD 1A238431921EA75E 55FA3AD1102298A8 16BEEC0FEC168E79
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t=68: FAC26E6E4DA4705D B6FC101AD1D74E20 98BC93BCA795059C C9464988A1939BCF
0D60228AA6E55B6E FD13CD3620F6C1F4 9E04FB49A5FD91DE E3F3F08AC90F86CD
t=69: 2A630C58CC27FCAA FAC26E6E4DA4705D B6FC101AD1D74E20 98BC93BCA795059C
A2F7F27A3EC25ABA 0D60228AA6E55B6E FD13CD3620F6C1F4 9E04FB49A5FD91DE
t=70: 159A02D4FAEE11B4 2A630C58CC27FCAA FAC26E6E4DA4705D B6FC101AD1D74E20
B2860FC55BDEDAE6 A2F7F27A3EC25ABA 0D60228AA6E55B6E FD13CD3620F6C1F4

t=71:	9D38BDB9DF22B557 DFC37C68AF65F8BC	159A02D4FAEE11B4 B2860FC55BDEDAA6	2A630C58CC27FCAA A2F7F27A3EC25ABA	FAC26E6E4DA4705D 0D60228AA6E55B6E
t=72:	D42C3A57CFA78513 BB56DEA6A325BA32	9D38BDB9DF22B557 DFC37C68AF65F8BC	159A02D4FAEE11B4 B2860FC55BDEDAA6	2A630C58CC27FCAA A2F7F27A3EC25ABA
t=73:	ABAB4B0CA75A17C7 9AC71D1C037A8BBB	D42C3A57CFA78513 BB56DEA6A325BA32	9D38BDB9DF22B557 DFC37C68AF65F8BC	159A02D4FAEE11B4 B2860FC55BDEDAA6
t=74:	500F7B61186F6C2E 8347F5736531B3EC	ABAB4B0CA75A17C7 9AC71D1C037A8BBB	D42C3A57CFA78513 BB56DEA6A325BA32	9D38BDB9DF22B557 DFC37C68AF65F8BC
t=75:	4ABE0AF6A67DB2FE 14E986342DDCED0F	500F7B61186F6C2E 8347F5736531B3EC	ABAB4B0CA75A17C7 9AC71D1C037A8BBB	D42C3A57CFA78513 BB56DEA6A325BA32
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t=77:	7001201948FB3D71 5CDF6C58FC052572	E1053FC85F9E56BE 4779767CC2EC5321	4ABE0AF6A67DB2FE 14E986342DDCED0F	500F7B61186F6C2E 8347F5736531B3EC
t=78:	88146DA76FF6F23A 8901CFFE7A74DB98	7001201948FB3D71 5CDF6C58FC052572	E1053FC85F9E56BE 4779767CC2EC5321	4ABE0AF6A67DB2FE 14E986342DDCED0F
t=79:	5EC3802B9ECFEF33 5F2EEAD69EFB4233	88146DA76FF6F23A 8901CFFE7A74DB98	7001201948FB3D71 5CDF6C58FC052572	E1053FC85F9E56BE 4779767CC2EC5321

H[0] = CBBB9D5DC1059ED8 + 5EC3802C9ECFEF33 = 2A7F1D895FD58E0B
H[1] = 629A292A367CD507 + 88146DA76FF6F23A = EAAE96D1A673C741
H[2] = 9159015A3070DD17 + 7001201948FB3D71 = 015A2173796C1A88
H[3] = 152FEC8D8F70E5939 + E1053FC95F9E56BE = F6352CA156ACAFF7
H[4] = 67332667FFC00B31 + 5F2EEAD79EFB4233 = C662113E9EBB4D64
H[5] = 8EB44A8768581511 + 8901CFFE7A74DB98 = 17B61A85E2CCF0A9
H[6] = DB0C2E0D64F98FA7 + 5CDF6C59FC052572 = 37EB9A6660FEB519
H[7] = 47B5481DBEFA4FA4 + 4779767DFC052572 = 8F2EBE9A81E6A2C5

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Block Contents:

W[0] = 0000000000000000
W[1] = 0000000000000000
W[2] = 0000000000000000
W[3] = 0000000000000000
W[4] = 0000000000000000
W[5] = 0000000000000000
W[6] = 0000000000000000
W[7] = 0000000000000000
W[8] = 0000000000000000
W[9] = 0000000000000000
W[10] = 0000000000000000
W[11] = 0000000000000000
W[12] = 0000000000000000
W[13] = 0000000000000000
W[14] = 0000000000000000
W[15] = 0000000000000380

	A/E	B/F	C/G	D/H
t= 0:	657A3C2CA9639D40 791F2AD0055FDD62	2A7F1D895FD58E0B C662113E9EBB4D64	EAAE96D1A673C741 17B61A85E2CCF0A9	015A2173796C1A88 37EB9A6660FEB519
t= 1:	2A4AD5D9B9FD6D86 DBF2E656B5BE3F14	657A3C2CA9639D40 791F2AD0055FDD62	2A7F1D895FD58E0B C662113E9EBB4D64	EAAE96D1A673C741 17B61A85E2CCF0A9
t= 2:	F0AA6758653D1664 6E0466C82F4FD35D	2A4AD5D9B9FD6D86 DBF2E656B5BE3F14	657A3C2CA9639D40 791F2AD0055FDD62	2A7F1D895FD58E0B C662113E9EBB4D64
t= 3:	43A76F011A73D317 1367BD36D15E8B40	F0AA6758653D1664 6E0466C82F4FD35D	2A4AD5D9B9FD6D86 DBF2E656B5BE3F14	657A3C2CA9639D40 791F2AD0055FDD62
t= 4:	D802C2DFD7CC48F6	43A76F011A73D317	F0AA6758653D1664	2A4AD5D9B9FD6D86

