

# Aplikacja

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS E:\Projects\Studia\S6\Podstawy Kryptografii\TEMP> .\hashes.exe --line-by-line data.txt
SHA1      : a0e5cd812455e04d6e3364cd8dc17e05b674231
SHA2-224  : bacfd6a44d02b096f13baa3e2e11b1ca81e702351f0d3289b18592d
SHA2-256  : aedaac3e798149ebaec99435ea67f2ff1fc8b5cd2f3b039b885bdf8c04678c03
SHA2-384  : 2c4cd621c1f34cc6d04c76012b3f8c06247463c95ce9f6158a8b2218f2e9ab323e111551c494e8b92bb95955df3913d
SHA2-512  : 71062884a3882e5442aa9acaff2b570c3470431f60e868a4178cbd0460f71ac0d5a679f4647003d5b683a7c9091a49b1075c72dc63bbbc9aa461c3af9129ddd9
SHA2-512-224: e469f59651a330481f4653b780ad27c8a6ac7557486bf8d9f306113
SHA2-512-256: c0731c4fb9b598347220366262f6002043cf78af5e057a7f2af5c4dcd2b5c3a
KECCAK-224 : 34bc93bb81fec7d490bc2528531213b0cc6e8444eda9d4de88d55554
KECCAK-256 : ccbf75e7b4ea7763c3134379fe06d9e19948341a1645ffdf62212b431430d42e7
KECCAK-384 : 9426fb4ac777ed03aba25ae85ccf91853d2857a5d229e0547e0dd6a4a50eb3c55f51bd6299374249492b2dd36da3715
KECCAK-512 : b00b04b961d770741ef2736709e78bf797a050f7bf7d8e6985ab3704a31d86ccfa3dabbad8c722e9c5b8b4155aff53bd1a99a459eb4218fe6d4cebddc8b363a
SHA3-224  : b6dd6f2e4082800cea403f7e387f80e2be1ee0ad6860ea5f6843dd45
SHA3-256  : 16c6f78ba37ae968b2602249278aad82aea653662b3e9583d598030f0fef5c4d
SHA3-384  : 8e24b4f5a8c62208ee9161f4ff8bcfd9d0aced7a0ee8091ff74abf3f2058112c48d10e4fc6b4b037055579789ab18404
SHA3-512  : 4e8cf792a8e50c690ebfc01aca3e91d29fae439427aa979271d159f4a0bc4f741b3bab6144ecf36cacf2123aa1720ce952fba1b8836dd7c819e4c6d73604b4a
MD-5      : c0d03d2d3e717da54ffdfc8a76c0f089
SHA1      : f2c526b471623ac117ed27682b293f397c75ea4e
SHA2-224  : 2ca5627a900d2a5a4788b865a13848a77e4c3679202eda99d8c49f49
SHA2-256  : f20417e10d864ea23c002ced9e9aec51babf1aa8660054c36b870fa4a834784
SHA2-384  : 08ed8d704c3ede79354c6859d5a307f5955bed675f524a9736b983edd4e6e429d5dc06f43981a6342b2d0cd22e05907
SHA2-512  : 020a08d913e56c20e10ea2f1e4c2f75a084b58b33362eb019229bf406539d6aaf7e1faf4a5baa763bccae91b01f08b9d9110079585ab1da25e615b46e55cb1
SHA2-512-224: 97a8c4edf3299138aa3605cd81407fc4f48a489c72d9992d27efbc2f
SHA2-512-256: 7c4602dcfc8f82d38e124911bd8d879c734c88abdbbc61092c4c7e1a3212c493a
KECCAK-224 : ae8d2b276b9f41a86880ea74db191676d8ae2fc388c42d95f77d3943
KECCAK-256 : 77f4c6079c40bd9ff6c3487ad52221e1c28dfc111e90d6bfa4783fe26d8515fe
KECCAK-384 : 7817435e826e74ca83c3a780774d99d133779c322bc3fe847d3ce32f3f01f5177804f25bdda4a83362b0e3253bbbf403
KECCAK-512 : f82326c4db84e43aadab6d86e58a4976fdbfc9c967943ed0739d322912316529c84f0241c6b057ed86d00e7c883fa0f9f046cb8e248006751f1d3e65ae79a052
SHA3-224  : 1f7fe44b698bf2faaf5ad303f80663b80665d290b1a129f2ed15cec1
SHA3-256  : 631a3fb9a3a9de3a7c0e93807d44c5b4e79ffa8ab6c248a911065c6478f56004
SHA3-384  : a668cf58aa791470d6f7c5ab807f454a1e1a619e903e8b6d229398bb03fffb56aa972ce04ec9c5e5f157b337b732328e25
SHA3-512  : 877ab513a22693b1b33b7f3b72aeb89fb6119d4b896e5b88df2d377c8bf3126d48c1978c258b11e3fa08877190d6416f5c8dffa7aca5600693405b613a175526
MD-5      : 5aca6ec2885546912b2ea534d525e60
SHA1      : 4712a3c002599467aac92fc277495b42e3b29c57
SHA2-224  : 92ec806f21bf51426510f6e635a77de900de1d1f80deb10017da3791
SHA2-256  : e992f7df52c4a354f5e3a252e01dfda35d0d7c4f8ef401a4dc84a01f229f255
SHA2-384  : 3ced6645559a79f09e03ed6a5b7229f4b9c897d8b0e6cfa40c2fe6d1b9b29e4e1e8dbe355af8cd7c3fd84973f8ee84e9
```

Aplikacja pozwala na wygenerowanie skrótów korzystając z funkcji:

- MD-5
- SHA-1
- SHA-2 224
- SHA-2 256
- SHA-2 384
- SHA-2 512
- SHA-2 512 224
- SHA-2 512 256
- SHA-3 224
- SHA-3 256
- SHA-3 384
- SHA-3 512
- KECCAK 224
- KECCAK 256
- KECCAK 384
- KECCAK 512

Dane wejściowe podawane są w pliku. Aplikacja traktuje cały plik jako jeden ciąg wejściowy, przy czym podanie opcji `--line-by-line` zmienia to zachowanie, traktując każdą linię w pliku wejściowym jako oddzielny ciąg wejściowy.

Opcja `--algorithm` pozwala na wybór funkcji rodziny funkcji skrótów, która ma być wykorzystana (domyślnie opcja ta przyjmuje wartość `'all'` generując skróty z wykorzystaniem wszystkich dostępnych funkcji).

## Kolizje

Na zbiorze testowym 10 000 20-znakowych zbadano występowanie kolizji na pierwszych 12 bitach każdego skrótu. Poniżej podane są sumaryczne liczby kolizji ( / 10 000):

		SHA2				SHA2 512		SHA3				KECCAK			
MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
6273	6266	6260	6260	6258	6258	6247	6247	6252	6240	6271	6279	6249	6285	6273	6250

Dokładne liczby kolizji znajdują się w dodatku A.

## Czasy generowania skrótów

Czasy generowania skrótów zostały zmierzone na pięciu plikach o różnych rozmiarach. Na wykresie zastosowano skalę logarytmiczną, ponieważ (z wyjątkiem pierwszego) rozmiary kolejnych plików są wykładniczo zależne (0.1MB, 1MB, 10MB, 100MB oraz 1000MB). Wynik wskazuje na (w przybliżeniu) liniową zależność czasu przetwarzania od rozmiaru ciągu wejściowego.

Wszystkie testowane funkcje są bardzo wydajne - generowanie skrótu 1GB wiadomości trwa najwyżej około 5 sekund.

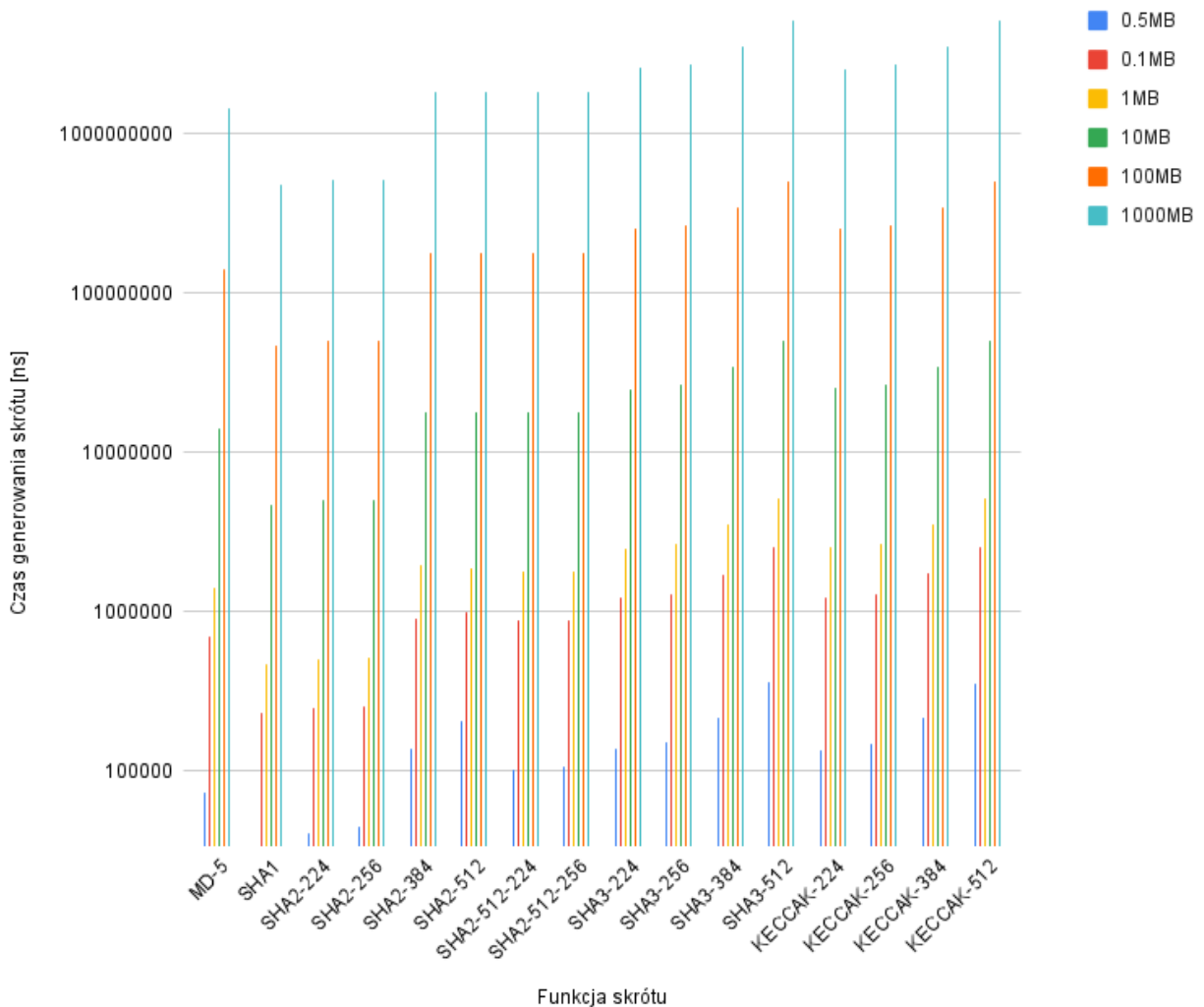


Tabela z dokładnymi czasami (wyrażonymi w nanosekundach) została umieszczona w dodatku B.

## MD5

Algorytm MD5 stworzony przez Ronalda Rivesta w 1994 pod koniec lat 90 przestał być uważany za bezpieczny, a od 2004 **nie jest bezpieczny**, ponieważ stworzono algorytm, który pozwalał na znalezienie kolizji w czasie poniżej godziny (na komputerze IBM P690). W 2005 MD5 stał się całkowicie niebezpieczny, ponieważ kolejny algorytm (stworzony przez Vlastimila Klime) pozwalał na wygenerowanie kolizji w czasie krótszym niż minuta.

Współcześnie używa się niekiedy MD5 do sprawdzania integralności plików przy przesyłach (prawdopodobieństwo wystąpienia kolizji przy losowym błędzie przesyłu jest ciągle dość niskie), jednak bezpieczniejszą (i częściej stosowaną) opcją jest użycie funkcji z rodziny SHA-2 lub SHA-3.

## Strict Avalanche Criterion

Ścisłe kryterium lawinowości stwierdza, że zmiana jednego bitu wejścia powinna powodować zmianę (średnio) połowy bitów wyjścia. W praktyce jako spełniające SAC określa się funkcje z prawdopodobieństwem zmiany 0.48 – 0.52. Dla przypadków testowych (10 000 ciągów 20-znakowych) wyznaczono następujące prawdopodobieństwa zmiany bitów:

		SHA2				SHA2 512		SHA3				KECCAK			
MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
0.33	0.43	0.45	0.51	0.56	0.65	0.45	0.50	0.45	0.51	0.56	0.64	0.46	0.50	0.56	0.64

W badanym przypadku testowym jedynie cztery funkcje spełniają SAC: SHA-2 256, SHA-2 512 256, SHA-3 256 oraz KECCAK 256.

## Sól

Sól nie jest integralną częścią funkcji skrótu. Dodaje się ją do ciągu wejściowego, aby skróty generowane dla tego samego wejścia były różne. Sól jest stosowana głównie w celach zaciemniających, na przykład w bazach danych przechowujących dane logowania. Dzięki dodatkowi soli skróty identycznych haseł dla różnych użytkowników będą różne, co mocno utrudnia kryptoanalizę.