	F73D759B839A2A21	1367BD36D15E8B40	6E0466C82F4FD35D	DBF2E656B5BE3F14
t= 5:	481208E5E8314602	D802C2DFD7CC48F6	43A76F011A73D317	F0AA6758653D1664
	6B2271A46F14C843	F73D759B839A2A21	1367BD36D15E8B40	6E0466C82F4FD35D
t= 6:	AF9F8112DF35CF33	481208E5E8314602	D802C2DFD7CC48F6	43A76F011A73D317
	257F4A7D524D7B0B	6B2271A46F14C843	F73D759B839A2A21	1367BD36D15E8B40
t= 7:	6730781342D1131B	AF9F8112DF35CF33	481208E5E8314602	D802C2DFD7CC48F6
	81957AD408CEC995	257F4A7D524D7B0B	6B2271A46F14C843	F73D759B839A2A21
t= 8:	82E64C677356A82E	6730781342D1131B	AF9F8112DF35CF33	481208E5E8314602
	10B62FDCE4EBAA51	81957AD408CEC995	257F4A7D524D7B0B	6B2271A46F14C843
t= 9:	203578820A8F27D0	82E64C677356A82E	6730781342D1131B	AF9F8112DF35CF33
	9937B3A0CB9248A1	10B62FDCE4EBAA51	81957AD408CEC995	257F4A7D524D7B0B
t=10:	0BAC2A84C29A1E2B	203578820A8F27D0	82E64C677356A82E	6730781342D1131B
	6AD288DAB3DE0D53	9937B3A0CB9248A1	10B62FDCE4EBAA51	81957AD408CEC995
t=11:	DD3FF8A140485C25	0BAC2A84C29A1E2B	203578820A8F27D0	82E64C677356A82E
	3149B728123C465E	6AD288DAB3DE0D53	9937B3A0CB9248A1	10B62FDCE4EBAA51
t=12:	E826239F830C5346	DD3FF8A140485C25	0BAC2A84C29A1E2B	203578820A8F27D0
	4BB7B199C4CED186	3149B728123C465E	6AD288DAB3DE0D53	9937B3A0CB9248A1
t=13:	32215CE49AAE40F8	E826239F830C5346	DD3FF8A140485C25	0BAC2A84C29A1E2B
	9A2872C72D790D49	4BB7B199C4CED186	3149B728123C465E	6AD288DAB3DE0D53
t=14:	859533BAC457F94E	32215CE49AAE40F8	E826239F830C5346	DD3FF8A140485C25
	539F225D25EBEB4C	9A2872C72D790D49	4BB7B199C4CED186	3149B728123C465E
t=15:	A88704D9962849F3	859533BAC457F94E	32215CE49AAE40F8	E826239F830C5346
	63BF0472EF24F7A5	539F225D25EBEB4C	9A2872C72D790D49	4BB7B199C4CED186
t=16:	3AA5C566A6CFAD1C	A88704D9962849F3	859533BAC457F94E	32215CE49AAE40F8
	CE23F6380EAD33C2	63BF0472EF24F7A5	539F225D25EBEB4C	9A2872C72D790D49
t=17:	2E9C483A7C08C9C1	3AA5C566A6CFAD1C	A88704D9962849F3	859533BAC457F94E
	B033F945F3E6B4A2	CE23F6380EAD33C2	63BF0472EF24F7A5	539F225D25EBEB4C
t=18:	5A68585AE0835231	2E9C483A7C08C9C1	3AA5C566A6CFAD1C	A88704D9962849F3
	8A0187A9CE93D875	B033F945F3E6B4A2	CE23F6380EAD33C2	63BF0472EF24F7A5
t=19:	CF9CD481E6407CED	5A68585AE0835231	2E9C483A7C08C9C1	3AA5C566A6CFAD1C
	37A29FA30531BAC7	8A0187A9CE93D875	B033F945F3E6B4A2	CE23F6380EAD33C2
t=20:	3F463F864F6474D9	CF9CD481E6407CED	5A68585AE0835231	2E9C483A7C08C9C1
	0CF45BB3C07E847D	37A29FA30531BAC7	8A0187A9CE93D875	B033F945F3E6B4A2
t=21:	CEA26288DF931A5	3F463F864F6474D9	CF9CD481E6407CED	5A68585AE0835231
	34F1B5F46BF48A73	0CF45BB3C07E847D	37A29FA30531BAC7	8A0187A9CE93D875
t=22:	89634CD0F4F6C08A	CEA26288DF931A5	3F463F864F6474D9	CF9CD481E6407CED
	3A728A543405A8E4	34F1B5F46BF48A73	0CF45BB3C07E847D	37A29FA30531BAC7
t=23:	625FA38464E5C880	89634CD0F4F6C08A	CEA26288DF931A5	3F463F864F6474D9
	CEE1B47A49B2FC42	3A728A543405A8E4	34F1B5F46BF48A73	0CF45BB3C07E847D
t=24:	7DD21453A15A3B92	625FA38464E5C880	89634CD0F4F6C08A	CEA26288DF931A5
	9308BFA1BE1F800B	CEE1B47A49B2FC42	3A728A543405A8E4	34F1B5F46BF48A73
t=25:	3D76277BC8CB0601	7DD21453A15A3B92	625FA38464E5C880	89634CD0F4F6C08A
	480E017F5D1F0B1E	9308BFA1BE1F800B	CEE1B47A49B2FC42	3A728A543405A8E4
t=26:	C8D904196F5A1F54	3D76277BC8CB0601	7DD21453A15A3B92	625FA38464E5C880
	4BD2F1F6E940C332	480E017F5D1F0B1E	9308BFA1BE1F800B	CEE1B47A49B2FC42
t=27:	B033139B58B6E423	C8D904196F5A1F54	3D76277BC8CB0601	7DD21453A15A3B92
	F816EC1CBE0ADAFB	4BD2F1F6E940C332	480E017F5D1F0B1E	9308BFA1BE1F800B
t=28:	097768182CB65F57	B033139B58B6E423	C8D904196F5A1F54	3D76277BC8CB0601
	62E3DE54DCD8F974	F816EC1CBE0ADAFB	4BD2F1F6E940C332	480E017F5D1F0B1E
t=29:	3196649AB5F5CC39	097768182CB65F57	B033139B58B6E423	C8D904196F5A1F54
	F6887DE116D0BD8F	62E3DE54DCD8F974	F816EC1CBE0ADAFB	4BD2F1F6E940C332
t=30:	F78D3D221D16965F	3196649AB5F5CC39	097768182CB65F57	B033139B58B6E423
	C7E4859C2858ED3C	F6887DE116D0BD8F	62E3DE54DCD8F974	F816EC1CBE0ADAFB
t=31:	F58E9876B4984B51	F78D3D221D16965F	3196649AB5F5CC39	097768182CB65F57
	621352B394B8CA02	C7E4859C2858ED3C	F6887DE116D0BD8F	62E3DE54DCD8F974
t=32:	38FBF0E726E04F78	F58E9876B4984B51	F78D3D221D16965F	3196649AB5F5CC39
	4319856F17A0A430	621352B394B8CA02	C7E4859C2858ED3C	F6887DE116D0BD8F
t=33:	F4BE0B32A57597A2	38FBF0E726E04F78	F58E9876B4984B51	F78D3D221D16965F

	C6D392A3B4EB0ED8	4319856F17A0A430	621352B394B8CA02	C7E4859C2858ED3C
t=34:	F8A6B3FE2E4F0634	F4BE0B32A57597A2	38FBF0E726E04F78	F58E9876B4984B51
	602663C0F34EFF33	C6D392A3B4EB0ED8	4319856F17A0A430	621352B394B8CA02
t=35:	9BC3871BE8046113	F8A6B3FE2E4F0634	F4BE0B32A57597A2	38FBF0E726E04F78
	05542ECD9883C6BA	602663C0F34EFF33	C6D392A3B4EB0ED8	4319856F17A0A430
t=36:	F1BD2D46BE619585	9BC3871BE8046113	F8A6B3FE2E4F0634	F4BE0B32A57597A2
	E47B9933BAFDC655	05542ECD9883C6BA	602663C0F34EFF33	C6D392A3B4EB0ED8
t=37:	24C84B58D119AFFE	F1BD2D46BE619585	9BC3871BE8046113	F8A6B3FE2E4F0634
	5AE0B1175BEB5D2B	E47B9933BAFDC655	05542ECD9883C6BA	602663C0F34EFF33
t=38:	EC6D3ABC2B291FD3	24C84B58D119AFFE	F1BD2D46BE619585	9BC3871BE8046113
	9ECC381D277748A3	5AE0B1175BEB5D2B	E47B9933BAFDC655	05542ECD9883C6BA
t=39:	E266C1F77D5EE90E	EC6D3ABC2B291FD3	24C84B58D119AFFE	F1BD2D46BE619585
	D92F34C110296B32	9ECC381D277748A3	5AE0B1175BEB5D2B	E47B9933BAFDC655
t=40:	5ADBAA463642B570	E266C1F77D5EE90E	EC6D3ABC2B291FD3	24C84B58D119AFFE
	83E8F410F859388E	D92F34C110296B32	9ECC381D277748A3	5AE0B1175BEB5D2B
t=41:	50FDB7BB2E499A34	5ADBAA463642B570	E266C1F77D5EE90E	EC6D3ABC2B291FD3
	257ED8EA645E933A	83E8F410F859388E	D92F34C110296B32	9ECC381D277748A3
t=42:	06514212BB7FA152	50FDB7BB2E499A34	5ADBAA463642B570	E266C1F77D5EE90E
	466781DB35181ABE	257ED8EA645E933A	83E8F410F859388E	D92F34C110296B32
t=43:	673ED5A55FF2B07D	06514212BB7FA152	50FDB7BB2E499A34	5ADBAA463642B570
	BA78F3545E7914F0	466781DB35181ABE	257ED8EA645E933A	83E8F410F859388E
t=44:	125E2E5118393E2B	673ED5A55FF2B07D	06514212BB7FA152	50FDB7BB2E499A34
	4453B23A3E13B090	BA78F3545E7914F0	466781DB35181ABE	257ED8EA645E933A
t=45:	07EE813DF5910CEC	125E2E5118393E2B	673ED5A55FF2B07D	06514212BB7FA152
	EAE013A0510D23CC	4453B23A3E13B090	BA78F3545E7914F0	466781DB35181ABE
t=46:	0A0508F0A1D719C3	07EE813DF5910CEC	125E2E5118393E2B	673ED5A55FF2B07D
	A93815EB58891016	EAE013A0510D23CC	4453B23A3E13B090	BA78F3545E7914F0
t=47:	0FC8F3B3EFCB1B96	0A0508F0A1D719C3	07EE813DF5910CEC	125E2E5118393E2B
	A071CC73B966E801	A93815EB58891016	EAE013A0510D23CC	4453B23A3E13B090
t=48:	02AA5B28199F304A	0FC8F3B3EFCB1B96	0A0508F0A1D719C3	07EE813DF5910CEC
	A49F1E14F8A2BE7A	A071CC73B966E801	A93815EB58891016	EAE013A0510D23CC
t=49:	9223E1B34382F104	02AA5B28199F304A	0FC8F3B3EFCB1B96	0A0508F0A1D719C3
	BFE2106E512A7331	A49F1E14F8A2BE7A	A071CC73B966E801	A93815EB58891016
t=50:	E01A1E47EE8D5656	9223E1B34382F104	02AA5B28199F304A	0FC8F3B3EFCB1B96
	592B899B35469A78	BFE2106E512A7331	A49F1E14F8A2BE7A	A071CC73B966E801
t=51:	FA7B17AAD857C2F4	E01A1E47EE8D5656	9223E1B34382F104	02AA5B28199F304A
	EB6E85E4682C1671	592B899B35469A78	BFE2106E512A7331	A49F1E14F8A2BE7A
t=52:	0C523B7A3C84AB77	FA7B17AAD857C2F4	E01A1E47EE8D5656	9223E1B34382F104
	B5E80E871AC0C005	EB6E85E4682C1671	592B899B35469A78	BFE2106E512A7331
t=53:	C773D8B69DA1FDE2	0C523B7A3C84AB77	FA7B17AAD857C2F4	E01A1E47EE8D5656
	BE2B0602FC6F8F65	B5E80E871AC0C005	EB6E85E4682C1671	592B899B35469A78
t=54:	C6B1BC79A4F23679	C773D8B69DA1FDE2	0C523B7A3C84AB77	FA7B17AAD857C2F4
	C80BDC57F38A05E4	BE2B0602FC6F8F65	B5E80E871AC0C005	EB6E85E4682C1671
t=55:	BEF9BB0FE467FD60	C6B1BC79A4F23679	C773D8B69DA1FDE2	0C523B7A3C84AB77
	1DAB0BD116E434E5	C80BDC57F38A05E4	BE2B0602FC6F8F65	B5E80E871AC0C005
t=56:	8E3DB3E380EC7F22	BEF9BB0FE467FD60	C6B1BC79A4F23679	C773D8B69DA1FDE2
	32EF50751734FFEE	1DAB0BD116E434E5	C80BDC57F38A05E4	BE2B0602FC6F8F65
t=57:	1003EC42412C7B7D	8E3DB3E380EC7F22	BEF9BB0FE467FD60	C6B1BC79A4F23679
	1EC0D46F349FD058	32EF50751734FFEE	1DAB0BD116E434E5	C80BDC57F38A05E4
t=58:	375FACCF6291F85E	1003EC42412C7B7D	8E3DB3E380EC7F22	BEF9BB0FE467FD60
	59C8BC0488F9768B	1EC0D46F349FD058	32EF50751734FFEE	1DAB0BD116E434E5
t=59:	BD113D92E0354FB9	375FACCF6291F85E	1003EC42412C7B7D	8E3DB3E380EC7F22
	E66C73DB3FAD397D	59C8BC0488F9768B	1EC0D46F349FD058	32EF50751734FFEE
t=60:	2F61D4FD8E36D9D4	BD113D92E0354FB9	375FACCF6291F85E	1003EC42412C7B7D
	E9F21933E1C02948	E66C73DB3FAD397D	59C8BC0488F9768B	1EC0D46F349FD058
t=61:	1B1AD88B92701AE2	2F61D4FD8E36D9D4	E9F21933E1C02948	59C8BC0488F9768B
	6FD0C1719BCAC335	E66C73DB3FAD397D	59C8BC0488F9768B	1EC0D46F349FD058
t=62:	93D09FC06A19C5DA	1B1AD88B92701AE2	2F61D4FD8E36D9D4	BD113D92E0354FB9

	B765273F571A571E	6FD0C1719BCAC335	E9F21933E1C02948	E66C73DB3FAD397D
t=63:	04BEA2CE99CC3BF6	93D09FC06A19C5DA	1B1AD88B92701AE2	2F61D4FD8E36D9D4
	6AB0E443C2F63714	B765273F571A571E	6FD0C1719BCAC335	E9F21933E1C02948
t=64:	02EBFC0A13492F52	04BEA2CE99CC3BF6	93D09FC06A19C5DA	1B1AD88B92701AE2
	77300C52E05AF415	6AB0E443C2F63714	B765273F571A571E	6FD0C1719BCAC335
t=65:	1BF525ABCE8D6F04	02EBFC0A13492F52	04BEA2CE99CC3BF6	93D09FC06A19C5DA
	8FAF12C33BB371B9	77300C52E05AF415	6AB0E443C2F63714	B765273F571A571E
t=66:	B6A36A3431547328	1BF525ABCE8D6F04	02EBFC0A13492F52	04BEA2CE99CC3BF6
	FA8BB40B4E08100F	8FAF12C33BB371B9	77300C52E05AF415	6AB0E443C2F63714
t=67:	FFDAF83202AF0D72	B6A36A3431547328	1BF525ABCE8D6F04	02EBFC0A13492F52
	8045A82F723A9B4E	FA8BB40B4E08100F	8FAF12C33BB371B9	77300C52E05AF415
t=68:	12737373D2985232	FFDAF83202AF0D72	B6A36A3431547328	1BF525ABCE8D6F04
	870DBCE23BAD8988	8045A82F723A9B4E	FA8BB40B4E08100F	8FAF12C33BB371B9
t=69:	6189F68162B256B5	12737373D2985232	FFDAF83202AF0D72	B6A36A3431547328
	8C059AF157146580	870DBCE23BAD8988	8045A82F723A9B4E	FA8BB40B4E08100F
t=70:	20B0A9A1D21C482D	6189F68162B256B5	12737373D2985232	FFDAF83202AF0D72
	F22B874C96785EC8	8C059AF157146580	870DBCE23BAD8988	8045A82F723A9B4E
t=71:	EF6D863C2127B394	20B0A9A1D21C482D	6189F68162B256B5	12737373D2985232
	B7AEE28337D69DAB	F22B874C96785EC8	8C059AF157146580	870DBCE23BAD8988
t=72:	D3EFE8B442689074	EF6D863C2127B394	20B0A9A1D21C482D	6189F68162B256B5
	22491AB9CDECB6B0	B7AEE28337D69DAB	F22B874C96785EC8	8C059AF157146580
t=73:	4694354944A9F487	D3EFE8B442689074	EF6D863C2127B394	20B0A9A1D21C482D
	659890A5818D0C50	22491AB9CDECB6B0	B7AEE28337D69DAB	F22B874C96785EC8
t=74:	B93C2403773DD08C	4694354944A9F487	D3EFE8B442689074	EF6D863C2127B394
	88C2C2AC52C4F679	659890A5818D0C50	22491AB9CDECB6B0	B7AEE28337D69DAB
t=75:	025848E3AB6B69D3	B93C2403773DD08C	4694354944A9F487	D3EFE8B442689074
	750DA3D4E16A1B64	88C2C2AC52C4F679	659890A5818D0C50	22491AB9CDECB6B0
t=76:	396B53E58D04471B	025848E3AB6B69D3	B93C2403773DD08C	4694354944A9F487
	700486BF252CBA75	750DA3D4E16A1B64	88C2C2AC52C4F679	659890A5818D0C50
t=77:	51B6F9A3C1CEEB4A	396B53E58D04471B	025848E3AB6B69D3	B93C2403773DD08C
	E6B3850DE8AE6230	700486BF252CBA75	750DA3D4E16A1B64	88C2C2AC52C4F679
t=78:	526A98F5DC595406	51B6F9A3C1CEEB4A	396B53E58D04471B	025848E3AB6B69D3
	4F0DCF74AEA76F90	E6B3850DE8AE6230	700486BF252CBA75	750DA3D4E16A1B64
t=79:	DEB3EEAA973BB9DD	526A98F5DC595406	51B6F9A3C1CEEB4A	396B53E58D04471B
	3665B5DBB6C2E055	4F0DCF74AEA76F90	E6B3850DE8AE6230	700486BF252CBA75

H[0] = 2A7F1D895FD58E0B + DEB3EEAA973BB9DD = 09330C33F71147E8
H[1] = EAAE96D1A673C741 + 526A98F6DC595406 = 3D192FC782CD1B47
H[2] = 015A2173796C1A88 + 51B6F9A4C1CEEB4A = 53111B173B3B05D2
H[3] = F6352CA156ACAFF7 + 396B53E58D04471B = 2FA08086E3B0F712
H[4] = C662113E9EBB4D64 + 3665B5DCB6C2E055 = FCC7C71A557E2DB9
H[5] = 17B61A85E2CCF0A9 + 4F0DCF75AEA76F90 = 66C3E9FA91746039
H[6] = 37EB9A6660FEB519 + E6B3850DE8AE6230 = 1E9F1F7449AD1749
H[7] = 8F2EBE9A81E6A2C5 + 700486BFE8AE6230 = FF334559A7135D3A

Message Digest is

09330C33 F71147E8 3D192FC7 82CD1B47 53111B17 3B3B05D2
2FA08086 E3B0F712 FCC7C71A 557E2DB9 66C3E9FA 91746039

#####

Secure Hash Algorithm
Message Digest Length = 512

#####

One Block Message Sample

Input Message: "abc"

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Initial hash value:

- H[0] = 6A09E667F3BCC908
- H[1] = BB67AE8584CAA73B
- H[2] = 3C6EF372FE94F82B
- H[3] = A54FF53A5F1D36F1
- H[4] = 510E527FADE682D1
- H[5] = 9B05688C2B3E6C1F
- H[6] = 1F83D9ABFB41BD6B
- H[7] = 5BE0CD19137E2179

=====

Block Contents:

- W[0] = 6162638000000000
- W[1] = 0000000000000000
- W[2] = 0000000000000000
- W[3] = 0000000000000000
- W[4] = 0000000000000000
- W[5] = 0000000000000000
- W[6] = 0000000000000000
- W[7] = 0000000000000000
- W[8] = 0000000000000000
- W[9] = 0000000000000000
- W[10] = 0000000000000000
- W[11] = 0000000000000000
- W[12] = 0000000000000000
- W[13] = 0000000000000000
- W[14] = 0000000000000000
- W[15] = 0000000000000018