## Appendix A

*Kolizje na pierwszych 12 bitach*

Table 1: Liczba wykrytych kolizji na zbiorze testowym

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000000000000	2	1	2	3	3	3	0	0	0	1	0	0	0	1	6	1
000000000001	2	3	1	4	1	2	3	0	0	0	1	1	2	0	1	0
000000000010	3	0	4	0	1	0	0	0	0	0	0	4	2	2	2	0
000000000011	1	4	4	3	4	2	0	2	0	0	2	2	1	1	2	1
000000000100	2	0	0	0	1	0	1	1	4	3	4	3	1	3	3	2
000000000101	0	3	0	0	0	4	2	6	0	1	2	7	1	0	3	3
000000000110	0	0	3	0	0	0	0	0	2	0	2	1	2	0	0	3
000000000111	0	5	7	2	4	2	3	0	0	0	2	2	0	4	0	4
000000001000	0	0	1	0	2	1	0	1	0	3	0	0	1	2	1	4
000000001001	1	1	1	0	4	3	1	2	1	3	3	1	1	1	0	0
000000001010	5	2	2	2	4	4	0	1	0	0	1	0	3	1	2	0
000000001011	1	1	2	0	1	4	3	0	1	0	1	2	1	3	2	4
000000001100	7	2	6	1	0	1	0	3	0	0	1	1	1	4	1	0
000000001101	1	2	0	0	2	0	2	3	2	2	2	4	2	0	1	3
000000001110	3	1	0	0	0	0	2	1	1	3	1	1	2	0	1	1
000000001111	2	2	0	1	0	1	2	4	1	2	0	3	0	1	4	0
000000010000	0	0	6	0	0	2	0	1	2	2	2	1	2	0	2	4
000000010001	1	4	0	1	4	0	0	1	1	0	0	3	6	2	0	0
000000010010	0	0	1	1	2	0	0	3	0	2	0	2	1	0	3	1
000000010011	1	3	0	1	0	3	1	1	1	0	0	0	4	2	1	0
000000010100	0	0	1	4	0	0	4	2	0	2	0	3	3	2	2	0
000000010101	0	0	1	3	0	0	4	4	1	2	2	1	1	2	0	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000000010110	3	0	1	0	0	1	5	1	3	0	0	2	3	2	1	2
000000010111	0	3	2	4	2	1	1	1	0	5	4	2	0	3	0	0
000000011000	0	3	0	2	1	2	1	0	2	0	1	0	0	5	0	1
000000011001	0	0	6	0	1	4	3	0	3	1	0	2	1	0	0	0
000000011010	1	1	3	0	1	2	0	1	1	0	1	4	0	1	0	0
000000011011	1	2	0	4	0	1	0	0	2	0	0	3	3	2	3	0
000000011100	3	4	1	1	0	5	2	3	0	0	0	2	0	0	0	0
000000011101	2	1	1	1	4	2	1	2	3	1	0	1	0	2	4	0
000000011110	1	0	2	0	0	5	0	1	0	1	0	0	5	0	2	0
000000011111	0	0	2	2	3	1	1	0	2	1	0	3	0	2	1	2
000000100000	1	1	0	6	0	2	1	3	0	2	2	1	2	5	0	3
000000100001	1	2	0	4	1	2	4	0	3	2	0	0	1	3	1	2
000000100010	2	0	1	0	2	1	2	2	0	1	1	0	0	1	0	2
000000100011	3	0	3	3	1	1	1	3	0	0	3	2	0	2	3	3
000000100100	0	2	3	3	1	3	0	2	2	0	0	1	0	2	4	0
000000100101	2	0	0	2	1	4	1	3	2	3	1	3	0	2	5	2
000000100110	1	5	4	1	1	0	2	4	1	0	0	4	1	2	0	3
000000100111	1	1	0	0	0	1	2	3	2	3	3	0	3	1	1	3
000000101000	3	0	1	3	1	2	2	1	1	0	1	1	1	1	0	1
000000101001	4	3	2	1	1	0	0	2	4	1	2	2	0	4	3	2
000000101010	1	0	2	2	0	2	0	2	1	1	0	2	2	2	1	5
000000101011	2	1	0	1	3	1	1	1	3	1	1	3	2	1	0	0
000000101100	3	0	5	1	0	1	1	4	2	0	4	0	4	0	3	2
000000101101	2	0	3	0	0	0	2	1	2	0	0	1	0	1	0	0
000000101110	2	4	1	3	1	1	2	4	0	0	1	3	1	0	1	0
000000101111	0	1	0	1	0	2	0	0	2	1	6	5	4	0	3	4
000000110000	0	1	3	1	1	0	0	2	0	2	1	0	2	2	1	2
000000110001	3	3	0	1	3	0	3	4	5	0	0	2	0	2	0	2
000000110010	3	4	1	0	5	1	0	1	5	0	4	1	1	0	1	2
000000110011	0	1	4	2	0	2	3	3	4	0	2	0	1	1	0	1
000000110100	3	5	3	1	1	1	1	2	3	1	1	2	3	0	0	3
000000110101	0	0	2	4	2	1	2	4	1	3	1	3	1	2	2	1
000000110110	0	0	1	0	0	0	2	2	1	4	0	0	3	1	3	1
000000110111	0	1	4	4	2	0	0	0	0	0	3	4	3	3	0	2
000000111000	2	0	1	0	0	4	0	1	4	6	0	2	3	0	2	5
000000111001	0	0	2	2	0	4	2	0	2	1	3	0	1	3	2	0
000000111010	0	4	1	0	6	2	1	3	3	0	0	1	0	0	6	1
000000111011	3	1	2	0	0	2	1	2	3	3	2	0	1	0	0	0
000000111100	1	3	1	5	0	1	1	0	0	3	1	1	3	0	0	2
000000111101	2	4	0	1	3	1	0	0	2	0	1	2	1	1	2	4
000000111110	1	1	1	0	2	3	0	3	0	2	0	2	5	2	2	0
000000111111	2	1	2	0	3	0	3	2	2	0	3	2	1	2	0	0
000001000000	2	0	2	3	2	3	6	0	3	3	2	0	0	2	7	2
000001000001	3	0	4	1	3	2	1	2	5	1	5	1	3	1	1	0
000001000010	0	2	1	2	2	2	1	2	1	2	5	3	4	1	1	0
000001000011	0	3	4	1	4	0	0	0	0	0	1	1	3	3	1	1
000001000100	1	2	0	0	2	2	0	0	4	0	3	1	0	1	0	1
000001000101	0	0	2	2	1	5	2	0	2	2	2	1	0	3	2	1
000001000110	2	3	0	0	1	1	3	4	1	2	1	0	1	2	0	6
000001000111	0	5	1	1	3	0	4	1	1	0	2	3	3	2	1	1
000001001000	3	1	3	2	4	2	2	0	0	1	2	2	0	1	1	1
000001001001	0	1	2	0	0	0	0	3	2	0	1	2	1	1	3	1
000001001010	1	0	0	1	0	1	1	1	1	3	0	1	3	2	0	0
000001001011	0	2	1	0	1	4	1	1	0	0	0	4	0	1	0	2
000001001100	1	5	1	0	4	1	0	1	2	3	0	2	1	2	1	0
000001001101	2	3	2	0	1	0	1	0	1	2	2	0	0	0	2	1
000001001110	3	1	2	2	2	3	3	4	0	4	4	1	1	1	0	1
000001001111	0	1	4	1	2	0	1	0	2	2	2	3	1	5	0	3
000001010000	1	0	1	0	4	0	1	0	3	8	1	2	1	2	1	2
000001010001	0	0	3	0	3	1	2	0	0	0	1	3	2	0	0	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000001010010	1	1	2	6	1	0	1	0	1	0	1	0	2	0	5	4
000001010011	0	0	2	5	4	2	1	1	1	3	4	1	0	1	1	0
000001010100	1	1	1	3	1	1	1	0	2	0	0	0	2	1	1	0
000001010101	2	1	1	2	1	2	2	0	0	0	3	2	0	3	2	0
000001010110	1	0	3	2	3	0	0	1	0	3	4	0	1	0	2	2
000001010111	6	0	3	2	0	2	0	0	1	1	4	3	0	3	0	0
000001011000	2	0	4	2	0	1	4	0	0	2	1	1	0	0	3	0
000001011001	2	2	3	2	4	1	4	1	2	4	1	0	4	3	3	1
000001011010	5	1	4	0	1	4	2	0	2	3	0	1	2	1	0	1
000001011011	0	0	2	1	3	0	1	3	0	2	0	5	0	1	1	2
000001011100	3	0	0	0	3	3	0	2	0	0	1	3	1	2	5	0
000001011101	3	0	2	1	0	1	2	3	3	1	3	1	0	0	2	1
000001011110	3	1	2	2	0	1	2	0	2	3	0	3	0	1	1	2
000001011111	0	2	0	2	0	1	1	3	3	3	0	0	2	0	1	1
000001100000	0	0	2	0	1	0	0	0	2	1	2	1	0	1	1	4
000001100001	1	2	2	2	2	1	1	2	1	2	1	0	2	0	1	3
000001100010	2	2	3	2	2	1	2	2	1	0	0	2	5	0	0	2
000001100011	3	2	2	0	0	2	4	2	2	3	0	4	4	0	3	2
000001100100	1	0	2	1	2	0	1	0	0	0	1	1	3	0	1	0
000001100101	1	2	1	1	2	2	5	0	1	2	1	0	2	1	2	3
000001100110	0	1	1	0	0	2	2	1	1	1	1	0	1	2	0	2
000001100111	1	1	0	2	0	1	1	0	3	3	1	2	6	1	1	4
000001101000	1	0	2	2	0	3	3	3	1	3	0	0	0	3	4	1
000001101001	2	3	4	1	2	1	1	1	4	1	1	1	0	2	3	2
000001101010	0	3	0	3	2	0	0	2	0	0	3	0	1	3	2	1
000001101011	2	1	2	5	3	1	3	0	1	0	0	1	4	1	1	5
000001101100	3	0	2	1	1	1	1	3	0	2	2	2	0	1	1	0
000001101101	1	0	3	2	1	4	0	0	2	0	1	0	3	1	0	0
000001101110	2	3	2	4	1	2	1	2	1	0	2	1	0	0	1	1
000001101111	1	2	3	1	1	3	0	2	0	4	2	0	0	5	1	2
000001110000	4	5	2	2	1	2	4	1	1	1	4	2	0	1	1	1
000001110001	0	0	0	1	3	3	0	3	5	3	3	2	0	1	2	4
000001110010	3	3	2	2	1	4	3	2	4	3	1	0	0	0	0	3
000001110011	2	0	1	0	4	2	2	0	0	0	0	1	3	1	0	4
000001110100	0	4	1	3	0	5	0	3	1	5	0	1	1	0	1	0
000001110101	0	0	1	0	4	0	2	1	0	1	0	1	0	1	0	2
000001110110	0	0	2	3	3	3	2	4	2	3	2	1	2	3	0	1
000001110111	1	3	1	3	0	1	2	2	2	0	2	1	1	2	1	1
000001111000	0	1	2	0	7	2	0	2	2	2	0	4	1	0	2	0
000001111001	2	2	3	2	0	0	0	0	0	2	3	0	1	2	0	0
000001111010	2	2	3	0	2	4	0	2	0	4	2	2	2	1	3	0
000001111011	1	2	2	2	4	0	1	2	7	0	2	1	2	0	3	4
000001111100	2	1	0	1	2	1	2	0	0	1	2	1	0	4	3	2
000001111101	1	0	1	3	2	3	1	1	0	1	1	3	2	3	1	1
000001111110	2	3	2	3	2	1	3	0	1	0	3	2	2	0	5	3
000001111111	2	0	3	0	0	0	4	3	1	2	3	2	3	2	1	0
000010000000	1	4	4	1	3	0	0	1	3	1	0	0	1	1	0	3
000010000001	3	1	3	2	2	0	0	2	0	1	2	1	1	2	0	0
000010000010	7	1	3	1	3	1	0	4	0	0	1	2	0	0	2	1
000010000011	0	1	0	0	1	0	1	4	3	0	0	3	3	0	1	0
000010000100	0	1	1	1	2	0	4	2	3	1	0	0	1	2	0	0
000010000101	1	0	1	4	2	2	0	3	5	3	2	0	3	1	0	4
000010000110	1	3	2	0	1	3	2	2	0	3	3	0	2	4	0	3
000010000111	3	2	1	1	0	2	3	2	1	2	1	3	3	3	2	0
000010001000	0	0	5	0	1	0	1	1	0	2	3	0	2	3	1	1
000010001001	2	1	3	1	2	0	1	0	0	1	2	1	0	0	3	0
000010001010	3	2	3	0	3	1	4	1	0	0	1	0	0	0	3	1
000010001011	1	1	0	2	1	1	0	0	2	3	0	1	0	1	5	1
000010001100	1	1	1	0	0	2	3	2	1	0	0	1	4	0	2	7
000010001101	0	1	2	2	2	1	1	2	1	0	0	1	3	3	1	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000010001110	3	2	1	2	2	1	0	2	2	0	0	0	1	1	0	1
000010001111	1	0	3	1	0	0	2	2	1	0	0	0	3	3	1	5
000010010000	3	0	3	0	1	1	1	0	0	0	2	0	1	0	0	0
000010010001	2	1	4	2	1	1	2	2	0	0	0	1	1	1	0	2
000010010010	2	5	1	0	3	0	1	3	1	2	3	0	1	3	0	0
000010010011	0	3	1	2	0	2	2	6	2	2	2	0	0	0	3	1
000010010100	2	0	4	0	3	4	1	3	2	2	0	1	0	0	2	1
000010010101	2	2	2	0	3	2	0	0	0	4	1	2	4	2	0	3
000010010110	3	1	5	1	1	0	0	3	0	1	2	0	1	2	1	1
000010010111	5	1	4	3	1	1	1	0	0	0	0	6	3	4	3	1
000010011000	1	0	0	1	4	2	3	0	0	0	0	0	1	0	0	0
000010011001	0	2	3	3	2	0	3	3	0	0	0	4	4	3	2	0
000010011010	4	0	5	1	3	1	0	1	1	0	0	1	1	2	1	0
000010011011	0	2	0	3	2	1	3	0	2	1	6	5	1	4	2	3
000010011100	1	2	6	1	0	2	3	1	2	3	8	0	0	0	0	1
000010011101	3	3	3	2	0	0	2	0	1	3	2	0	5	1	2	0
000010011110	3	3	3	3	0	1	1	3	0	0	2	2	2	2	1	2
000010011111	1	0	2	2	1	3	0	5	4	3	0	1	0	0	0	0