	A/E	B/F	C/G	D/H
t= 0:	F6AFCEB8BCFCDDF5 58CB02347AB51F91	6A09E667F3BCC908 510E527FADE682D1	BB67AE8584CAA73B 9B05688C2B3E6C1F	3C6EF372FE94F82B 1F83D9ABFB41BD6B
t= 1:	1320F8C9FB872CC0 C3D4EBFD48650FFA	F6AFCEB8BCFCDDF5 58CB02347AB51F91	6A09E667F3BCC908 510E527FADE682D1	BB67AE8584CAA73B 9B05688C2B3E6C1F
t= 2:	EBCFFC07203D91F3 DFA9B239F2697812	1320F8C9FB872CC0 C3D4EBFD48650FFA	F6AFCEB8BCFCDDF5 58CB02347AB51F91	6A09E667F3BCC908 510E527FADE682D1
t= 3:	5A83CB3E80050E82 0B47B4BB1928990E	EBCFFC07203D91F3 DFA9B239F2697812	1320F8C9FB872CC0 C3D4EBFD48650FFA	F6AFCEB8BCFCDDF5 58CB02347AB51F91
t= 4:	B680953951604860 745ACA4A342ED2E2	5A83CB3E80050E82 0B47B4BB1928990E	EBCFFC07203D91F3 DFA9B239F2697812	1320F8C9FB872CC0 C3D4EBFD48650FFA
t= 5:	AF573B02403E89CD 96F60209B6DC35BA	B680953951604860 745ACA4A342ED2E2	5A83CB3E80050E82 0B47B4BB1928990E	EBCFFC07203D91F3 DFA9B239F2697812
t= 6:	C4875B0C7ABC076B	AF573B02403E89CD	B680953951604860	5A83CB3E80050E82

	5A6C781F54DCC00C	96F60209B6DC35BA	745ACA4A342ED2E2	0B47B4BB1928990E
t= 7:	8093D195E0054FA3	C4875B0C7ABC076B	AF573B02403E89CD	B680953951604860
	86F67263A0F0EC0A	5A6C781F54DCC00C	96F60209B6DC35BA	745ACA4A342ED2E2
t= 8:	F1ECA5544CB89225	8093D195E0054FA3	C4875B0C7ABC076B	AF573B02403E89CD
	D0403C398FC40002	86F67263A0F0EC0A	5A6C781F54DCC00C	96F60209B6DC35BA
t= 9:	81782D4A5DB48F03	F1ECA5544CB89225	8093D195E0054FA3	C4875B0C7ABC076B
	00091F460BE46C52	D0403C398FC40002	86F67263A0F0EC0A	5A6C781F54DCC00C
t=10:	69854C4AA0F25B59	81782D4A5DB48F03	F1ECA5544CB89225	8093D195E0054FA3
	D375471BDE1BA3F4	00091F460BE46C52	D0403C398FC40002	86F67263A0F0EC0A
t=11:	DB0A9963F80C2EAA	69854C4AA0F25B59	81782D4A5DB48F03	F1ECA5544CB89225
	475975B91A7A462C	D375471BDE1BA3F4	00091F460BE46C52	D0403C398FC40002
t=12:	5E41214388186C14	DB0A9963F80C2EAA	69854C4AA0F25B59	81782D4A5DB48F03
	CDF3BFF2883FC9D9	475975B91A7A462C	D375471BDE1BA3F4	00091F460BE46C52
t=13:	44249631255D2CA0	5E41214388186C14	DB0A9963F80C2EAA	69854C4AA0F25B59
	860ACF9EFFBA6F61	CDF3BFF2883FC9D9	475975B91A7A462C	D375471BDE1BA3F4
t=14:	FA967EED85A08028	44249631255D2CA0	5E41214388186C14	DB0A9963F80C2EAA
	874BFE5F6AAE9F2F	860ACF9EFFBA6F61	CDF3BFF2883FC9D9	475975B91A7A462C
t=15:	0AE07C86B1181C75	FA967EED85A08028	44249631255D2CA0	5E41214388186C14
	A77B7C035DD4C161	874BFE5F6AAE9F2F	860ACF9EFFBA6F61	CDF3BFF2883FC9D9
t=16:	CAF81A425D800537	0AE07C86B1181C75	FA967EED85A08028	44249631255D2CA0
	2DEECC6B39D64D78	A77B7C035DD4C161	874BFE5F6AAE9F2F	860ACF9EFFBA6F61
t=17:	4725BE249AD19E6B	CAF81A425D800537	0AE07C86B1181C75	FA967EED85A08028
	F47E8353F8047455	2DEECC6B39D64D78	A77B7C035DD4C161	874BFE5F6AAE9F2F
t=18:	3C4B4104168E3EDB	4725BE249AD19E6B	CAF81A425D800537	0AE07C86B1181C75
	29695FD88D81DBD0	F47E8353F8047455	2DEECC6B39D64D78	A77B7C035DD4C161
t=19:	9A3FB4D38AB6CF06	3C4B4104168E3EDB	4725BE249AD19E6B	CAF81A425D800537
	F14998DD5F70767E	29695FD88D81DBD0	F47E8353F8047455	2DEECC6B39D64D78
t=20:	8DC5AE65569D3855	9A3FB4D38AB6CF06	3C4B4104168E3EDB	4725BE249AD19E6B
	4BB9E66D1145BFDC	F14998DD5F70767E	29695FD88D81DBD0	F47E8353F8047455
t=21:	DA34D6673D452DCF	8DC5AE65569D3855	9A3FB4D38AB6CF06	3C4B4104168E3EDB
	8E30FF09AD488753	4BB9E66D1145BFDC	F14998DD5F70767E	29695FD88D81DBD0
t=22:	3E2644567B709A78	DA34D6673D452DCF	8DC5AE65569D3855	9A3FB4D38AB6CF06
	0AC2B11DA8F571C6	8E30FF09AD488753	4BB9E66D1145BFDC	F14998DD5F70767E
t=23:	4F6877B58FE55484	3E2644567B709A78	DA34D6673D452DCF	8DC5AE65569D3855
	C66005F87DB55233	0AC2B11DA8F571C6	8E30FF09AD488753	4BB9E66D1145BFDC
t=24:	9AFF71163FA3A940	4F6877B58FE55484	3E2644567B709A78	DA34D6673D452DCF
	D3ECF13769180E6F	C66005F87DB55233	0AC2B11DA8F571C6	8E30FF09AD488753
t=25:	0BC5F791F8E6816B	9AFF71163FA3A940	4F6877B58FE55484	3E2644567B709A78
	6DDF1FD7EDCCE336	D3ECF13769180E6F	C66005F87DB55233	0AC2B11DA8F571C6
t=26:	884C3BC27BC4F941	0BC5F791F8E6816B	9AFF71163FA3A940	4F6877B58FE55484
	E6E48C9A8E948365	6DDF1FD7EDCCE336	D3ECF13769180E6F	C66005F87DB55233
t=27:	EAB4A9E5771B8D09	884C3BC27BC4F941	0BC5F791F8E6816B	9AFF71163FA3A940
	09068A4E255A0DAC	E6E48C9A8E948365	6DDF1FD7EDCCE336	D3ECF13769180E6F
t=28:	E62349090F47D30A	EAB4A9E5771B8D09	884C3BC27BC4F941	0BC5F791F8E6816B
	0FCDF99710F21584	09068A4E255A0DAC	E6E48C9A8E948365	6DDF1FD7EDCCE336
t=29:	74BF40F869094C63	E62349090F47D30A	EAB4A9E5771B8D09	884C3BC27BC4F941
	F0AEC2FE1437F085	0FCDF99710F21584	09068A4E255A0DAC	E6E48C9A8E948365
t=30:	4C4FBBB75F1873A6	74BF40F869094C63	E62349090F47D30A	EAB4A9E5771B8D09
	73E025D91B9EFEA3	F0AEC2FE1437F085	0FCDF99710F21584	09068A4E255A0DAC
t=31:	FF4D3F1F0D46A736	4C4FBBB75F1873A6	74BF40F869094C63	E62349090F47D30A
	3CD388E119E8162E	73E025D91B9EFEA3	F0AEC2FE1437F085	0FCDF99710F21584
t=32:	A0509015CA08C8D4	FF4D3F1F0D46A736	4C4FBBB75F1873A6	74BF40F869094C63
	E1034573654A106F	3CD388E119E8162E	73E025D91B9EFEA3	F0AEC2FE1437F085
t=33:	60D4E6995ED91FE6	A0509015CA08C8D4	FF4D3F1F0D46A736	4C4FBBB75F1873A6
	EFABBD8BF47C041A	E1034573654A106F	3CD388E119E8162E	73E025D91B9EFEA3
t=34:	2C59EC7743632621	60D4E6995ED91FE6	A0509015CA08C8D4	FF4D3F1F0D46A736
	0FBAE670FA780FD3	EFABBD8BF47C041A	E1034573654A106F	3CD388E119E8162E
t=35:	1A081AFC59FDBC2C	2C59EC7743632621	60D4E6995ED91FE6	A0509015CA08C8D4

	F098082F502B44CD	0FBAE670FA780FD3	EFABBD8BF47C041A	E1034573654A106F
t=36:	88DF85B0BBE77514	1A081AFC59FDBC2C	2C59EC7743632621	60D4E6995ED91FE6
	8FBFD0162BBF4675	F098082F502B44CD	0FBAE670FA780FD3	EFABBD8BF47C041A
t=37:	002BB8E4CD989567	88DF85B0BBE77514	1A081AFC59FDBC2C	2C59EC7743632621
	66ADCFA249AC7BBD	8FBFD0162BBF4675	F098082F502B44CD	0FBAE670FA780FD3
t=38:	B3BB8542B3376DE5	002BB8E4CD989567	88DF85B0BBE77514	1A081AFC59FDBC2C
	B49596C20FEBA7DE	66ADCFA249AC7BBD	8FBFD0162BBF4675	F098082F502B44CD
t=39:	8E01E125B855D225	B3BB8542B3376DE5	002BB8E4CD989567	88DF85B0BBE77514
	0C710A47BA6A567B	B49596C20FEBA7DE	66ADCFA249AC7BBD	8FBFD0162BBF4675
t=40:	B01521DD6A6BE12C	8E01E125B855D225	B3BB8542B3376DE5	002BB8E4CD989567
	169008B3A4BB170B	0C710A47BA6A567B	B49596C20FEBA7DE	66ADCFA249AC7BBD
t=41:	E96F89DD48CBD851	B01521DD6A6BE12C	8E01E125B855D225	B3BB8542B3376DE5
	F0996439E7B50CB1	169008B3A4BB170B	0C710A47BA6A567B	B49596C20FEBA7DE
t=42:	BC05BA8DE5D3C480	E96F89DD48CBD851	B01521DD6A6BE12C	8E01E125B855D225
	639CB938E14DC190	F0996439E7B50CB1	169008B3A4BB170B	0C710A47BA6A567B
t=43:	35D7E7F41DEFCEBD5	BC05BA8DE5D3C480	E96F89DD48CBD851	B01521DD6A6BE12C
	CC5100997F5710F2	639CB938E14DC190	F0996439E7B50CB1	169008B3A4BB170B
t=44:	C47C9D5C7EA8A234	35D7E7F41DEFCEBD5	BC05BA8DE5D3C480	E96F89DD48CBD851
	858D832AE0E8911C	CC5100997F5710F2	639CB938E14DC190	F0996439E7B50CB1
t=45:	021FBADBABAB5AC6	C47C9D5C7EA8A234	35D7E7F41DEFCEBD5	BC05BA8DE5D3C480
	E95C2A57572D64D9	858D832AE0E8911C	CC5100997F5710F2	639CB938E14DC190
t=46:	F61E672694DE2D67	021FBADBABAB5AC6	C47C9D5C7EA8A234	35D7E7F41DEFCEBD5
	C6BC35740D8DAA9A	E95C2A57572D64D9	858D832AE0E8911C	CC5100997F5710F2
t=47:	6B69FC1BB482FEAC	F61E672694DE2D67	021FBADBABAB5AC6	C47C9D5C7EA8A234
	35264334C03AC8AD	C6BC35740D8DAA9A	E95C2A57572D64D9	858D832AE0E8911C
t=48:	571F323D96B3A047	6B69FC1BB482FEAC	F61E672694DE2D67	021FBADBABAB5AC6
	271580ED6C3E5650	35264334C03AC8AD	C6BC35740D8DAA9A	E95C2A57572D64D9
t=49:	CA9BD862C5050918	571F323D96B3A047	6B69FC1BB482FEAC	F61E672694DE2D67
	DFE091DAB182E645	271580ED6C3E5650	35264334C03AC8AD	C6BC35740D8DAA9A
t=50:	813A43DD2C502043	CA9BD862C5050918	571F323D96B3A047	6B69FC1BB482FEAC
	07A0D8EF821C5E1A	DFE091DAB182E645	271580ED6C3E5650	35264334C03AC8AD
t=51:	D43F83727325DD77	813A43DD2C502043	CA9BD862C5050918	571F323D96B3A047
	483F80A82EAE23E	07A0D8EF821C5E1A	DFE091DAB182E645	271580ED6C3E5650
t=52:	03DF11B32D42E203	D43F83727325DD77	813A43DD2C502043	CA9BD862C5050918
	504F94E40591CFFA	483F80A82EAE23E	07A0D8EF821C5E1A	DFE091DAB182E645
t=53:	D63F68037DDF06AA	03DF11B32D42E203	D43F83727325DD77	813A43DD2C502043
	A6781EFE1AA1CE02	504F94E40591CFFA	483F80A82EAE23E	07A0D8EF821C5E1A
t=54:	F650857B5BABDA4D	D63F68037DDF06AA	03DF11B32D42E203	D43F83727325DD77
	9CCFB31A86DF0F86	A6781EFE1AA1CE02	504F94E40591CFFA	483F80A82EAE23E
t=55:	63B460E42748817E	F650857B5BABDA4D	D63F68037DDF06AA	03DF11B32D42E203
	C6B4DD2A9931C509	9CCFB31A86DF0F86	A6781EFE1AA1CE02	504F94E40591CFFA
t=56:	7A52912943D52B05	63B460E42748817E	F650857B5BABDA4D	D63F68037DDF06AA
	D2E89BBD91E00BE0	C6B4DD2A9931C509	9CCFB31A86DF0F86	A6781EFE1AA1CE02
t=57:	4B81C3AEC976EA4B	7A52912943D52B05	63B460E42748817E	F650857B5BABDA4D
	70505988124351AC	D2E89BBD91E00BE0	C6B4DD2A9931C509	9CCFB31A86DF0F86
t=58:	581ECB3355DCD9B8	4B81C3AEC976EA4B	7A52912943D52B05	63B460E42748817E
	6A3C9B0F71C8BF36	70505988124351AC	D2E89BBD91E00BE0	C6B4DD2A9931C509
t=59:	2C074484EF1EAC8C	581ECB3355DCD9B8	4B81C3AEC976EA4B	7A52912943D52B05
	4797CDE4ED370692	6A3C9B0F71C8BF36	70505988124351AC	D2E89BBD91E00BE0
t=60:	3857DFD2FC37D3BA	2C074484EF1EAC8C	581ECB3355DCD9B8	4B81C3AEC976EA4B
	A6AF4E9C9F807E51	4797CDE4ED370692	6A3C9B0F71C8BF36	70505988124351AC
t=61:	CFCD928C5424E2B6	3857DFD2FC37D3BA	2C074484EF1EAC8C	581ECB3355DCD9B8
	09AEE5BDA1644DE5	A6AF4E9C9F807E51	4797CDE4ED370692	6A3C9B0F71C8BF36
t=62:	A81DEDBB9F19E643	CFCD928C5424E2B6	3857DFD2FC37D3BA	2C074484EF1EAC8C
	84058865D60A05FA	09AEE5BDA1644DE5	A6AF4E9C9F807E51	4797CDE4ED370692
t=63:	AB44E86276478D85	A81DEDBB9F19E643	CFCD928C5424E2B6	3857DFD2FC37D3BA
	CD881EE59CA6BC53	84058865D60A05FA	09AEE5BDA1644DE5	A6AF4E9C9F807E51
t=64:	5A806D7E9821A501	AB44E86276478D85	A81DEDBB9F19E643	CFCD928C5424E2B6