000010100000	4	0	0	0	3	2	1	0	0	2	0	0	3	0	1	0
000010100001	4	1	1	1	0	1	1	0	1	1	0	5	1	2	1	0
000010100010	2	2	0	5	1	1	2	1	2	0	2	3	4	1	0	1
000010100011	0	3	3	1	2	2	2	2	4	1	2	0	0	1	0	5
000010100100	1	3	0	0	4	0	0	4	0	5	2	4	2	4	0	2
000010100101	0	2	0	7	0	3	0	3	0	2	1	0	3	0	0	0
000010100110	3	0	4	3	0	3	0	0	3	2	2	0	5	3	1	0
000010100111	1	0	0	0	0	1	1	2	2	0	3	0	1	1	1	0
000010101000	0	1	1	0	0	3	0	1	3	2	1	1	4	2	6	2
000010101001	2	3	0	1	3	1	4	0	1	1	3	2	1	1	2	1
000010101010	1	5	1	0	1	1	1	0	1	0	3	2	0	0	2	1
000010101011	0	0	1	0	1	0	2	2	2	0	0	2	0	0	0	3
000010101100	1	4	1	2	0	3	1	1	1	2	2	0	1	0	0	0
000010101101	2	6	2	0	0	2	5	6	2	2	1	3	0	0	1	0
000010101110	0	1	1	0	5	1	4	0	1	1	5	1	2	3	1	2
000010101111	0	0	2	0	0	2	1	2	0	2	1	5	0	2	2	2
000010110000	1	1	4	2	2	2	1	5	1	2	0	2	2	1	0	2
000010110001	3	0	5	0	3	4	1	2	2	5	1	1	1	0	1	2
000010110010	2	1	3	2	1	2	0	0	0	3	1	0	2	1	2	0
000010110011	1	4	0	2	2	1	0	4	1	1	1	0	3	0	4	2
000010110100	3	0	0	5	1	3	2	2	0	1	2	0	1	0	0	2
000010110101	0	1	4	1	2	2	0	0	0	1	2	6	2	0	6	1
000010110110	9	2	0	1	1	1	4	2	0	0	2	1	1	4	1	0
000010110111	2	0	0	4	0	0	2	0	1	3	0	1	0	2	6	1
000010111000	0	3	3	3	1	0	0	5	0	3	0	5	1	0	3	2
000010111001	0	3	1	2	0	5	1	0	3	1	0	0	2	2	0	4
000010111010	2	2	0	5	4	4	1	1	8	2	1	1	2	2	2	3
000010111011	1	1	1	1	2	1	0	1	2	0	0	2	3	0	1	0
000010111100	1	4	1	1	0	0	2	1	5	4	1	1	0	2	0	1
000010111101	3	0	1	2	0	2	0	1	0	4	0	0	3	2	3	2
000010111110	4	2	0	1	2	1	0	1	1	0	0	1	3	0	0	1
000010111111	2	2	0	2	2	3	0	4	5	1	2	0	1	0	0	2
000011000000	0	0	0	0	2	1	0	1	4	1	1	4	4	1	1	0
000011000001	6	6	4	2	1	4	0	2	5	2	0	0	1	2	3	0
000011000010	1	7	4	1	3	3	1	1	4	2	1	0	2	2	0	3
000011000011	0	3	3	2	1	0	0	1	3	0	0	0	0	0	4	1
000011000100	0	3	0	1	1	6	3	3	0	2	1	2	2	2	4	1
000011000101	5	2	4	2	0	0	0	0	0	2	1	0	4	0	0	3
000011000110	0	1	0	0	0	3	3	0	0	0	3	4	0	2	1	2
000011000111	3	3	1	0	3	1	2	0	0	0	2	1	3	1	2	0
000011001000	1	0	2	0	4	0	1	1	0	0	0	3	2	1	0	2
000011001001	1	1	0	1	1	0	1	1	1	1	2	2	0	2	1	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000011001010	3	3	1	4	3	0	0	3	0	2	0	1	0	3	0	2
000011001011	0	1	0	0	0	0	6	4	0	2	2	3	0	2	3	1
000011001100	3	3	2	0	0	2	1	0	4	1	3	0	3	0	2	2
000011001101	1	2	0	3	1	4	0	2	0	0	0	3	1	2	0	0
000011001110	1	2	2	1	1	4	4	2	0	0	1	1	0	0	0	3
000011001111	0	2	1	1	2	1	0	3	1	0	0	0	2	0	1	0
000011010000	3	4	1	1	1	3	1	0	2	2	1	0	0	2	2	3
000011010001	2	1	0	1	2	0	3	0	2	3	3	1	5	1	0	2
000011010010	1	3	1	2	1	0	2	0	0	4	2	2	0	0	1	1
000011010011	3	0	1	0	4	1	0	2	1	1	1	0	1	0	5	2
000011010100	2	1	0	3	3	2	1	0	5	2	0	2	0	3	0	2
000011010101	1	1	0	3	2	2	3	0	4	0	1	0	3	4	1	3
000011010110	2	0	2	3	2	0	1	0	0	2	2	3	1	1	1	3
000011010111	4	0	1	0	2	0	1	1	3	3	0	1	0	4	3	1
000011011000	2	1	0	1	1	1	3	2	2	1	1	0	2	1	0	1
000011011001	0	1	1	7	0	1	0	0	4	1	1	4	0	4	1	2
000011011010	4	5	1	2	0	0	2	0	4	0	1	2	7	1	0	0
000011011011	3	2	4	2	2	2	2	2	3	1	1	1	2	2	3	2
000011011100	2	0	1	0	1	3	0	0	1	1	2	1	3	3	4	0
000011011101	0	3	0	0	2	4	3	0	4	2	0	0	3	0	0	3
000011011110	1	1	0	2	4	2	0	0	4	4	0	2	1	2	0	1
000011011111	2	0	2	3	2	1	0	3	2	0	2	0	0	0	1	0
000011100000	0	2	0	2	3	3	0	0	1	3	0	4	0	2	0	1
000011100001	3	0	2	0	0	1	2	3	3	2	1	0	0	5	0	0
000011100010	0	0	1	1	2	3	4	3	1	2	2	1	1	0	1	0
000011100011	2	1	4	3	3	1	0	0	0	3	0	0	0	3	0	0
000011100100	3	2	0	6	3	2	1	1	0	0	3	2	1	0	1	1
000011100101	1	1	0	0	3	2	3	3	0	1	2	3	6	1	1	0
000011100110	0	7	2	0	3	2	1	2	2	0	2	1	2	1	1	3
000011100111	6	0	0	0	2	0	1	4	1	3	0	1	0	3	2	0
000011101000	0	0	3	3	0	0	3	0	5	2	0	2	0	0	3	2
000011101001	0	1	0	0	0	1	2	3	2	3	0	1	4	1	1	0
000011101010	2	1	1	0	1	1	0	0	4	2	0	0	1	2	1	3
000011101011	1	1	2	5	0	3	0	2	4	1	2	0	1	1	0	0
000011101100	2	1	4	2	4	0	1	2	1	1	2	0	2	1	1	1
000011101101	0	3	2	2	0	2	1	2	3	0	0	2	0	6	1	1
000011101110	4	2	1	0	3	4	1	1	3	0	4	1	3	0	1	1
000011101111	2	2	1	3	1	0	2	1	0	1	2	1	0	0	0	2
000011110000	2	2	3	1	0	0	0	0	2	2	1	0	1	0	0	1
000011110001	3	1	0	0	0	1	0	3	2	0	2	0	0	2	1	3
000011110010	3	2	2	0	0	0	4	0	1	2	2	2	1	0	2	3
000011110011	3	1	1	1	0	1	0	2	3	2	0	1	1	3	0	0
000011110100	0	0	3	4	4	4	1	1	0	0	2	2	2	4	2	1
000011110101	2	0	1	3	0	0	1	3	3	0	1	0	3	1	0	0
000011110110	1	2	0	3	1	1	2	1	1	2	0	4	0	3	0	1
000011110111	0	2	3	2	2	1	1	0	0	1	3	1	0	0	2	0
000011111000	1	0	1	1	1	2	2	4	4	0	1	0	0	3	0	4
000011111001	3	1	0	1	0	1	3	2	0	2	1	0	2	1	0	1
000011111010	2	2	1	1	1	1	2	2	0	5	3	2	6	0	5	0
000011111011	3	2	3	2	2	2	2	3	0	3	4	1	3	0	3	1
000011111100	0	0	0	1	3	1	0	3	3	2	4	0	3	3	4	1
000011111101	0	1	0	4	1	1	0	1	2	0	0	1	3	0	0	3
000011111110	4	1	4	0	0	0	1	1	1	1	1	4	0	0	3	0
000011111111	1	2	0	0	4	4	4	0	2	1	1	1	2	0	3	0
000100000000	1	0	0	2	0	0	1	1	1	0	1	0	3	0	3	1
000100000001	0	0	0	0	3	1	0	0	4	1	0	1	2	1	0	1
000100000010	1	0	0	0	4	0	1	2	3	0	0	3	0	5	0	3
000100000011	0	0	2	2	0	1	2	1	2	2	1	0	2	3	2	1
000100000100	1	0	1	0	3	0	2	0	1	3	2	3	1	0	1	4
000100000101	0	1	2	2	1	1	0	2	2	3	0	4	1	3	0	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000100000110	1	5	4	0	3	0	3	0	5	2	3	2	0	0	2	0
000100000111	1	4	1	1	0	1	1	0	4	0	1	0	4	3	1	2
000100001000	1	0	3	0	4	3	2	1	1	3	4	0	2	5	1	2
000100001001	0	2	0	1	3	1	0	3	1	1	1	5	5	1	1	2
000100001010	2	4	1	3	0	2	5	1	1	0	1	2	0	3	1	1
000100001011	0	0	2	0	3	1	3	0	4	2	9	2	0	1	1	3
000100001100	0	2	2	4	0	0	2	4	0	1	3	5	0	2	0	1
000100001101	1	1	1	1	3	1	0	1	1	1	3	5	0	0	0	3
000100001110	3	0	2	3	0	0	0	2	1	1	4	3	4	0	1	5
000100001111	0	4	3	3	2	4	3	5	1	5	1	1	2	1	3	1
000100010000	3	0	1	2	2	1	0	1	0	1	1	2	1	1	1	2
000100010001	2	5	3	0	0	5	1	1	4	3	0	3	0	0	0	2
000100010010	1	5	2	2	1	1	3	3	2	4	4	0	1	2	4	2
000100010011	2	0	1	3	0	1	0	0	2	0	2	4	4	1	2	1
000100010100	0	3	2	4	1	0	2	3	2	1	1	1	3	1	4	1
000100010101	1	2	0	2	0	0	0	3	3	0	0	1	0	1	1	0
000100010110	0	1	2	2	1	0	2	3	0	2	4	4	2	3	3	3
000100010111	1	1	2	3	0	2	0	2	1	5	0	4	1	1	1	0
000100011000	3	0	2	2	0	2	2	0	3	1	5	1	2	1	0	1
000100011001	1	0	1	1	0	3	1	4	1	1	1	2	3	1	0	0
000100011010	4	0	0	1	1	1	1	0	1	2	0	0	2	0	1	0
000100011011	1	1	3	0	3	2	2	2	0	0	0	3	0	2	1	0
000100011100	0	1	1	0	0	2	1	5	2	3	2	0	3	0	7	2
000100011101	0	2	0	2	4	4	0	2	6	1	2	0	1	0	0	2
000100011110	2	2	1	2	0	3	1	4	0	3	0	1	0	3	1	0
000100011111	2	2	0	2	2	0	1	1	0	0	5	1	1	4	0	2
000100100000	0	2	0	1	4	1	1	2	2	3	5	1	2	1	3	0
000100100001	1	1	2	2	4	0	1	0	0	2	0	4	4	2	0	0
000100100010	1	4	3	1	0	0	4	2	3	2	3	1	2	3	2	1
000100100011	1	1	3	1	0	1	2	3	0	1	3	0	2	0	0	0
000100100100	3	6	4	5	4	0	1	1	2	0	2	2	0	0	2	4
000100100101	2	2	2	0	2	2	1	0	6	2	4	0	0	5	1	3
000100100110	0	4	2	0	2	0	0	2	2	0	3	2	3	4	3	1
000100100111	0	0	1	1	3	1	1	2	2	1	2	1	2	0	2	1
000100101000	4	2	2	6	0	2	4	1	0	4	4	1	3	1	2	1
000100101001	0	1	2	0	0	0	0	1	1	2	0	0	1	2	2	1
000100101010	1	0	1	3	1	6	2	1	2	0	0	0	6	1	2	3
000100101011	2	1	2	0	1	2	1	0	1	0	1	0	2	3	3	1
000100101100	0	8	2	0	0	1	3	0	2	1	4	1	0	1	0	1
000100101101	0	2	3	1	4	0	5	0	5	2	0	3	2	0	0	5
000100101110	1	0	5	2	2	3	1	0	2	1	0	6	0	3	2	2
000100101111	1	1	0	2	4	1	2	2	2	1	2	3	0	2	3	2
000100110000	2	3	2	4	0	1	1	2	0	4	0	2	0	3	4	2
000100110001	2	3	1	2	2	2	0	7	2	1	1	1	0	1	3	0
000100110010	1	3	7	0	0	0	0	1	3	3	0	0	4	2	2	1
000100110011	3	0	2	2	3	2	3	0	2	0	2	1	0	1	0	1
000100110100	0	0	0	0	2	1	0	2	1	3	3	0	3	1	3	4
000100110101	4	1	2	1	0	0	0	0	0	3	1	2	0	0	4	2
000100110110	1	1	3	1	0	1	0	1	3	2	4	0	0	0	1	4
000100110111	2	4	1	3	0	4	0	0	2	2	3	0	2	1	2	0
000100111000	0	0	0	0	0	3	3	2	2	0	0	0	3	0	1	1
000100111001	1	0	2	1	3	1	4	0	0	0	0	2	1	3	5	2
000100111010	2	5	3	1	4	1	2	0	3	2	3	6	4	0	2	1
000100111011	4	1	1	0	3	1	0	1	0	0	0	2	4	2	0	0
000100111100	4	2	1	0	1	0	0	1	0	4	0	2	1	0	5	3
000100111101	1	0	0	1	3	2	0	0	2	2	0	1	0	3	2	2
000100111110	0	2	1	1	1	1	1	1	2	1	2	1	2	0	4	0
000100111111	0	2	0	0	0	3	3	3	2	0	1	0	3	1	2	1
000101000000	0	3	2	1	3	0	0	0	0	2	1	2	0	1	0	2
000101000001	0	4	0	1	0	0	1	2	2	0	5	1	0	4	3	0



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000101000010	2	2	3	3	2	2	0	3	4	0	2	4	2	0	1	2