	AA84B086688A5C45	CD881EE59CA6BC53	84058865D60A05FA	09AEE5BDA1644DE5
t=65:	EEB9C21BB0102598	5A806D7E9821A501	AB44E86276478D85	A81DEDDB9F19E643
	3B5FED0D6A1F96E1	AA84B086688A5C45	CD881EE59CA6BC53	84058865D60A05FA
t=66:	46C4210AB2CC155D	EEB9C21BB0102598	5A806D7E9821A501	AB44E86276478D85
	29FAB5A7BFF53366	3B5FED0D6A1F96E1	AA84B086688A5C45	CD881EE59CA6BC53
t=67:	54BA35CF56A0340E	46C4210AB2CC155D	EEB9C21BB0102598	5A806D7E9821A501
	1C66F46D95690BCF	29FAB5A7BFF53366	3B5FED0D6A1F96E1	AA84B086688A5C45
t=68:	181839D609C79748	54BA35CF56A0340E	46C4210AB2CC155D	EEB9C21BB0102598
	0ADA78BA2D446140	1C66F46D95690BCF	29FAB5A7BFF53366	3B5FED0D6A1F96E1
t=69:	FB6AAAE5D0B6A447	181839D609C79748	54BA35CF56A0340E	46C4210AB2CC155D
	E3711CB6564D112D	0ADA78BA2D446140	1C66F46D95690BCF	29FAB5A7BFF53366
t=70:	7652C579CB60F19C	FB6AAAE5D0B6A447	181839D609C79748	54BA35CF56A0340E
	AFF62C9665FF80FA	E3711CB6564D112D	0ADA78BA2D446140	1C66F46D95690BCF
t=71:	F15E9664B2803575	7652C579CB60F19C	FB6AAAE5D0B6A447	181839D609C79748
	947C3DFAFEE570EF	AFF62C9665FF80FA	E3711CB6564D112D	0ADA78BA2D446140
t=72:	358406D165AEE9AB	F15E9664B2803575	7652C579CB60F19C	FB6AAAE5D0B6A447
	8C7B5FD91A794CA0	947C3DFAFEE570EF	AFF62C9665FF80FA	E3711CB6564D112D
t=73:	20878DCD29CDAF5	358406D165AEE9AB	F15E9664B2803575	7652C579CB60F19C
	054D3536539948D0	8C7B5FD91A794CA0	947C3DFAFEE570EF	AFF62C9665FF80FA
t=74:	33D48DABB5521DE2	20878DCD29CDAF5	358406D165AEE9AB	F15E9664B2803575
	2BA18245B50DE4CF	054D3536539948D0	8C7B5FD91A794CA0	947C3DFAFEE570EF
t=75:	C8960E6BE864B916	33D48DABB5521DE2	20878DCD29CDAF5	358406D165AEE9AB
	995019A6FF3BA3DE	2BA18245B50DE4CF	054D3536539948D0	8C7B5FD91A794CA0
t=76:	654EF9ABEC389CA9	C8960E6BE864B916	33D48DABB5521DE2	20878DCD29CDAF5
	CEB9FC3691CE8326	995019A6FF3BA3DE	2BA18245B50DE4CF	054D3536539948D0
t=77:	D67806DB8B148677	654EF9ABEC389CA9	C8960E6BE864B916	33D48DABB5521DE2
	25C96A7768FB2AA3	CEB9FC3691CE8326	995019A6FF3BA3DE	2BA18245B50DE4CF
t=78:	10D9C4C4295599F6	D67806DB8B148677	654EF9ABEC389CA9	C8960E6BE864B916
	9BB4D39778C07F9E	25C96A7768FB2AA3	CEB9FC3691CE8326	995019A6FF3BA3DE
t=79:	73A54F399FA4B1B2	10D9C4C4295599F6	D67806DB8B148677	654EF9ABEC389CA9
	D08446AA79693ED7	9BB4D39778C07F9E	25C96A7768FB2AA3	CEB9FC3691CE8326

H[0] = 6A09E667F3BCC908 + 73A54F3A9FA4B1B2 = DDAF35A193617ABA
H[1] = BB67AE8584CAA73B + 10D9C4C4295599F6 = CC417349AE204131
H[2] = 3C6EF372FE94F82B + D67806DC8B148677 = 12E6FA4E89A97EA2
H[3] = A54FF53A5F1D36F1 + 654EF9AC389CA9 = 0A9EEEE64B55D39A
H[4] = 510E527FADE682D1 + D08446AB79693ED7 = 2192992A274FC1A8
H[5] = 9B05688C2B3E6C1F + 9BB4D39778C07F9E = 36BA3C23A3FEEBBD
H[6] = 1F83D9ABFB41BD6B + 25C96A7768FB2AA3 = 454D4423643CE80E
H[7] = 5BE0CD19137E2179 + CEB9FC3668FB2AA3 = 2A9AC94FA54CA49F

Message Digest is

DDAF35A1 93617ABA CC417349 AE204131
12E6FA4E 89A97EA2 0A9EEEE6 4B55D39A 2192992A 274FC1A8
36BA3C23 A3FEEBBD 454D4423 643CE80E 2A9AC94F A54CA49F

=====

Two Block Message Sample

Input Message:

"abcdefghijklmnopqrstu
abcdefghijklmnopqrstu"

Initial hash value:

H[0] = 6A09E667F3BCC908
H[1] = BB67AE8584CAA73B
H[2] = 3C6EF372FE94F82B
H[3] = A54FF53A5F1D36F1
H[4] = 510E527FADE682D1
H[5] = 9B05688C2B3E6C1F
H[6] = 1F83D9ABFB41BD6B
H[7] = 5BE0CD19137E2179

Block Contents:

W[0] = 6162636465666768
W[1] = 6263646566676869
W[2] = 636465666768696A
W[3] = 6465666768696A6B
W[4] = 65666768696A6B6C
W[5] = 666768696A6B6C6D
W[6] = 6768696A6B6C6D6E
W[7] = 68696A6B6C6D6E6F
W[8] = 696A6B6C6D6E6F70
W[9] = 6A6B6C6D6E6F7071
W[10] = 6B6C6D6E6F707172
W[11] = 6C6D6E6F70717273
W[12] = 6D6E6F7071727374
W[13] = 6E6F707172737475
W[14] = 8000000000000000
W[15] = 0000000000000000

	A/E	B/F	C/G	D/H
t= 0:	F6AFCE9D2263455D 58CB0218E01B86F9	6A09E667F3BCC908 510E527FADE682D1	BB67AE8584CAA73B 9B05688C2B3E6C1F	3C6EF372FE94F82B 1F83D9ABFB41BD6B
t= 1:	0B7056A534AE5F62 F8C7198FE39E4C8C	F6AFCE9D2263455D 58CB0218E01B86F9	6A09E667F3BCC908 510E527FADE682D1	BB67AE8584CAA73B 9B05688C2B3E6C1F
t= 2:	2CA82233760C9942 303ECCCD65953DE	0B7056A534AE5F62 F8C7198FE39E4C8C	F6AFCE9D2263455D 58CB0218E01B86F9	6A09E667F3BCC908 510E527FADE682D1
t= 3:	A023F17CE52CDA7B FFDEE5EEDCC9CA42	2CA82233760C9942 303ECCCD65953DE	0B7056A534AE5F62 F8C7198FE39E4C8C	F6AFCE9D2263455D 58CB0218E01B86F9
t= 4:	8F0A67D9D591A1A7 CB4CFBB166505F2F	A023F17CE52CDA7B FFDEE5EEDCC9CA42	2CA82233760C9942 303ECCCD65953DE	0B7056A534AE5F62 F8C7198FE39E4C8C
t= 5:	B466267371ACC493 73D6C84C54D399EE	8F0A67D9D591A1A7 CB4CFBB166505F2F	A023F17CE52CDA7B FFDEE5EEDCC9CA42	2CA82233760C9942 303ECCCD65953DE
t= 6:	658269F1A312FCCD CDC40314975FB275	B466267371ACC493 73D6C84C54D399EE	8F0A67D9D591A1A7 CB4CFBB166505F2F	A023F17CE52CDA7B FFDEE5EEDCC9CA42
t= 7:	65E3519C5B88181B A657850AB3970C5A	658269F1A312FCCD CDC40314975FB275	B466267371ACC493 73D6C84C54D399EE	8F0A67D9D591A1A7 CB4CFBB166505F2F
t= 8:	56604FBB4B6393EC E8B3BE22FBE64DF7	65E3519C5B88181B A657850AB3970C5A	658269F1A312FCCD CDC40314975FB275	B466267371ACC493 73D6C84C54D399EE
t= 9:	C4562769A37D02C0 0062E70A1EF705C1	56604FBB4B6393EC E8B3BE22FBE64DF7	65E3519C5B88181B A657850AB3970C5A	658269F1A312FCCD CDC40314975FB275
t=10:	27C0B4C9186E1736 BC9740477A18AE2D	C4562769A37D02C0 0062E70A1EF705C1	56604FBB4B6393EC E8B3BE22FBE64DF7	65E3519C5B88181B A657850AB3970C5A
t=11:	F17F52FB02F4EB74 BE58522CB9590EE1	27C0B4C9186E1736 BC9740477A18AE2D	C4562769A37D02C0 0062E70A1EF705C1	56604FBB4B6393EC E8B3BE22FBE64DF7
t=12:	F2C245AC903D4A35	F17F52FB02F4EB74	27C0B4C9186E1736	C4562769A37D02C0