000101000011	4	3	1	0	2	0	0	3	0	1	2	1	1	4	1	2
0001010000100	2	4	1	1	3	0	0	4	0	4	1	5	0	1	2	3
0001010000101	3	1	6	4	1	0	1	2	1	1	2	1	1	2	2	0
0001010000110	3	0	2	1	3	1	4	2	2	10	1	2	2	4	0	3
0001010000111	0	1	2	0	4	5	3	0	4	0	0	0	0	4	1	0
0001010001000	1	4	1	2	0	2	0	0	1	1	0	2	2	2	0	1
0001010001001	0	2	2	0	0	0	2	0	2	2	2	4	0	0	2	0
0001010001010	1	3	3	0	2	1	2	1	0	1	2	1	2	1	2	0
0001010001011	3	0	1	0	2	1	1	0	2	5	1	1	1	2	0	3
0001010001100	0	1	0	2	1	1	4	1	0	4	0	3	1	2	1	2
0001010001101	1	0	1	2	1	0	0	3	2	0	1	6	2	0	3	0
0001010001110	1	1	1	0	2	0	0	3	0	8	0	1	0	1	1	1
0001010001111	1	2	0	0	2	1	0	3	4	0	2	5	0	0	0	1
000101010000	1	2	2	2	2	0	0	4	3	0	1	4	0	4	3	1
0001010100001	0	2	2	1	1	1	6	1	1	2	1	1	1	0	1	5
0001010100010	0	4	4	6	0	1	3	0	1	3	0	2	0	3	1	2
0001010100011	1	0	0	0	0	3	0	3	1	3	1	2	0	3	2	3
000101010100	2	0	2	0	0	0	1	3	3	0	0	2	1	0	6	1
000101010101	6	2	0	5	4	2	4	1	0	1	2	2	1	0	1	2
000101010110	2	3	2	2	0	0	0	0	4	3	0	0	1	4	1	0
000101010111	3	0	0	2	2	3	1	1	5	0	3	1	1	2	2	3
000101011000	3	0	2	0	2	5	0	2	1	1	1	2	0	2	0	3
000101011001	3	2	3	0	4	1	0	0	0	1	0	0	0	4	0	0
000101011010	2	2	2	3	2	2	3	0	1	7	3	0	0	1	3	1
000101011011	4	1	1	1	0	0	2	2	2	0	8	0	1	4	1	0
000101011100	2	0	1	1	1	0	3	0	0	2	1	4	2	4	0	0
000101011101	1	0	0	1	2	5	2	3	1	0	0	1	0	2	1	4
000101011110	1	4	0	1	0	1	4	4	0	1	1	3	1	0	0	0
000101011111	0	2	3	4	2	1	3	2	1	3	0	2	2	0	1	0
000101100000	0	1	1	0	1	3	0	1	1	0	0	1	3	0	2	2
000101100001	4	0	1	2	2	1	2	1	1	2	0	0	3	2	1	1
000101100010	1	2	0	3	4	1	3	0	2	1	1	0	1	1	1	5
000101100011	1	3	3	0	4	3	3	0	0	3	2	0	1	4	2	0
000101100100	2	5	0	1	4	2	0	1	3	0	1	3	3	0	2	5
000101100101	3	3	2	0	0	3	1	1	1	4	1	2	3	0	0	2
000101100110	0	0	1	1	1	1	1	0	3	0	1	2	2	0	2	5
000101100111	1	2	0	0	0	5	3	3	7	0	0	3	0	1	6	1
000101101000	3	0	0	0	2	0	2	5	0	0	1	0	2	0	0	2
000101101001	1	0	1	2	1	1	4	1	3	1	2	0	0	3	5	3
000101101010	1	2	0	2	2	4	1	1	0	2	1	0	4	0	3	1
000101101011	0	2	0	0	1	0	1	3	2	1	2	0	0	0	2	0
000101101100	0	0	0	3	1	1	0	2	0	3	1	1	0	3	0	2
000101101101	9	2	1	4	0	2	1	1	1	1	0	0	3	4	1	4
000101101110	0	7	0	1	3	3	0	2	2	1	1	0	1	4	0	0
000101101111	1	1	0	0	2	1	1	3	2	3	0	1	0	1	1	2
000101110000	2	0	0	0	0	0	1	2	3	4	2	0	0	0	2	2
000101110001	0	3	3	0	0	2	5	1	0	4	2	3	1	0	2	1
000101110010	3	1	1	1	6	0	1	1	0	2	3	2	0	1	5	0
000101110011	1	5	1	0	1	1	2	3	4	0	2	0	6	1	1	1
000101110100	2	1	1	1	2	1	3	3	4	1	1	1	2	1	2	0
000101110101	4	2	0	2	0	1	3	2	0	2	2	0	2	1	1	1
000101110110	0	3	2	2	0	0	3	4	0	2	1	1	0	0	0	5
000101110111	1	0	0	1	1	1	5	3	3	0	2	1	1	3	0	1
000101111000	0	0	1	0	1	0	0	1	2	1	1	1	1	2	3	3
000101111001	0	2	1	0	1	1	0	3	0	2	2	1	4	1	1	0
000101111010	0	1	2	1	1	1	1	1	1	0	3	1	4	3	1	1
000101111011	0	2	0	1	3	0	0	1	0	2	2	1	0	0	1	2
000101111100	2	0	2	0	1	0	0	8	2	1	3	1	2	2	0	0
000101111101	3	4	0	0	1	1	1	3	2	1	2	3	2	2	2	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
0001011111110	0	0	0	0	4	3	5	2	3	2	2	0	2	1	1	2
0001011111111	6	2	0	0	3	0	0	3	0	1	1	1	4	2	1	1
0001100000000	3	1	4	0	4	4	0	1	2	4	0	1	1	3	1	0
0001100000001	3	0	2	1	0	0	2	0	0	1	5	2	0	0	1	2
0001100000010	0	0	2	3	6	0	2	0	0	1	0	0	1	1	0	3
0001100000011	1	3	1	2	0	0	1	2	1	0	0	1	1	0	2	1
000110000100	3	2	2	0	0	2	2	0	4	0	0	0	1	0	0	3
000110000101	4	2	2	0	1	2	3	5	2	1	2	4	2	0	0	0
000110000110	4	1	2	1	5	0	0	0	0	1	2	0	2	1	0	1
000110000111	0	1	0	3	5	1	2	2	1	1	0	2	0	0	1	0
000110001000	1	2	0	4	0	1	0	2	0	3	4	5	3	0	0	2
000110001001	0	1	2	1	1	2	0	0	0	2	1	0	0	1	2	0
000110001010	0	5	0	1	1	0	3	0	2	0	2	0	2	2	4	2
000110001011	0	2	0	0	1	0	5	3	0	4	0	1	1	2	3	2
000110001100	1	1	1	0	3	2	0	2	1	3	3	1	2	1	1	0
000110001101	0	6	0	1	2	3	4	2	2	2	2	3	0	2	0	3
000110001110	1	1	1	5	3	0	4	4	4	0	2	1	2	0	5	1
000110001111	2	2	7	0	3	2	3	2	2	2	1	1	0	2	0	2
000110010000	2	2	0	1	2	3	0	1	1	0	0	0	2	0	3	1
000110010001	4	1	7	5	4	1	4	0	0	2	1	3	1	2	2	2
000110010010	2	1	0	5	2	2	3	2	1	3	4	7	1	0	1	0
000110010011	4	3	0	5	0	3	0	0	3	2	0	0	2	6	2	2
000110010100	0	2	2	2	1	1	1	0	3	3	0	1	0	1	1	1
000110010101	2	3	1	0	0	3	1	1	0	4	2	4	3	4	2	0
000110010110	3	2	0	2	0	1	6	2	3	0	0	1	1	2	1	2
000110010111	0	1	0	3	4	2	0	0	3	2	0	1	0	0	1	1
000110011000	0	0	1	7	1	1	0	2	1	0	2	2	1	2	5	4
000110011001	5	4	2	2	0	5	5	0	0	2	2	5	1	3	2	0
000110011010	6	2	2	0	2	1	2	1	1	0	2	1	0	1	5	3
000110011011	1	3	0	0	1	3	3	2	0	4	1	3	0	3	1	1
000110011100	2	2	0	0	0	5	1	5	3	1	2	0	2	1	0	1
000110011101	1	0	2	1	2	6	0	0	1	0	1	2	0	3	4	0
000110011110	2	0	2	0	2	0	0	3	0	1	3	2	3	2	3	0
000110011111	2	0	1	1	1	1	0	0	2	1	2	1	0	3	6	0
000110100000	3	3	2	3	4	1	1	0	0	3	0	0	0	0	3	3
000110100001	3	2	1	1	0	1	4	3	2	0	2	0	0	0	0	3
000110100010	1	1	1	0	2	4	1	3	0	0	0	4	2	2	1	1
000110100011	2	0	0	2	0	1	1	5	3	2	2	1	3	0	0	0
000110100100	1	1	2	2	2	4	2	2	3	4	3	3	2	4	2	0
000110100101	1	2	0	3	1	0	0	0	0	1	1	1	2	1	0	3
000110100110	4	3	0	6	0	2	1	2	1	2	0	4	0	3	3	1
000110100111	0	1	1	1	1	3	0	1	1	1	3	2	2	3	1	1
000110101000	2	1	0	0	3	0	0	1	3	1	0	1	3	0	5	3
000110101001	0	1	2	5	1	0	1	6	3	6	1	1	1	6	1	2
000110101010	2	1	0	0	3	0	2	0	4	0	3	0	0	0	0	0
000110101011	0	0	1	5	3	1	0	0	1	0	2	2	1	0	0	2
000110101100	2	3	0	0	3	1	1	1	1	1	3	1	1	0	3	3
000110101101	5	0	0	0	4	2	1	4	0	2	2	1	2	3	4	0
000110101110	0	0	4	2	1	4	1	4	3	1	0	1	2	2	1	2
000110101111	2	0	0	3	0	3	1	3	1	4	1	1	0	0	1	1
000110110000	0	0	2	2	2	4	2	1	2	2	1	2	1	1	3	2
000110110001	0	1	0	6	2	1	3	1	0	3	3	1	6	1	2	3
000110110010	1	2	2	3	3	2	2	0	0	3	0	2	0	2	1	6
000110110011	0	1	0	2	3	0	3	4	4	2	5	1	2	3	0	4
000110110100	0	0	1	1	0	0	1	2	0	2	1	4	3	0	0	2
000110110101	0	1	2	6	0	0	1	0	0	0	1	1	1	0	2	4
000110110110	0	2	4	0	3	1	2	1	2	1	0	0	1	0	2	0
000110110111	2	0	4	3	3	1	3	1	0	3	3	0	2	5	1	0
000110111000	1	0	5	0	4	4	2	4	1	0	0	5	0	1	2	2
000110111001	4	2	1	2	3	1	1	0	1	2	1	1	0	1	5	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000110111010	2	3	1	0	3	4	1	0	0	3	1	2	1	1	2	3
000110111011	3	4	3	1	1	1	2	1	0	2	2	1	1	1	2	3
000110111100	0	2	3	5	3	3	2	0	3	3	5	5	0	4	2	2
000110111101	4	0	3	1	1	5	1	0	1	4	2	1	0	1	1	0
000110111110	1	1	0	2	0	1	0	2	4	1	3	1	2	3	0	1
000110111111	0	1	1	0	2	4	0	1	3	1	0	2	4	0	0	1
000111000000	0	0	3	0	1	2	0	1	2	3	2	2	0	0	2	0
000111000001	2	3	3	2	0	2	3	0	5	0	4	0	4	0	4	2
000111000010	1	1	2	1	1	0	0	2	0	0	0	2	0	2	1	1
000111000011	1	1	2	1	1	3	0	1	1	1	2	1	2	1	1	6
000111000100	2	3	0	1	0	0	2	0	1	1	2	1	1	1	2	1
000111000101	3	0	2	4	0	0	1	0	3	1	2	5	1	4	0	1
000111000110	1	1	4	1	1	0	1	0	3	3	3	1	0	3	1	1
000111000111	2	0	3	2	3	0	2	1	5	0	0	0	0	1	2	0
000111001000	6	1	1	2	0	1	3	0	1	0	4	4	4	2	0	1
000111001001	0	2	0	3	2	2	3	2	0	1	6	2	2	1	3	4
000111001010	2	0	1	0	3	3	1	3	1	1	0	3	1	4	0	2
000111001011	3	1	2	1	1	0	0	2	2	1	0	3	5	2	0	5
000111001100	0	0	0	2	0	1	2	0	0	0	4	1	0	0	1	1
000111001101	3	2	2	5	1	1	0	0	2	0	3	3	2	5	2	3
000111001110	0	1	0	2	1	2	0	0	2	3	0	1	3	2	4	1
000111001111	2	1	2	2	0	0	1	2	1	0	0	2	2	2	0	0
000111010000	0	3	1	2	2	1	0	5	1	1	2	0	0	1	2	2
000111010001	0	0	1	3	3	1	5	2	0	4	1	1	1	1	0	0
000111010010	0	2	1	2	1	5	2	3	2	2	3	2	4	2	1	2
000111010011	1	1	2	1	1	1	1	3	1	0	0	0	1	0	1	1
000111010100	1	4	0	0	2	1	2	0	2	2	0	1	0	3	1	2
000111010101	1	0	2	2	2	1	0	1	3	2	3	1	2	4	1	0
000111010110	1	0	2	1	1	3	3	4	3	1	1	0	2	0	0	2
000111010111	2	1	2	0	1	3	2	1	2	1	1	1	0	3	2	1
000111011000	1	3	0	0	0	0	3	0	2	2	0	2	2	4	3	0
000111011001	0	1	2	0	4	1	0	1	4	0	4	0	0	2	1	2
000111011010	5	3	0	0	2	1	2	1	2	0	4	0	3	0	0	0
000111011011	5	0	5	0	2	3	0	1	3	0	0	1	2	1	1	2
000111011100	0	0	1	2	4	1	2	2	1	0	2	0	1	2	0	0
000111011101	1	1	2	0	1	3	5	2	1	0	2	0	0	3	4	3
000111011110	3	1	6	2	1	2	5	0	0	4	1	2	1	0	5	3
000111011111	1	2	3	3	3	0	1	3	0	1	2	1	1	1	0	3
000111100000	2	0	0	2	1	6	3	0	1	6	0	1	1	3	3	0
000111100001	1	0	0	2	0	2	2	2	2	3	2	0	4	0	0	0
000111100010	2	1	5	0	0	2	1	0	0	1	0	1	2	1	4	1
000111100011	3	1	2	2	1	2	2	3	1	0	2	1	2	0	0	0
000111100100	3	0	0	3	1	0	3	1	1	0	3	1	2	7	1	1
000111100101	4	5	1	2	1	1	1	2	5	4	1	2	0	0	2	2
000111100110	1	0	5	4	1	6	2	5	2	2	3	2	0	0	0	0
000111100111	0	2	0	1	3	2	1	0	0	3	3	2	0	1	0	2