	49D5FA3A16DCD502	BE58522CB9590EE1	BC9740477A18AE2D	0062E70A1EF705C1
t=13:	9B04175EA8090DAA EC9C5E98FF98760D	F2C245AC903D4A35 49D5FA3A16DCD502	F17F52FB02F4EB74 BE58522CB9590EE1	27C0B4C9186E1736 BC9740477A18AE2D
t=14:	481B8A6EE5E07031 E4D35B613A5AC420	9B04175EA8090DAA EC9C5E98FF98760D	F2C245AC903D4A35 49D5FA3A16DCD502	F17F52FB02F4EB74 BE58522CB9590EE1
t=15:	9356AC3EC3E51459 701F17D27582443B	481B8A6EE5E07031 E4D35B613A5AC420	9B04175EA8090DAA EC9C5E98FF98760D	F2C245AC903D4A35 49D5FA3A16DCD502
t=16:	B889ED34ABD7AA37 1D05D9BA779A1A78	9356AC3EC3E51459 701F17D27582443B	481B8A6EE5E07031 E4D35B613A5AC420	9B04175EA8090DAA EC9C5E98FF98760D
t=17:	BF537B1F3EDC7381 C362FF9CF932951D	B889ED34ABD7AA37 1D05D9BA779A1A78	9356AC3EC3E51459 701F17D27582443B	481B8A6EE5E07031 E4D35B613A5AC420
t=18:	D4E44D54E8242AD8 459E4E6888919F36	BF537B1F3EDC7381 C362FF9CF932951D	B889ED34ABD7AA37 1D05D9BA779A1A78	9356AC3EC3E51459 701F17D27582443B
t=19:	05F3FBA454E5DE3D CAED4B5FA322B984	D4E44D54E8242AD8 459E4E6888919F36	BF537B1F3EDC7381 C362FF9CF932951D	B889ED34ABD7AA37 1D05D9BA779A1A78
t=20:	CDB73772DC0248BF DC8049AFA6ACD502	05F3FBA454E5DE3D CAED4B5FA322B984	D4E44D54E8242AD8 459E4E6888919F36	BF537B1F3EDC7381 C362FF9CF932951D
t=21:	1D47A3268FF677ED 8407818E9B28CC12	CDB73772DC0248BF DC8049AFA6ACD502	05F3FBA454E5DE3D CAED4B5FA322B984	D4E44D54E8242AD8 459E4E6888919F36
t=22:	AF4E23EB622D0DF4 64B5AE5424598428	1D47A3268FF677ED 8407818E9B28CC12	CDB73772DC0248BF DC8049AFA6ACD502	05F3FBA454E5DE3D CAED4B5FA322B984
t=23:	BE50606778DE14A6 0A5D727CC92E7ADB	AF4E23EB622D0DF4 64B5AE5424598428	1D47A3268FF677ED 8407818E9B28CC12	CDB73772DC0248BF DC8049AFA6ACD502
t=24:	821E44F6678AC478 F367E596D0A038A5	BE50606778DE14A6 0A5D727CC92E7ADB	AF4E23EB622D0DF4 64B5AE5424598428	1D47A3268FF677ED 8407818E9B28CC12
t=25:	0C852B1359A77C18 6DEC8A3396A80C3F	821E44F6678AC478 F367E596D0A038A5	BE50606778DE14A6 0A5D727CC92E7ADB	AF4E23EB622D0DF4 64B5AE5424598428
t=26:	EBB574FAD4B7A7E4 A241E7EFC1EB6FF9	0C852B1359A77C18 6DEC8A3396A80C3F	821E44F6678AC478 F367E596D0A038A5	BE50606778DE14A6 0A5D727CC92E7ADB
t=27:	A092821C3CDF08DA C84E849917A7C08E	EBB574FAD4B7A7E4 A241E7EFC1EB6FF9	0C852B1359A77C18 6DEC8A3396A80C3F	821E44F6678AC478 F367E596D0A038A5
t=28:	82BA2E1A2DF2A4F1 61845F6924789851	A092821C3CDF08DA C84E849917A7C08E	EBB574FAD4B7A7E4 A241E7EFC1EB6FF9	0C852B1359A77C18 6DEC8A3396A80C3F
t=29:	1959AD991C63D06A 231FAF24910A891A	82BA2E1A2DF2A4F1 61845F6924789851	A092821C3CDF08DA C84E849917A7C08E	EBB574FAD4B7A7E4 A241E7EFC1EB6FF9
t=30:	9B32D4CACD9A625B 533066919D608799	1959AD991C63D06A 231FAF24910A891A	82BA2E1A2DF2A4F1 61845F6924789851	A092821C3CDF08DA C84E849917A7C08E
t=31:	DC55339F4D841965 E2517F359998A58D	9B32D4CACD9A625B 533066919D608799	1959AD991C63D06A 231FAF24910A891A	82BA2E1A2DF2A4F1 61845F6924789851
t=32:	FDEBB1283B12514F B1989170A183C661	DC55339F4D841965 E2517F359998A58D	9B32D4CACD9A625B 533066919D608799	1959AD991C63D06A 231FAF24910A891A
t=33:	B44C7975A83E3334 009AD175B8D588A4	FDEBB1283B12514F B1989170A183C661	DC55339F4D841965 E2517F359998A58D	9B32D4CACD9A625B 533066919D608799
t=34:	0BAC61BFC53D18B7 A7D5416D690557B8	B44C7975A83E3334 009AD175B8D588A4	FDEBB1283B12514F B1989170A183C661	DC55339F4D841965 E2517F359998A58D
t=35:	392893C22E75856A 7A7C9EB7BC813248	0BAC61BFC53D18B7 A7D5416D690557B8	B44C7975A83E3334 009AD175B8D588A4	FDEBB1283B12514F B1989170A183C661
t=36:	824408631432E09B 5E696A9FDA56D6BF	392893C22E75856A 7A7C9EB7BC813248	0BAC61BFC53D18B7 A7D5416D690557B8	B44C7975A83E3334 009AD175B8D588A4
t=37:	A64162F151A8C1CB 0F57062401DC680B	824408631432E09B 5E696A9FDA56D6BF	392893C22E75856A 7A7C9EB7BC813248	0BAC61BFC53D18B7 A7D5416D690557B8
t=38:	922537ABAD1E95A1 4F4C193D435FF721	A64162F151A8C1CB 0F57062401DC680B	824408631432E09B 5E696A9FDA56D6BF	392893C22E75856A 7A7C9EB7BC813248
t=39:	B80591F6FBFADCE 00F4407C0F37237E	922537ABAD1E95A1 4F4C193D435FF721	A64162F151A8C1CB 0F57062401DC680B	392893C22E75856A 7A7C9EB7BC813248
t=40:	08F151F4B8D0FA2E EC8B96FE402094CD	B80591F6FBFADCE 00F4407C0F37237E	B80591F6FBFADCE 00F4407C0F37237E	824408631432E09B 5E696A9FDA56D6BF
t=41:	12B5FCC2B68F65C0	08F151F4B8D0FA2E	B80591F6FBFADCE	A64162F151A8C1CB 0F57062401DC680B