000111101000	0	0	5	2	0	3	0	0	3	4	2	1	1	2	0	3
000111101001	2	2	2	3	0	3	2	0	0	0	1	1	3	2	3	1
000111101010	0	0	2	5	1	2	0	0	4	6	0	0	6	0	1	3
000111101011	2	0	1	1	1	3	0	1	2	0	2	2	1	1	1	1
000111101100	0	1	2	0	2	1	1	1	0	2	1	1	0	0	4	2
000111101101	3	2	2	2	0	2	1	0	2	0	1	0	3	0	1	1
000111101110	2	6	2	2	2	1	3	3	0	1	2	1	2	0	2	3
000111101111	0	2	0	2	2	0	2	2	2	0	1	0	0	2	3	0
000111110000	1	4	3	0	2	1	2	0	1	3	0	2	3	3	0	3
000111110001	3	2	0	0	0	3	2	2	0	2	3	0	3	0	2	0
000111110010	1	0	2	2	1	0	3	0	1	1	5	1	3	3	0	6
000111110011	2	1	0	0	3	1	4	1	1	1	0	2	2	0	3	3
000111110100	2	1	1	4	4	0	0	3	1	0	2	4	0	2	0	0
000111110101	0	2	3	2	0	6	5	0	4	0	2	0	1	1	2	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
000111110110	1	0	1	2	3	0	1	3	0	0	2	3	2	0	0	3
000111110111	0	3	1	3	0	0	0	3	0	1	0	0	0	0	0	2
000111111000	2	0	3	3	0	3	1	1	1	4	3	2	3	2	1	2
000111111001	1	0	0	2	0	2	7	0	0	1	0	0	3	0	4	0
000111111010	3	3	0	1	1	2	0	0	1	3	3	0	2	0	3	2
000111111011	2	3	2	2	5	1	1	1	1	0	4	3	4	2	1	3
000111111100	2	5	0	0	2	0	1	3	3	2	2	4	1	0	0	4
000111111101	2	2	0	1	1	0	2	3	3	0	3	0	4	2	2	2
000111111110	1	1	0	1	6	0	1	0	6	0	1	0	2	3	4	3
000111111111	1	3	2	0	1	2	1	3	6	2	0	0	0	2	3	3
001000000000	1	2	1	3	1	1	5	2	2	0	2	0	0	3	5	0
001000000001	0	2	0	2	0	3	1	2	1	0	0	2	2	1	2	0
001000000010	2	1	0	0	0	4	8	3	4	3	2	2	0	1	3	0
001000000011	1	2	3	2	0	2	1	1	0	0	2	3	3	1	0	1
001000000100	1	5	2	0	3	1	2	2	4	2	0	1	2	0	1	1
001000000101	1	2	0	0	5	3	0	3	2	3	0	0	0	2	3	4
001000000110	2	3	0	1	1	0	3	2	0	0	2	2	2	0	4	7
001000000111	1	2	2	0	3	1	4	1	1	0	0	1	3	3	1	3
001000001000	0	7	2	0	5	2	1	1	0	3	0	1	0	0	0	0
001000001001	1	0	0	0	0	3	0	1	2	3	5	1	0	4	2	2
001000001010	2	0	0	5	0	2	4	4	0	1	3	2	0	2	0	4
001000001011	1	1	0	1	7	2	1	1	2	1	3	0	2	0	2	1
001000001100	1	1	0	1	1	3	1	2	4	2	1	0	0	0	0	3
001000001101	0	0	1	0	2	0	4	4	1	2	0	2	1	2	2	2
001000001110	4	0	1	2	2	0	6	1	2	1	3	1	3	1	2	0
001000001111	1	0	0	3	1	1	0	0	1	2	0	5	3	4	3	3
001000010000	2	2	1	2	0	1	3	0	1	5	0	0	0	2	0	2
001000010001	2	2	4	0	0	4	0	0	1	5	0	3	3	1	6	3
001000010010	2	0	3	0	1	4	0	3	1	1	4	3	0	2	0	0
001000010011	0	1	0	1	1	2	1	2	0	1	0	0	1	1	0	4
001000010100	0	3	1	1	1	0	1	0	0	2	2	0	6	0	2	1
001000010101	1	0	0	4	2	3	4	5	0	1	0	1	2	4	0	3
001000010110	0	1	1	0	0	2	1	1	2	5	4	3	3	0	5	2
001000010111	2	1	5	0	2	2	2	3	2	2	3	0	1	0	2	0
001000011000	2	0	0	2	1	4	1	1	2	0	4	2	0	0	0	3
001000011001	3	0	3	1	0	1	1	3	1	1	2	0	3	0	2	0
001000011010	3	3	1	0	4	0	2	2	0	1	1	5	4	2	2	1
001000011011	2	2	0	1	4	2	0	0	4	0	2	0	2	2	0	0
001000011100	1	2	2	2	0	0	0	4	0	4	1	2	0	2	1	3
001000011101	4	3	0	0	0	3	0	5	4	0	3	3	3	1	2	0
001000011110	1	2	2	2	3	3	0	0	2	1	1	0	1	0	3	4
001000011111	3	3	0	3	2	0	0	2	2	4	0	1	2	0	4	1
001000100000	7	2	6	7	4	0	2	4	3	2	0	2	2	1	3	0
001000100001	2	1	0	3	0	2	0	2	0	2	3	2	4	2	4	1
001000100010	0	2	1	2	1	0	0	1	5	1	0	1	3	0	4	2
001000100011	0	1	0	0	2	0	3	1	1	2	3	1	3	2	2	3
001000100100	0	5	2	0	1	0	0	4	3	0	2	1	2	2	1	1
001000100101	1	0	3	3	1	0	0	0	0	1	0	0	2	1	1	2
001000100110	0	2	1	1	1	4	2	1	4	3	0	0	2	1	3	4
001000100111	2	0	1	0	2	2	2	3	3	0	1	1	0	2	0	1
001000101000	2	0	1	0	1	0	0	2	3	1	6	0	0	2	1	3
001000101001	1	3	3	0	0	2	2	2	2	1	2	1	0	1	2	4
001000101010	0	2	2	0	1	2	1	0	2	4	5	2	0	5	1	0
001000101011	2	3	1	0	1	0	0	3	3	1	0	1	2	2	5	0
001000101100	0	4	3	3	2	4	1	1	0	5	0	6	0	3	1	2
001000101101	3	3	0	4	2	3	2	2	1	4	0	0	1	3	0	0
001000101110	2	3	2	3	3	0	1	6	0	2	0	1	1	1	2	0
001000101111	0	3	2	0	2	0	1	1	2	2	3	1	5	2	0	0
001000110000	0	1	0	2	2	4	2	2	0	2	1	1	1	3	0	2
001000110001	4	3	4	1	3	0	2	2	5	0	2	2	1	1	0	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001000110010	4	2	2	0	1	1	1	0	1	0	1	0	2	2	1	2
001000110011	1	1	0	0	0	0	2	3	5	1	2	2	3	2	1	3
001000110100	1	5	0	0	1	5	3	2	5	4	1	3	0	4	0	4
001000110101	0	4	0	2	1	3	0	3	5	0	0	3	1	0	4	0
001000110110	2	1	0	0	3	0	1	1	1	0	2	3	2	0	3	1
001000110111	2	1	1	0	2	0	2	1	0	1	1	0	0	0	3	0
001000111000	1	3	2	1	0	0	4	2	2	2	2	2	2	1	1	1
001000111001	4	3	1	1	0	1	0	0	3	2	4	0	1	2	2	0
001000111010	1	6	0	2	4	1	2	4	2	3	0	1	0	1	2	0
001000111011	1	3	0	0	1	0	3	1	1	0	1	2	4	2	3	1
001000111100	5	0	0	0	0	5	1	2	3	0	1	2	5	3	2	0
001000111101	1	1	1	0	0	0	2	2	3	0	3	3	0	2	5	0
001000111110	0	0	3	0	2	2	3	1	0	6	2	4	1	2	0	2
001000111111	1	0	2	0	2	2	0	3	0	1	1	2	1	2	0	2
001001000000	1	0	0	0	1	1	1	3	1	1	0	4	1	4	2	1
001001000001	1	2	0	6	2	3	1	3	0	1	3	1	3	0	1	0
001001000010	4	4	1	0	5	2	0	2	0	4	0	0	0	0	1	4
001001000011	2	3	2	3	2	6	1	1	2	0	1	4	4	1	2	0
001001000100	1	2	0	0	2	0	1	2	2	0	3	6	3	0	3	0
001001000101	3	2	3	2	2	4	3	0	3	3	1	3	2	1	1	0
001001000110	1	3	3	1	1	0	2	0	3	2	2	0	0	1	0	1
001001000111	0	1	0	3	2	0	2	0	1	0	0	1	1	2	0	2
001001001000	2	1	1	1	1	0	1	0	2	2	0	4	1	3	4	1
001001001001	3	1	1	0	2	2	1	0	1	4	2	1	1	0	1	0
001001001010	2	1	1	3	1	0	0	2	1	3	0	2	3	0	4	3
001001001011	4	1	0	0	2	5	2	1	3	2	3	4	2	0	2	0
001001001100	1	1	3	3	1	5	4	0	4	1	1	1	1	2	4	2
001001001101	3	2	1	1	2	0	0	1	3	1	1	2	0	3	0	5
001001001110	2	1	0	2	0	2	2	3	1	0	5	0	2	0	3	0
001001001111	0	1	0	0	2	2	1	0	5	3	1	0	1	0	0	0
001001010000	0	5	2	4	3	0	2	0	1	0	3	2	0	2	1	3
001001010001	0	1	1	1	4	0	5	0	1	3	4	0	2	5	1	3
001001010010	1	0	2	1	3	0	2	1	1	2	5	0	2	2	0	1
001001010011	2	6	0	1	0	1	5	2	2	0	1	3	1	3	0	1
001001010100	1	3	1	2	0	1	2	0	3	1	1	2	1	2	4	0
001001010101	0	0	0	2	1	1	1	0	1	1	0	0	0	0	3	2
001001010110	1	1	0	1	0	0	2	1	0	1	1	3	4	0	3	1
001001010111	3	0	2	2	0	2	2	1	1	7	0	1	5	2	0	2
001001011000	4	0	3	0	2	2	3	1	2	2	0	0	0	8	0	1
001001011001	1	0	2	0	0	0	0	1	1	2	5	3	0	3	1	2
001001011010	1	2	5	1	1	0	2	1	2	0	2	2	5	1	2	1
001001011011	1	2	1	3	1	2	0	2	0	4	1	2	1	3	2	0
001001011100	0	0	4	0	1	0	0	0	0	0	2	3	2	1	1	1
001001011101	2	0	3	3	0	2	0	2	1	2	2	2	1	1	1	4
001001011110	0	1	2	0	1	2	0	3	0	4	2	0	1	1	5	1
001001011111	0	3	2	1	4	2	0	2	1	1	0	0	3	0	1	0
001001100000	1	0	2	1	5	2	1	0	0	0	2	2	2	0	2	2
001001100001	4	1	2	2	1	0	2	0	3	3	2	1	1	1	1	0
001001100010	7	5	1	5	1	2	1	5	2	4	1	2	0	3	0	3
001001100011	1	5	2	2	1	2	1	1	1	1	2	4	0	1	0	0
001001100100	2	1	8	0	1	0	0	0	2	1	3	0	1	4	0	4
001001100101	2	0	1	3	8	1	2	4	0	4	0	0	3	1	1	2
001001100110	4	1	0	0	0	4	2	0	1	0	1	0	0	0	0	0
001001100111	1	1	1	4	1	1	1	3	3	1	0	1	5	3	1	4
001001101000	0	1	2	1	3	1	1	1	3	3	2	0	3	0	2	6
001001101001	2	0	2	2	0	2	1	0	1	1	0	0	2	0	1	4
001001101010	0	0	3	0	0	0	2	1	3	1	2	1	0	4	4	0
001001101011	3	1	2	2	2	3	0	0	2	1	0	0	4	0	3	0
001001101100	2	3	5	0	1	2	0	1	0	1	0	3	0	1	0	2
001001101101	3	0	1	4	1	0	3	2	3	3	1	0	1	0	3	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001001101110	4	2	3	0	1	3	1	4	1	3	0	2	3	0	2	4
001001101111	1	3	2	0	2	2	2	2	2	0	3	0	5	1	3	3
001001110000	2	4	0	1	3	0	2	0	3	3	2	2	0	4	5	2
001001110001	0	1	3	0	2	3	2	0	0	1	0	0	0	2	0	0
001001110010	0	4	1	2	1	1	0	1	2	0	0	0	0	0	3	7
001001110011	0	4	0	1	3	0	4	1	3	0	1	2	0	2	4	3
001001110100	4	3	3	3	4	0	1	2	4	2	2	1	2	2	0	3
001001110101	0	0	1	0	3	1	0	2	0	0	4	3	3	1	0	1
001001110110	2	3	5	4	0	0	1	0	1	0	0	5	0	1	0	2
001001110111	3	2	0	0	0	0	0	0	3	1	2	0	3	0	0	1
001001111000	4	0	4	0	0	2	0	3	1	2	4	2	2	0	1	2
001001111001	0	5	1	2	0	2	2	4	1	0	0	3	2	0	2	2
001001111010	2	2	2	0	4	0	2	2	3	1	3	1	0	1	5	3
001001111011	1	0	2	0	2	1	0	4	0	1	3	3	0	1	3	0
001001111100	2	3	3	0	5	1	1	1	0	1	1	2	2	1	2	0
001001111101	5	2	2	2	1	2	5	1	0	1	0	1	1	0	3	3
001001111110	1	1	0	0	4	2	0	3	4	3	1	0	0	3	0	1
001001111111	0	4	4	0	0	4	4	0	1	0	0	0	1	2	1	1
001010000000	1	2	0	2	0	2	2	0	2	0	0	0	0	4	4	0
001010000001	0	2	0	6	4	0	0	2	2	1	4	0	2	0	3	3
001010000010	1	3	2	4	2	2	0	0	7	2	2	0	0	0	2	3
001010000011	0	1	4	2	0	1	0	0	2	2	2	1	0	3	2	1
001010000100	0	3	5	4	1	1	2	0	1	0	2	3	0	5	0	1
001010000101	1	4	4	3	0	0	0	0	0	1	1	4	2	0	1	1
001010000110	2	1	1	1	2	2	0	1	4	0	1	4	0	0	1	1
001010000111	0	1	1	9	0	2	2	2	0	2	0	1	4	2	4	1
001010001000	0	4	1	1	2	5	1	0	0	1	2	0	0	1	0	0
001010001001	4	0	1	1	0	0	3	1	3	0	3	0	5	2	3	0
001010001010	1	1	0	1	2	2	2	0	0	0	0	0	0	0	2	1
001010001011	0	0	0	1	0	0	4	3	0	3	0	3	0	0	4	1
001010001100	3	2	1	1	2	3	1	1	1	3	0	3	3	3	2	2
001010001101	0	2	2	3	4	1	0	3	2	1	0	0	2	1	2	1
001010001110	1	0	1	1	0	1	4	0	0	3	1	2	2	4	0	2
001010001111	0	0	2	0	2	1	0	2	0	0	0	0	3	4	0	1
001010010000	4	4	1	1	1	5	4	1	2	0	2	3	3	1	1	4
001010010001	0	1	0	1	2	8	3	0	2	2	1	1	1	5	0	1
001010010010	3	1	1	1	2	0	0	2	1	0	3	0	1	1	0	1
001010010011	2	1	0	1	0	1	1	2	4	1	1	2	2	2	2	0
001010010100	1	1	1	2	5	0	2	0	1	0	5	1	0	0	3	3
001010010101	3	1	2	2	1	0	1	1	2	1	1	0	2	3	1	0
001010010110	1	4	0	1	0	3	0	6	1	2	0	4	4	0	0	2
001010010111	1	5	2	4	0	4	0	3	2	0	0	2	3	1	0	0
001010011000	2	0	4	1	2	1	1	0	0	3	1	2	0	3	0	5
001010011001	0	2	1	0	4	0	1	3	3	1	1	2	1	4	5	1
001010011010	1	0	0	0	2	2	4	0	3	0	1	3	0	2	0	2
001010011011	4	0	0	1	5	0	5	0	4	0	2	1	0	0	0	0
001010011100	0	0	4	0	2	1	2	1	2	1	0	0	0	1	1	0
001010011101	3	0	0	2	0	0	2	2	0	2	3	4	0	1	1	2
001010011110	2	2	3	0	1	1	0	1	2	3	0	0	0	2	2	0
001010011111	0	0	2	1	2	0	3	3	3	3	5	2	0	2	1	0
001010100000	4	0	0	4	0	0	2	3	1	0	2	0	1	3	2	3
001010100001	0	1	1	1	0	1	1	1	1	1	4	3	1	1	3	3
001010100010	2	2	0	2	2	4	2	1	3	2	0	2	1	0	1	1
001010100011	4	2	0	2	0	0	2	3	0	2	0	3	4	2	3	0
001010100100	2	1	0	1	0	3	0	0	3	2	2	1	0	3	2	4
001010100101	0	0	2	0	1	0	2	1	3	1	2	5	0	4	5	2
001010100110	3	0	2	1	2	0	2	1	2	3	2	0	2	1	2	2
001010100111	0	5	3	1	3	1	0	0	1	0	4	4	0	1	1	1
001010101000	2	0	2	0	4	1	2	0	1	5	2	0	1	2	3	4
001010101001	3	0	2	0	1	1	2	5	0	2	1	0	2	3	3	4

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001010101010	0	2	5	1	0	0	2	3	0	3	2	1	0	2	0	4
001010101011	1	2	0	1	3	2	0	0	0	0	3	0	3	2	1	0
001010101100	3	2	2	0	2	1	2	2	1	1	4	1	0	1	0	0
001010101101	1	1	3	1	0	0	4	2	1	1	1	1	4	2	2	0
001010101110	0	1	1	1	4	3	0	1	1	1	0	2	3	0	3	1
001010101111	3	2	0	0	0	2	0	1	2	2	0	1	0	1	1	3
001010110000	2	2	2	0	2	1	0	3	2	1	1	2	2	2	3	2
001010110001	1	3	1	0	3	3	1	3	2	1	0	3	3	2	4	1
001010110010	2	0	0	2	1	5	2	0	1	1	3	3	5	0	0	1
001010110011	1	1	1	2	2	2	6	0	2	3	2	3	2	3	1	3
001010110100	0	4	1	5	3	1	0	2	0	0	0	7	2	3	0	0
001010110101	0	0	1	0	2	3	6	0	1	0	1	3	3	2	1	1
001010110110	7	3	2	0	3	2	1	2	6	2	1	0	2	0	1	1
001010110111	0	4	0	5	1	0	0	0	1	0	2	1	0	1	1	3
001010111000	0	6	0	2	4	0	3	3	3	1	2	0	2	0	0	0
001010111001	0	0	0	0	0	1	2	1	1	4	1	2	0	3	1	0
001010111010	3	0	0	2	1	1	3	1	0	1	1	0	0	0	1	5
001010111011	0	0	5	0	1	0	2	2	1	0	3	2	0	0	1	0
001010111100	0	3	0	2	4	1	4	1	1	0	1	3	0	3	0	3
001010111101	0	2	3	0	0	1	2	0	0	0	0	3	1	3	1	3
001010111110	1	3	1	2	1	4	0	0	3	0	1	3	2	3	2	3
001010111111	1	0	0	0	0	0	3	0	1	0	0	2	2	4	1	0
001011000000	2	1	0	2	1	3	1	3	0	2	3	0	1	1	0	1
001011000001	2	2	3	2	3	1	1	6	1	1	0	0	0	0	1	2
001011000010	2	4	3	0	2	0	0	4	0	3	0	2	3	2	0	3
001011000011	1	0	4	2	6	1	5	5	4	0	2	2	0	1	0	0
001011000100	6	1	3	6	2	2	3	0	1	2	0	2	1	1	4	2
001011000101	6	1	3	1	5	2	0	2	2	0	5	2	4	1	1	3
001011000110	1	2	5	2	1	1	3	2	0	4	2	0	1	4	0	1
001011000111	2	0	0	1	2	1	0	1	1	6	0	4	1	3	0	1
001011001000	0	2	0	4	1	2	0	0	1	3	2	2	2	0	0	0
001011001001	2	0	0	0	0	3	0	0	2	1	0	2	4	0	2	3
001011001010	2	1	0	2	3	2	1	0	2	0	1	3	2	3	0	0
001011001011	1	2	1	1	2	5	2	1	4	0	2	6	2	0	2	2
001011001100	0	1	1	0	3	0	1	0	1	0	1	0	1	1	3	0
001011001101	1	0	1	2	0	1	2	1	3	0	1	1	4	1	1	0
001011001110	3	0	1	3	3	2	2	1	0	1	3	0	2	1	2	4
001011001111	3	2	1	0	2	1	1	3	6	0	2	3	1	1	1	1
001011010000	0	1	2	0	2	1	4	0	1	3	3	1	1	1	0	1
001011010001	0	0	4	3	0	2	2	1	2	0	1	3	0	0	3	2
001011010010	3	0	0	1	5	1	0	0	2	0	4	1	0	1	2	1
001011010011	0	0	1	1	1	1	0	1	1	0	0	2	1	1	0	2
001011010100	1	2	0	0	3	1	0	2	3	1	0	2	4	0	0	0
001011010101	2	3	2	0	0	1	1	2	0	2	3	3	0	2	4	3
001011010110	5	0	2	0	0	2	1	6	0	5	4	0	2	0	2	1
001011010111	2	0	1	1	1	0	5	0	2	2	2	0	3	1	0	4
001011011000	0	1	2	2	1	3	2	4	4	0	3	0	4	3	3	0
001011011001	2	0	1	1	1	3	5	4	4	1	0	1	2	3	3	1
001011011010	0	1	0	3	2	1	2	3	0	0	2	4	1	3	0	2
001011011011	0	1	1	1	0	6	0	1	3	1	2	1	0	0	1	0
001011011100	3	0	3	3	0	1	1	0	4	0	0	1	2	0	1	3
001011011101	1	0	2	3	2	0	3	2	0	1	3	1	1	0	4	2
001011011110	0	1	3	3	1	2	2	3	0	5	2	0	0	0	0	1
001011011111	1	0	0	1	2	0	0	1	2	3	2	3	5	3	3	2
001011100000	3	0	3	2	1	4	1	2	2	0	0	1	1	0	1	5
001011100001	0	3	2	2	0	1	0	0	0	0	3	4	0	1	2	0
001011100010	3	0	0	0	2	0	1	1	1	1	2	2	2	5	2	2
001011100011	1	1	0	3	4	1	0	0	1	1	2	0	2	1	0	4
001011100100	5	5	1	3	3	0	1	0	4	1	1	0	1	2	4	0
001011100101	4	0	2	1	2	3	0	1	0	0	2	3	5	2	1	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001011100110	1	0	0	1	2	0	1	0	2	0	1	0	0	1	0	2
001011100111	0	3	1	0	2	1	0	0	3	2	3	1	2	2	0	1
001011101000	3	0	2	1	3	2	1	1	0	1	1	2	0	4	1	2
001011101001	2	0	0	1	2	4	1	0	1	2	2	0	1	1	0	1
001011101010	0	1	2	0	1	1	0	4	0	1	4	2	0	3	1	2
001011101011	0	1	3	2	1	3	3	1	0	2	1	0	1	0	2	4
001011101100	2	2	0	6	2	0	0	0	1	2	1	1	1	1	1	3
001011101101	0	4	0	3	2	1	1	0	0	1	3	2	0	3	0	0
001011101110	1	3	0	2	0	1	2	0	5	2	1	1	2	1	0	3
001011101111	0	1	2	0	1	2	2	2	0	3	0	4	0	0	1	1
001011110000	3	0	3	1	2	1	1	0	2	2	0	2	2	1	0	2
001011110001	3	2	0	2	2	2	0	0	0	0	3	2	3	3	1	0
001011110010	0	2	2	1	3	3	3	2	1	0	2	1	0	0	0	1
001011110011	0	0	3	2	3	1	1	0	0	1	1	0	1	6	4	2
001011110100	1	1	1	3	0	1	0	0	1	2	0	1	0	1	0	5
001011110101	1	0	7	1	1	4	0	1	2	3	2	0	0	4	0	0
001011110110	1	2	1	1	1	1	0	5	1	1	0	0	3	0	0	4
001011110111	0	0	1	2	1	2	3	2	2	0	2	4	0	3	1	2
001011111000	3	1	2	1	1	0	0	0	2	1	0	1	1	1	0	1
001011111001	2	1	3	2	1	5	1	1	1	2	0	1	1	1	3	2
001011111010	0	0	1	4	1	0	1	0	2	6	0	2	2	1	0	0
001011111011	3	1	3	1	2	3	1	3	0	0	1	0	2	1	1	2
001011111100	2	1	1	0	1	0	1	1	2	1	1	0	0	0	1	1
001011111101	2	4	3	0	0	5	0	0	2	3	2	1	2	1	2	2
001011111110	2	4	0	1	5	5	1	0	4	3	2	1	5	1	5	1
001011111111	1	2	1	1	1	1	0	1	2	2	4	3	1	3	3	3
001100000000	0	1	2	1	3	0	2	0	3	2	3	1	3	0	5	0
001100000001	2	4	0	3	0	0	1	0	2	3	1	1	2	4	1	0
001100000010	0	0	1	1	7	1	0	0	1	3	0	2	3	0	1	3
001100000011	0	1	4	0	0	2	4	2	4	4	0	1	2	0	3	1
001100000100	2	2	0	2	1	4	4	3	0	3	0	2	0	3	2	3
001100000101	0	3	1	2	3	4	2	2	2	0	0	3	0	3	0	0
001100000110	2	0	2	0	3	5	2	3	0	0	1	1	4	0	3	3
001100000111	0	4	3	2	1	3	5	2	1	1	4	0	5	1	2	2
001100001000	0	4	2	0	1	2	1	1	1	6	0	0	0	4	4	0
001100001001	1	2	4	2	0	0	0	0	0	1	4	0	1	3	0	0
001100001010	0	0	0	0	0	4	4	0	2	1	2	5	0	0	4	0
001100001011	0	3	2	0	0	3	3	1	0	5	0	3	1	0	2	1
001100001100	2	0	1	0	2	2	4	1	1	0	1	3	1	2	0	0
001100001101	3	1	1	0	2	0	3	3	5	4	2	2	1	3	1	0
001100001110	0	1	2	0	1	0	1	2	1	0	1	0	0	2	1	1
001100001111	0	4	4	1	2	1	0	1	2	3	1	1	0	4	0	1
001100010000	1	2	2	0	1	0	0	1	0	3	3	2	0	0	0	0
001100010001	1	0	0	3	1	0	4	1	0	2	3	1	1	2	0	1
001100010010	3	0	4	6	0	2	1	3	1	4	1	0	0	3	3	4
001100010011	1	3	0	2	0	3	0	2	0	3	2	0	0	1	1	2
001100010100	1	0	0	0	4	7	2	1	2	1	2	1	2	0	0	3
001100010101	1	0	2	1	2	0	5	0	1	4	1	0	1	1	2	3
001100010110	3	4	1	2	4	0	2	3	3	1	2	4	1	2	3	5
001100010111	3	8	0	0	1	2	0	3	3	2	0	0	1	2	4	0
001100011000	0	3	0	2	2	5	1	1	0	3	3	4	2	2	5	0
001100011001	0	2	2	0	3	4	3	2	4	1	3	2	0	1	2	2
001100011010	2	0	0	0	3	2	1	5	4	0	0	1	2	0	2	5
001100011011	4	3	0	0	2	0	3	2	1	1	3	2	3	0	1	0
001100011100	5	3	1	1	0	5	0	1	0	2	0	1	0	0	5	0
001100011101	0	0	2	5	0	0	0	0	5	2	1	2	0	1	4	0
001100011110	3	0	1	0	1	0	0	0	5	0	2	5	0	0	0	1
001100011111	0	0	4	0	5	1	3	0	0	2	3	1	1	2	0	2
001100100000	1	0	3	3	3	0	1	1	0	2	0	2	0	5	1	2
001100100001	2	0	2	0	0	0	4	3	2	1	2	2	0	3	1	1



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001100100010	2	1	3	0	2	1	3	1	8	2	1	2	2	0	2	5
001100100011	1	0	0	1	2	4	0	2	0	2	2	0	3	2	0	1
001100100100	3	0	3	2	1	2	4	1	2	0	0	2	2	1	1	0
001100100101	0	2	2	3	2	0	0	1	0	3	0	1	3	0	0	6
001100100110	2	1	0	6	0	0	0	0	2	0	2	0	5	3	2	0
001100100111	0	1	0	3	0	1	1	2	1	1	1	0	1	3	1	1
001100101000	4	0	1	0	1	0	1	3	0	6	5	2	5	0	4	2
001100101001	5	7	3	1	0	1	0	1	3	2	0	1	1	2	1	0
001100101010	1	2	2	2	1	1	1	7	1	1	1	2	3	1	1	1
001100101011	1	0	1	0	4	2	1	1	1	2	1	1	0	5	0	3
001100101100	5	3	2	1	3	2	1	6	0	1	1	2	5	1	0	3
001100101101	0	1	2	4	2	0	3	1	2	0	3	1	0	1	1	2