	D688101DFD24A148	EC8B96FE402094CD	00F4407C0F37237E	4F4C193D435FF721
t=42:	A71BF5BD64289948	12B5FCC2B68F65C0	08F151F4B8D0FA2E	B80591F6FBFADCE
	E052BFB7A6945939	D688101DFD24A148	EC8B96FE402094CD	00F4407C0F37237E
t=43:	890C2CD670C4AEA3	A71BF5BD64289948	12B5FCC2B68F65C0	08F151F4B8D0FA2E
	DD13E4EDEEFF00E7	E052BFB7A6945939	D688101DFD24A148	EC8B96FE402094CD
t=44:	CA61990B43297FFC	890C2CD670C4AEA3	A71BF5BD64289948	12B5FCC2B68F65C0
	139AA55C51D9EE5F	DD13E4EDEEFF00E7	E052BFB7A6945939	D688101DFD24A148
t=45:	7196E8FA538BA4BF	CA61990B43297FFC	890C2CD670C4AEA3	A71BF5BD64289948
	046735513CDD14D3	139AA55C51D9EE5F	DD13E4EDEEFF00E7	E052BFB7A6945939
t=46:	1F0720944DBEB6A4	7196E8FA538BA4BF	CA61990B43297FFC	890C2CD670C4AEA3
	A41EB7E5A27588E3	046735513CDD14D3	139AA55C51D9EE5F	DD13E4EDEEFF00E7
t=47:	D6D4F8608B8AB199	1F0720944DBEB6A4	7196E8FA538BA4BF	CA61990B43297FFC
	24B9C216F915DA60	A41EB7E5A27588E3	046735513CDD14D3	139AA55C51D9EE5F
t=48:	88761EB67845978E	D6D4F8608B8AB199	1F0720944DBEB6A4	7196E8FA538BA4BF
	9FE22E39448D50ED	24B9C216F915DA60	A41EB7E5A27588E3	046735513CDD14D3
t=49:	7D40E6BE47D85702	88761EB67845978E	D6D4F8608B8AB199	1F0720944DBEB6A4
	D9C900E01968C33E	9FE22E39448D50ED	24B9C216F915DA60	A41EB7E5A27588E3
t=50:	7D0D988DF5768598	7D40E6BE47D85702	88761EB67845978E	D6D4F8608B8AB199
	2EC2E522A7C7D12C	D9C900E01968C33E	9FE22E39448D50ED	24B9C216F915DA60
t=51:	48A8B60575B37F31	7D0D988DF5768598	7D40E6BE47D85702	88761EB67845978E
	7059F9BC8C88A373	2EC2E522A7C7D12C	D9C900E01968C33E	9FE22E39448D50ED
t=52:	6BC425AF294BBF79	48A8B60575B37F31	7D0D988DF5768598	7D40E6BE47D85702
	6A8143B1716EE33D	7059F9BC8C88A373	2EC2E522A7C7D12C	D9C900E01968C33E
t=53:	307A456158EE8849	6BC425AF294BBF79	48A8B60575B37F31	7D0D988DF5768598
	4372E85C16EE4440	6A8143B1716EE33D	7059F9BC8C88A373	2EC2E522A7C7D12C
t=54:	AF36382C8FD716BE	307A456158EE8849	6BC425AF294BBF79	48A8B60575B37F31
	A8F8B0033187A916	4372E85C16EE4440	6A8143B1716EE33D	7059F9BC8C88A373
t=55:	810EBEE951C64CA1	AF36382C8FD716BE	307A456158EE8849	6BC425AF294BBF79
	16A64F5997B9CCA6	A8F8B0033187A916	4372E85C16EE4440	6A8143B1716EE33D
t=56:	2DD7659F1B4D13CD	810EBEE951C64CA1	AF36382C8FD716BE	307A456158EE8849
	5DA6793BB7286A4B	16A64F5997B9CCA6	A8F8B0033187A916	4372E85C16EE4440
t=57:	5AC712ACFF4B98BE	2DD7659F1B4D13CD	810EBEE951C64CA1	AF36382C8FD716BE
	91F6395B301ADBFD	5DA6793BB7286A4B	16A64F5997B9CCA6	A8F8B0033187A916
t=58:	C1AF358833CB03C0	5AC712ACFF4B98BE	2DD7659F1B4D13CD	810EBEE951C64CA1
	D4883C0C21DDA190	91F6395B301ADBFD	5DA6793BB7286A4B	16A64F5997B9CCA6
t=59:	88A306074D388C7D	C1AF358833CB03C0	5AC712ACFF4B98BE	2DD7659F1B4D13CD
	9FC52468B897F9C8	D4883C0C21DDA190	91F6395B301ADBFD	5DA6793BB7286A4B
t=60:	F11BFD0CF67D3040	88A306074D388C7D	C1AF358833CB03C0	5AC712ACFF4B98BE
	47EFB6407F74D318	9FC52468B897F9C8	D4883C0C21DDA190	91F6395B301ADBFD
t=61:	1F065E7828ED4E1B	F11BFD0CF67D3040	88A306074D388C7D	C1AF358833CB03C0
	7481899904A4CE23	47EFB6407F74D318	9FC52468B897F9C8	D4883C0C21DDA190
t=62:	AEBDE39F2BC42EC1	1F065E7828ED4E1B	F11BFD0CF67D3040	88A306074D388C7D
	62AB526FF177A988	7481899904A4CE23	47EFB6407F74D318	9FC52468B897F9C8
t=63:	D35A94706E3E5DF2	AEBDE39F2BC42EC1	1F065E7828ED4E1B	F11BFD0CF67D3040
	53F92B648D5D815C	62AB526FF177A988	7481899904A4CE23	47EFB6407F74D318
t=64:	D72D727C53E09AB9	D35A94706E3E5DF2	AEBDE39F2BC42EC1	1F065E7828ED4E1B
	10746426BA9824F4	53F92B648D5D815C	62AB526FF177A988	7481899904A4CE23
t=65:	3A7235E5A4051D94	D72D727C53E09AB9	D35A94706E3E5DF2	AEBDE39F2BC42EC1
	AFE455DAEC5C2B00	10746426BA9824F4	53F92B648D5D815C	62AB526FF177A988
t=66:	F7F510FE73EF7E76	3A7235E5A4051D94	D72D727C53E09AB9	D35A94706E3E5DF2
	F1202C0BB7C4583F	AFE455DAEC5C2B00	10746426BA9824F4	53F92B648D5D815C
t=67:	23C2ACFB393523E9	F7F510FE73EF7E76	3A7235E5A4051D94	D72D727C53E09AB9
	A0BC2A61044AC12E	F1202C0BB7C4583F	AFE455DAEC5C2B00	10746426BA9824F4
t=68:	0307D241A1ED7121	23C2ACFB393523E9	F7F510FE73EF7E76	3A7235E5A4051D94
	FAD5F38F1E0AEA12	A0BC2A61044AC12E	F1202C0BB7C4583F	AFE455DAEC5C2B00
t=69:	191814D82F0A16FB	0307D241A1ED7121	23C2ACFB393523E9	F7F510FE73EF7E76
	39D325086E66E200	FAD5F38F1E0AEA12	A0BC2A61044AC12E	F1202C0BB7C4583F
t=70:	0A1ED41B6DA18C01	191814D82F0A16FB	0307D241A1ED7121	23C2ACFB393523E9

	B3D3521E166E5DF1	39D325086E66E200	FAD5F38F1E0AEA12	A0BC2A61044AC12E
t=71:	8A3F07DB93F6C827	0A1ED41B6DA18C01	191814D82F0A16FB	0307D241A1ED7121
	6B370074BE040ED7	B3D3521E166E5DF1	39D325086E66E200	FAD5F38F1E0AEA12
t=72:	002744D87EF80D28	8A3F07DB93F6C827	0A1ED41B6DA18C01	191814D82F0A16FB
	8C5A245DE2D72FE6	6B370074BE040ED7	B3D3521E166E5DF1	39D325086E66E200
t=73:	778DC7880A4A2AA0	002744D87EF80D28	8A3F07DB93F6C827	0A1ED41B6DA18C01
	45A375B466E5E342	8C5A245DE2D72FE6	6B370074BE040ED7	B3D3521E166E5DF1
t=74:	A3F11DE5EDE05B11	778DC7880A4A2AA0	002744D87EF80D28	8A3F07DB93F6C827
	F5BBF52F1AB7CC05	45A375B466E5E342	8C5A245DE2D72FE6	6B370074BE040ED7
t=75:	629C8AE6ECD8AF4B	A3F11DE5EDE05B11	778DC7880A4A2AA0	002744D87EF80D28
	5A8FE5919D3CF136	F5BBF52F1AB7CC05	45A375B466E5E342	8C5A245DE2D72FE6
t=76:	C9A8C1E2D063CE94	629C8AE6ECD8AF4B	A3F11DE5EDE05B11	778DC7880A4A2AA0
	AACD089BFAE8FAF9	5A8FE5919D3CF136	F5BBF52F1AB7CC05	45A375B466E5E342
t=77:	C517CBA6A09BB26A	C9A8C1E2D063CE94	629C8AE6ECD8AF4B	A3F11DE5EDE05B11
	E1682BD33C8F8E23	AACD089BFAE8FAF9	5A8FE5919D3CF136	F5BBF52F1AB7CC05
t=78:	11E3570E06E3B74E	C517CBA6A09BB26A	C9A8C1E2D063CE94	629C8AE6ECD8AF4B
	075AABBAD34FD01	E1682BD33C8F8E23	AACD089BFAE8FAF9	5A8FE5919D3CF136
t=79:	D90F1B1237B3A561	11E3570E06E3B74E	C517CBA6A09BB26A	C9A8C1E2D063CE94
	867983F69D3A3AD1	075AABBAD34FD01	E1682BD33C8F8E23	AACD089BFAE8FAF9

H[0] = 6A09E667F3BCC908 + D90F1B1337B3A561 = 4319017A2B706E69
H[1] = BB67AE8584CAA73B + 11E3570E06E3B74E = CD4B05938BAE5E89
H[2] = 3C6EF372FE94F82B + C517CBA7A09BB26A = 0186BF199F30AA95
H[3] = A54FF53A5F1D36F1 + C9A8C1E3D063CE94 = 6EF8B71D2F810585
H[4] = 510E527FADE682D1 + 867983F79D3A3AD1 = D787D6764B20BDA2
H[5] = 9B05688C2B3E6C1F + 075AABBAD34FD01 = A260144709736920
H[6] = 1F83D9ABFB41BD6B + E1682BD43C8F8E23 = 00EC057F37D14B8E
H[7] = 5BE0CD19137E2179 + AACD089C3C8F8E23 = 06ADD5B50E671C72

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Block Contents:

W[0] = 0000000000000000
W[1] = 0000000000000000
W[2] = 0000000000000000
W[3] = 0000000000000000
W[4] = 0000000000000000
W[5] = 0000000000000000
W[6] = 0000000000000000
W[7] = 0000000000000000
W[8] = 0000000000000000
W[9] = 0000000000000000
W[10] = 0000000000000000
W[11] = 0000000000000000
W[12] = 0000000000000000
W[13] = 0000000000000000
W[14] = 0000000000000000
W[15] = 0000000000000380

	A/E	B/F	C/G	D/H
t= 0:	88FDB92BDFB187E8	4319017A2B706E69	CD4B05938BAE5E89	0186BF199F30AA95
	1D5F4D5AD031B8E6	D787D6764B20BDA2	A260144709736920	00EC057F37D14B8E
t= 1:	6EB90718369C5CD7	88FDB92BDFB187E8	4319017A2B706E69	CD4B05938BAE5E89
	4B9B4877D987B0FE	1D5F4D5AD031B8E6	D787D6764B20BDA2	A260144709736920
t= 2:	C83451F2335D5144	6EB90718369C5CD7	88FDB92BDFB187E8	4319017A2B706E69
	D6B67350E0781E99	4B9B4877D987B0FE	1D5F4D5AD031B8E6	D787D6764B20BDA2
t= 3:	28EC1DEB2A9EE6E3	C83451F2335D5144	6EB90718369C5CD7	88FDB92BDFB187E8
	25E3136BE5999B8C	D6B67350E0781E99	4B9B4877D987B0FE	1D5F4D5AD031B8E6

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Message Digest is

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