001100101110	3	2	3	0	4	2	0	2	0	0	2	0	3	0	3	0
001100101111	5	0	2	1	3	3	1	2	0	2	4	2	2	2	3	4
001100110000	2	1	1	1	0	4	0	0	0	0	5	0	2	0	1	2
001100110001	1	1	5	0	0	3	2	3	1	0	0	0	0	1	1	0
001100110010	0	2	3	1	0	1	0	1	0	3	0	0	0	1	0	2
001100110011	0	3	2	5	0	2	0	4	2	1	0	2	3	2	4	0
001100110100	0	0	2	0	1	3	1	2	1	1	1	5	3	0	3	2
001100110101	0	1	1	0	3	3	1	0	3	1	2	1	3	0	1	3
001100110110	0	0	0	0	3	2	4	3	2	2	1	0	0	0	0	1
001100110111	2	2	2	4	2	1	5	2	2	3	3	2	2	0	0	5
001100111000	1	1	1	2	0	3	1	2	1	2	0	3	5	1	2	3
001100111001	0	4	1	0	4	3	0	1	0	0	1	5	1	1	2	2
001100111010	4	3	4	2	2	0	1	0	2	0	3	5	4	2	0	0
001100111011	4	7	1	8	1	0	2	1	0	1	0	3	4	1	5	2
001100111100	0	1	0	1	2	1	1	0	0	1	0	0	0	6	0	0
001100111101	0	0	0	2	0	1	0	0	3	2	1	1	0	0	2	2
001100111110	2	3	0	0	7	0	2	2	6	1	7	0	3	2	1	2
001100111111	0	6	1	1	0	0	2	0	1	3	0	3	2	3	3	1
001101000000	0	2	0	3	0	0	1	2	0	0	1	3	3	3	0	1
001101000001	3	0	1	2	2	3	0	5	3	1	0	0	0	2	0	2
001101000010	4	0	0	1	0	0	2	2	1	4	3	3	4	1	1	1
001101000011	2	3	6	2	2	3	0	0	3	0	5	0	0	2	1	0
001101000100	1	4	3	1	2	1	1	1	0	1	3	1	2	0	1	0
001101000101	0	0	5	1	0	0	1	2	0	2	2	2	3	3	0	3
001101000110	0	4	5	0	5	0	2	1	1	0	0	6	1	0	2	1
001101000111	3	3	0	3	0	1	2	2	2	4	0	0	4	6	3	0
001101001000	1	2	2	0	2	4	3	1	0	1	3	0	1	3	2	2
001101001001	2	1	3	1	0	0	2	4	0	0	1	1	3	2	0	0
001101001010	4	3	0	2	1	0	0	2	8	7	0	0	3	0	1	0
001101001011	2	1	2	3	0	1	3	4	2	2	2	1	2	1	2	1
001101001100	0	3	0	0	4	2	1	1	0	2	5	0	1	0	4	4
001101001101	3	2	2	4	2	1	1	2	2	1	0	1	2	3	0	2
001101001110	3	2	1	2	0	1	1	1	0	0	2	1	0	2	2	1
001101001111	1	0	1	0	3	1	0	2	0	0	1	2	1	2	1	1
001101010000	0	3	0	2	2	0	1	0	0	3	0	1	1	2	0	4
001101010001	2	1	2	2	2	2	4	3	1	2	0	1	1	0	2	1
001101010010	0	0	2	1	1	3	1	0	0	1	2	1	2	2	1	2
001101010011	7	5	0	0	2	2	1	0	2	1	0	2	2	1	1	1
001101010100	1	1	0	1	0	0	5	3	2	0	4	1	0	0	2	1
001101010101	3	4	4	3	1	0	0	0	2	3	0	0	3	0	2	0
001101010110	2	1	4	0	0	2	3	1	2	5	2	3	6	0	2	1
001101010111	2	0	3	1	2	2	2	1	1	2	4	2	1	0	2	2
001101011000	0	4	1	0	1	2	3	7	0	0	2	1	1	3	0	2
001101011001	2	1	1	3	0	0	0	0	0	2	0	1	2	0	0	0
001101011010	1	1	0	5	0	2	0	5	0	0	3	2	0	0	0	1
001101011011	3	2	0	3	0	2	0	1	0	0	1	0	2	0	0	1
001101011100	2	0	1	0	1	0	1	1	0	5	6	3	1	1	2	1
001101011101	1	0	4	1	4	1	1	5	2	1	0	0	0	1	3	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001101011110	2	3	1	0	0	1	2	3	0	6	0	0	0	3	0	0
001101011111	2	2	2	1	3	1	1	3	2	2	3	0	2	3	0	0
001101100000	3	2	3	0	3	3	0	0	0	1	1	1	0	0	5	1
001101100001	3	3	1	2	1	5	3	0	3	0	2	0	1	0	3	0
001101100010	2	1	3	1	2	2	1	2	0	8	0	1	1	0	7	3
001101100011	2	3	4	1	3	0	0	1	0	0	0	0	0	0	2	2
001101100100	0	1	0	2	3	0	0	3	5	1	0	5	3	0	5	1
001101100101	0	0	1	1	1	2	2	0	0	2	2	1	4	2	2	0
001101100110	2	0	2	1	0	2	1	0	5	3	0	4	1	2	2	1
001101100111	1	1	3	0	0	1	3	3	4	1	1	1	3	3	3	1
001101101000	2	1	1	3	5	7	0	1	1	0	1	3	2	0	1	0
001101101001	0	4	0	0	0	2	1	2	3	2	1	0	4	0	0	0
001101101010	2	0	0	5	0	5	3	0	3	0	0	6	1	3	1	0
001101101011	1	0	1	0	0	1	2	0	2	0	3	2	1	1	0	1
001101101100	1	0	2	0	1	2	5	0	1	1	0	2	0	0	1	1
001101101101	0	2	1	4	0	4	0	4	4	0	1	2	1	3	3	2
001101101110	2	0	1	4	4	0	0	4	3	0	1	2	0	0	5	2
001101101111	1	0	4	2	0	0	2	4	1	1	0	1	4	1	0	1
001101110000	3	2	0	3	2	4	0	0	0	4	2	0	1	0	0	4
001101110001	5	1	1	0	0	0	1	3	0	0	1	1	0	2	1	4
001101110010	0	1	0	4	0	2	1	0	5	1	5	0	0	0	0	0
001101110011	2	0	0	0	0	0	0	4	2	4	3	1	2	0	3	0
001101110100	1	5	4	3	2	1	1	4	2	1	0	0	0	1	2	3
001101110101	0	0	3	0	1	3	4	2	1	3	1	1	2	1	3	2
001101110110	5	0	3	0	0	2	0	3	2	2	1	2	3	1	1	0
001101110111	1	3	4	1	2	2	1	2	0	1	4	0	1	0	0	4
001101111000	1	1	0	2	0	2	0	4	0	2	1	1	3	0	1	4
001101111001	1	0	0	4	2	1	1	1	0	3	0	0	0	3	2	3
001101111010	3	2	0	1	1	0	1	2	2	2	2	1	5	1	4	2
001101111011	2	0	1	2	1	2	2	3	2	1	1	0	3	4	2	0
001101111100	0	7	1	1	0	1	1	2	2	1	3	1	5	2	1	6
001101111101	0	4	3	3	1	0	3	4	0	3	0	3	3	2	2	0
001101111110	3	1	2	1	1	1	1	2	0	0	1	4	1	0	2	0
001101111111	3	0	2	2	3	2	4	0	0	0	5	4	1	0	2	3
001110000000	1	4	0	4	4	0	0	0	3	3	1	5	0	3	0	4
001110000001	5	0	0	2	1	3	0	3	0	0	0	1	3	0	1	2
001110000010	2	0	5	0	3	3	2	2	2	0	1	1	0	2	0	0
001110000011	2	2	1	3	2	3	1	5	1	4	2	2	1	0	1	0
001110000100	1	1	2	0	1	3	4	4	3	1	3	0	3	2	2	0
001110000101	3	1	2	0	1	0	0	0	2	0	3	3	0	1	0	2
001110000110	3	0	3	1	0	0	2	2	2	4	0	0	3	2	0	2
001110000111	3	1	0	0	0	0	2	2	1	2	0	0	0	1	2	3
001110001000	1	1	1	1	3	7	0	3	5	1	2	0	1	0	2	1
001110001001	2	0	1	1	2	2	0	1	0	2	0	0	2	7	3	0
001110001010	2	2	4	2	5	3	3	2	0	2	1	2	1	0	2	0
001110001011	1	0	1	2	2	4	3	0	2	3	0	0	3	2	1	2
001110001100	0	0	0	1	2	2	2	2	0	1	0	0	3	2	2	1
001110001101	1	0	4	3	1	2	2	4	3	2	5	1	2	0	3	0
001110001110	4	1	1	0	0	2	1	0	5	2	0	3	0	0	1	1
001110001111	0	2	1	3	0	0	3	1	0	1	3	1	0	0	3	3
001110010000	0	0	0	3	3	1	2	3	7	0	0	3	1	3	2	2
001110010001	1	0	1	0	0	0	3	1	2	2	0	0	0	0	3	0
001110010010	4	2	2	0	0	1	4	1	1	1	0	3	1	0	3	2
001110010011	1	3	1	2	1	1	0	0	1	0	2	0	0	2	0	2
001110010100	4	0	1	3	0	1	5	5	2	5	4	1	3	3	1	5
001110010101	1	2	1	1	1	3	0	0	0	3	0	3	0	0	3	1
001110010110	0	4	2	2	0	3	0	2	5	4	0	2	0	2	3	1
001110010111	2	4	1	2	0	1	1	1	1	2	1	2	2	1	3	3
001110011000	1	0	3	0	2	0	3	2	2	5	2	0	2	1	5	0
001110011001	2	1	4	2	5	2	3	2	0	0	1	1	1	0	3	5

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001110011010	1	2	2	0	3	1	2	4	2	3	2	0	0	1	2	1
001110011011	0	4	1	0	4	0	2	4	2	3	1	0	2	3	0	0
001110011100	1	1	1	2	1	2	1	2	0	1	2	2	3	0	0	0
001110011101	1	1	0	0	2	2	2	1	1	2	1	1	2	0	3	5
001110011110	0	2	1	2	1	2	1	3	4	2	1	1	6	1	0	1
001110011111	3	5	4	2	0	3	1	1	0	0	2	0	4	6	1	3
001110100000	1	0	3	1	1	2	1	0	2	1	3	0	0	0	0	0
001110100001	0	0	3	4	0	1	1	4	1	2	1	2	3	1	2	3
001110100010	1	1	0	0	3	0	0	1	1	1	2	1	2	1	0	3
001110100011	0	2	1	4	2	0	5	0	2	4	1	0	1	1	1	0
001110100100	0	0	1	3	0	1	0	0	1	4	1	1	2	0	1	2
001110100101	3	1	2	2	1	0	1	1	6	2	0	1	0	0	5	1
001110100110	2	2	3	2	3	4	1	0	3	0	0	6	3	0	0	3
001110100111	0	2	0	0	0	1	0	5	0	2	5	2	2	0	0	0
001110101000	1	0	0	2	0	1	6	1	3	2	1	1	1	2	0	0
001110101001	0	1	0	2	1	0	1	1	0	2	2	0	0	0	0	2
001110101010	0	2	2	0	0	1	0	4	3	1	2	0	1	2	1	2
001110101011	2	4	1	4	3	1	2	2	1	4	2	4	5	3	0	2
001110101100	2	2	1	0	0	1	2	4	0	0	0	0	0	1	0	1
001110101101	2	1	1	2	3	4	0	0	0	1	1	1	1	0	0	7
001110101110	4	4	0	0	1	3	1	1	0	2	1	1	4	2	1	1
001110101111	0	0	0	2	1	1	3	0	2	3	3	3	0	0	6	5
001110110000	0	0	0	1	4	1	3	1	2	4	0	1	6	3	3	2
001110110001	0	0	4	0	0	2	2	1	0	2	2	3	2	1	2	2
001110110010	2	3	0	4	0	0	1	2	2	1	5	2	1	1	3	0
001110110011	0	2	2	1	2	0	0	1	3	0	5	6	1	3	0	1
001110110100	1	4	2	0	1	0	2	1	0	3	2	0	0	2	2	4
001110110101	2	2	0	2	3	1	4	3	2	1	2	1	1	4	2	0
001110110110	2	2	2	1	0	0	2	0	3	0	1	2	0	4	0	2
001110110111	1	2	1	3	3	0	2	0	0	1	0	0	1	0	0	2
001110111000	2	1	0	0	2	1	0	1	0	0	0	1	1	1	4	2
001110111001	4	0	2	3	2	0	1	2	3	0	1	4	3	3	3	1
001110111010	1	1	1	0	1	2	2	0	2	5	2	0	4	2	1	4
001110111011	3	1	2	2	1	0	3	3	1	6	3	4	0	0	5	0
001110111100	1	0	0	0	1	1	1	3	0	0	0	2	4	3	0	1
001110111101	1	1	0	2	3	1	0	0	0	0	4	0	1	2	1	1
001110111110	1	0	4	1	1	2	0	0	0	0	2	1	4	0	3	0
001110111111	1	1	1	1	2	3	1	2	2	7	2	2	1	0	0	0
001111000000	2	2	1	5	0	1	0	3	1	3	1	2	1	1	2	5
001111000001	2	0	0	3	1	6	0	0	0	2	3	3	0	0	3	0
001111000010	3	1	3	0	1	0	1	0	0	4	1	5	2	2	1	1
001111000011	0	2	1	1	0	2	0	6	3	1	0	4	1	0	3	2
001111000100	0	4	0	1	2	3	2	1	3	2	0	4	0	0	2	4
001111000101	1	2	0	2	3	0	2	1	1	4	5	0	0	3	2	5
001111000110	3	2	3	3	1	0	3	3	3	0	0	2	0	8	2	3
001111000111	2	3	1	1	0	1	2	0	4	0	1	0	0	4	1	2
001111001000	2	3	0	2	2	1	0	4	0	6	0	0	1	2	1	1
001111001001	1	1	2	4	0	2	7	1	2	1	3	3	1	4	1	1
001111001010	3	0	2	3	2	0	2	0	5	2	0	1	3	1	1	2
001111001011	0	2	1	2	1	2	0	2	4	0	2	0	1	0	0	1
001111001100	6	2	3	0	2	0	4	1	1	0	1	2	1	0	4	0
001111001101	1	0	1	0	1	0	0	0	3	1	5	3	1	0	1	1
001111001110	2	2	4	1	3	2	0	0	1	1	2	2	0	0	0	2
001111001111	2	3	3	0	1	1	2	1	0	0	0	0	5	4	3	0
001111010000	0	2	0	3	1	2	2	0	0	2	1	2	1	3	2	2
001111010001	1	0	1	0	0	1	1	0	0	0	0	4	1	2	1	2
001111010010	1	4	1	1	1	0	2	1	2	0	0	3	2	5	1	2
001111010011	2	0	0	0	1	4	2	4	1	2	3	3	2	1	1	1
001111010100	1	0	1	2	1	8	1	0	2	0	1	1	0	1	2	2
001111010101	1	2	4	0	3	0	2	2	4	0	3	4	0	1	0	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
001111010110	3	3	0	1	1	2	0	1	4	0	0	0	0	1	4	2
001111010111	1	0	0	1	1	0	4	0	1	2	0	1	5	4	5	1
001111011000	1	2	0	1	0	1	1	0	1	0	3	3	0	1	1	2
001111011001	1	0	3	0	0	0	0	3	1	1	4	4	2	2	2	0
001111011010	2	1	4	0	2	2	2	2	1	4	0	0	1	0	3	1
001111011011	0	2	3	0	0	2	2	1	2	0	3	1	3	1	1	0
001111011100	5	0	0	1	2	0	2	2	4	2	0	2	3	1	1	1
001111011101	2	2	3	2	3	1	0	3	4	1	3	0	2	3	0	0
001111011110	3	1	0	3	2	3	3	3	3	1	1	0	1	0	1	1
001111011111	2	1	0	0	0	2	0	1	1	1	4	0	2	3	0	0
001111100000	4	0	5	0	4	1	0	2	4	1	2	4	3	2	0	2
001111100001	0	0	0	0	0	3	1	0	0	0	2	1	0	0	2	0
001111100010	2	3	4	0	0	0	0	0	0	3	0	3	2	1	0	5
001111100011	0	3	0	3	1	2	3	1	1	0	0	1	0	2	3	1
001111100100	2	2	2	1	4	2	2	3	2	0	2	0	2	0	4	1
001111100101	1	3	1	0	0	1	2	0	0	3	2	3	0	2	3	1
001111100110	3	0	2	0	1	0	1	1	0	1	1	1	3	0	1	1
001111100111	3	3	3	2	0	3	3	4	0	0	3	3	1	1	1	0
001111101000	1	0	3	1	0	0	0	0	1	6	0	4	0	1	1	0
001111101001	1	4	1	2	1	5	0	2	0	0	1	0	2	3	2	2
001111101010	2	1	3	4	0	3	2	0	3	0	3	1	4	0	1	3
001111101011	1	3	1	0	0	1	1	1	2	0	0	1	1	2	2	0
001111101100	2	1	2	2	3	1	0	5	1	3	1	2	3	0	6	2
001111101101	0	1	2	1	1	2	0	2	5	1	1	0	0	0	0	0
001111101110	0	0	6	0	1	2	3	0	2	0	2	2	3	0	1	2
001111101111	2	0	1	1	0	0	1	2	2	0	3	0	0	2	0	1
001111110000	0	1	1	1	0	0	2	2	3	3	3	0	1	3	3	0
001111110001	1	1	1	1	2	3	2	1	0	5	2	2	0	0	0	1
001111110010	0	1	0	1	1	0	1	0	1	2	4	4	2	1	1	2
001111110011	2	4	0	0	0	7	0	2	0	5	3	0	1	2	2	1
001111110100	2	0	2	0	3	1	3	0	1	2	0	0	3	3	0	3
001111110101	0	0	2	0	1	3	3	0	0	1	0	3	0	3	2	0
001111110110	0	0	2	2	1	5	1	4	5	1	0	0	1	2	5	1
001111110111	1	2	3	4	1	0	0	3	0	4	2	3	0	0	5	0
001111111000	1	1	0	1	3	2	3	1	1	2	1	2	1	0	0	3
001111111001	2	2	3	0	0	0	0	0	0	4	0	1	2	0	2	0
001111111010	1	5	4	1	1	2	0	4	2	2	3	0	1	2	0	1
001111111011	1	2	3	0	4	3	2	3	0	2	1	0	1	2	6	0
001111111100	0	2	3	7	2	0	1	1	2	5	3	1	0	3	1	5
001111111101	0	0	0	0	2	5	0	2	5	2	0	2	0	2	0	0
001111111110	3	1	2	0	2	0	2	3	0	2	3	1	1	1	2	0
001111111111	3	1	2	0	1	0	0	3	2	4	2	2	3	2	2	1
010000000000	0	0	3	0	2	2	1	3	3	2	0	3	0	1	0	2
010000000001	2	2	0	0	0	1	1	2	3	0	2	1	2	0	1	1
010000000010	2	1	3	0	0	0	3	0	2	3	3	1	4	1	4	1
010000000011	4	3	2	1	1	1	2	0	0	0	0	0	0	0	1	0
010000000100	3	1	0	1	3	1	1	1	2	1	5	0	1	1	2	2
010000000101	0	2	0	3	0	1	2	2	2	0	0	0	2	0	2	2
010000000110	2	1	0	0	2	1	2	0	0	1	4	1	1	3	1	1
010000000111	2	1	1	1	0	0	2	4	1	5	0	2	1	0	3	4
010000001000	1	1	3	2	2	0	4	3	7	1	3	3	1	3	0	1
010000001001	1	0	2	4	1	4	0	0	5	3	1	2	2	0	1	1
010000001010	2	1	4	0	0	2	5	2	0	0	5	2	3	2	3	3
010000001011	1	3	2	2	1	1	0	2	1	0	0	3	2	2	0	2
010000001100	3	0	1	2	0	0	1	0	3	1	3	1	0	1	0	1
010000001101	0	0	0	0	1	1	0	0	2	5	2	0	3	3	1	1
010000001110	4	0	3	4	5	2	6	2	2	1	3	1	2	0	1	2
010000001111	1	1	1	1	4	1	2	7	4	3	0	0	1	0	3	2
010000010000	5	1	1	0	1	2	2	0	2	1	0	1	1	1	0	0
010000010001	1	0	2	3	3	0	1	2	2	6	2	0	0	1	3	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010000010010	1	2	3	1	4	4	3	1	0	0	3	4	2	1	3	2
010000010011	1	1	1	1	0	0	1	3	0	2	4	1	2	2	2	2
010000010100	3	4	2	1	1	0	2	2	1	0	3	4	3	2	4	1
010000010101	0	0	2	1	0	2	1	0	2	0	1	1	2	3	2	2
010000010110	0	1	0	3	1	5	0	1	0	0	0	1	3	0	4	0
010000010111	1	0	0	5	0	3	2	1	1	0	2	2	2	1	3	2
010000011000	2	3	1	0	1	4	3	4	1	0	1	3	0	7	0	3
010000011001	1	6	1	3	0	1	0	1	0	1	1	1	3	4	1	0
010000011010	5	2	1	1	0	0	4	0	0	0	0	0	1	4	0	0
010000011011	1	2	5	3	0	2	3	1	2	7	4	5	1	2	3	2
010000011100	1	0	3	1	1	1	1	3	2	1	3	0	3	1	0	2
010000011101	0	4	1	2	1	1	1	5	1	0	3	0	3	2	5	2
010000011110	0	3	5	4	3	0	2	4	0	2	0	0	3	3	2	3
010000011111	1	1	0	3	1	1	0	0	0	0	3	3	0	0	2	0
010000100000	0	0	3	3	0	0	3	0	2	2	2	4	0	3	0	0
010000100001	1	2	4	4	0	0	3	4	1	1	2	0	2	3	1	1
010000100010	1	0	3	0	0	1	3	2	0	2	2	3	4	1	1	5
010000100011	0	3	3	2	0	2	2	0	1	5	0	0	0	0	1	1
010000100100	2	1	0	1	2	3	0	3	1	1	0	3	1	0	3	2
010000100101	1	1	3	1	0	0	2	0	0	6	0	0	2	0	0	3
010000100110	0	0	0	1	0	1	4	0	0	2	0	1	1	3	2	0
010000100111	1	0	0	0	0	1	2	1	0	0	0	0	1	5	3	2
010000101000	0	2	4	0	2	6	0	1	4	4	1	5	0	0	0	1
010000101001	1	0	1	0	1	1	1	2	1	1	2	3	0	3	0	3
010000101010	1	1	1	2	0	1	1	0	1	0	2	1	2	3	2	1
010000101011	2	3	2	2	0	1	2	2	0	0	1	2	4	2	0	2
010000101100	1	0	0	4	4	3	5	1	1	1	4	0	2	0	2	2
010000101101	1	2	1	2	1	0	4	0	0	0	0	0	2	1	1	4
010000101110	2	1	1	2	2	2	4	1	2	3	2	0	2	1	3	1
010000101111	1	1	1	0	0	1	0	1	1	0	0	0	0	3	3	4
010000110000	1	0	4	3	3	2	0	3	1	0	0	1	1	2	1	5
010000110001	2	0	3	3	1	2	0	4	3	0	3	0	0	1	2	0
010000110010	3	0	2	1	2	1	3	1	1	2	4	1	2	0	0	1
010000110011	0	3	0	0	2	6	2	3	1	2	0	0	1	4	1	0
010000110100	3	2	4	0	0	2	4	0	1	0	0	2	2	4	2	1
010000110101	1	2	1	3	0	0	0	5	2	1	1	3	0	1	1	1
010000110110	1	2	0	0	2	1	3	1	0	1	0	2	3	0	2	5
010000110111	2	2	2	1	2	1	0	4	1	2	1	0	0	0	0	4
010000111000	0	0	3	2	3	4	3	3	1	0	1	1	0	0	2	0
010000111001	1	2	0	2	0	0	0	1	0	1	1	0	0	2	0	0
010000111010	1	0	0	5	0	5	2	1	2	1	0	2	0	3	0	3
010000111011	0	1	0	0	0	2	0	1	2	0	1	3	2	0	3	0
010000111100	2	0	1	0	7	2	3	0	1	0	3	1	3	1	1	0
010000111101	1	2	1	2	2	2	2	2	4	2	1	2	3	0	3	0
010000111110	2	0	0	0	3	3	0	2	2	1	1	1	0	3	1	2
010000111111	1	4	2	1	0	2	0	1	1	2	4	1	0	0	3	0
010001000000	1	0	2	4	5	0	2	1	0	0	2	0	0	1	4	3
010001000001	2	3	0	2	0	1	0	1	2	0	2	0	2	6	2	3
010001000010	4	2	0	1	0	1	0	1	1	1	3	3	0	0	2	0
010001000011	0	1	0	1	2	3	1	1	1	3	2	4	0	3	3	2
010001000100	0	3	0	3	1	6	0	1	0	1	0	0	4	1	2	0
010001000101	0	1	0	1	3	2	2	1	2	0	2	1	0	0	0	1
010001000110	2	3	0	3	4	4	0	0	2	0	1	2	2	0	2	2
010001000111	0	0	2	0	1	0	0	1	0	1	4	2	2	3	2	1
010001001000	2	0	0	1	1	1	1	1	4	0	1	1	0	0	0	0
010001001001	0	0	2	1	1	2	3	0	2	0	0	1	3	4	0	0
010001001010	4	5	0	2	1	2	3	2	2	0	2	0	3	3	0	3
010001001011	0	0	2	0	1	0	0	0	1	0	2	1	1	1	2	1
010001001100	1	2	2	2	2	0	2	1	0	1	1	0	0	2	1	3
010001001101	0	2	2	3	0	2	0	0	4	1	3	1	1	1	1	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010001001110	2	0	4	1	0	1	0	0	2	3	5	0	1	0	2	1
010001001111	2	0	3	2	3	0	1	0	2	0	3	4	1	3	2	1
010001010000	2	1	1	2	0	6	3	3	2	0	5	1	1	2	0	2
010001010001	0	4	4	0	1	2	1	1	2	0	3	0	0	1	0	2
010001010010	1	5	0	2	1	2	3	3	1	0	0	0	1	1	2	1
010001010011	0	0	2	1	0	1	2	1	4	2	4	0	0	2	3	1
010001010100	0	2	0	1	3	0	3	5	0	0	2	1	0	5	0	3
010001010101	0	0	2	2	5	2	3	1	2	0	0	4	3	8	2	0
010001010110	2	2	4	0	0	3	3	0	1	0	2	3	2	0	0	1
010001010111	2	4	2	1	1	0	2	3	2	0	0	0	0	1	4	1
010001011000	2	2	1	0	1	3	4	0	2	3	1	0	0	1	0	0
010001011001	0	2	0	1	0	3	5	4	1	3	0	0	1	0	1	3
010001011010	2	0	0	0	1	1	2	2	0	3	5	2	3	2	2	2
010001011011	3	0	3	0	1	0	0	2	2	5	2	2	3	1	3	0
010001011100	2	2	3	1	3	1	2	2	0	2	0	1	0	2	2	2
010001011101	0	1	1	0	4	0	4	0	0	0	3	0	3	0	2	1
010001011110	0	1	0	0	3	0	1	3	4	0	2	6	1	0	3	2
010001011111	0	0	1	3	0	0	3	3	3	0	1	0	2	1	1	0
010001100000	3	3	0	2	1	3	2	2	0	3	5	4	0	1	5	0
010001100001	5	1	0	1	2	2	1	0	4	1	1	1	3	0	1	1
010001100010	0	1	0	1	0	3	0	2	2	4	0	0	2	0	1	2
010001100011	1	5	1	4	0	1	1	0	4	3	0	2	4	1	4	1
010001100100	3	1	2	0	3	1	0	1	1	3	2	1	1	1	0	3
010001100101	0	4	3	1	0	4	2	4	2	0	3	0	0	1	2	3
010001100110	4	0	0	2	3	0	1	0	1	3	0	1	1	0	1	0
010001100111	1	4	3	2	1	1	0	3	3	4	3	1	0	4	3	1
010001101000	1	2	1	3	1	1	0	3	2	1	1	5	1	5	0	2
010001101001	4	2	1	2	0	5	1	2	1	1	0	1	0	1	1	6
010001101010	1	2	0	0	1	2	4	2	0	2	0	3	3	0	2	1
010001101011	3	1	0	1	1	2	4	0	0	0	2	1	4	3	2	0
010001101100	0	0	3	2	2	2	0	3	3	2	0	0	0	0	0	1
010001101101	3	5	1	3	3	0	1	1	2	3	1	7	3	2	4	0
010001101110	2	1	3	2	2	2	2	0	0	0	1	0	3	0	0	0
010001101111	2	0	1	3	1	0	0	0	1	4	0	2	1	2	1	1
010001110000	1	1	3	0	2	2	0	3	2	0	0	0	2	0	2	9
010001110001	0	1	0	0	5	2	1	2	2	2	2	3	2	1	5	2
010001110010	0	2	1	1	3	2	0	1	5	2	3	0	1	0	0	2
010001110011	2	0	1	0	1	2	0	0	4	0	3	2	3	0	3	0
010001110100	3	0	1	1	0	3	2	1	0	0	0	0	0	3	0	0
010001110101	2	0	1	5	1	2	2	0	3	4	3	1	1	0	4	1
010001110110	1	1	5	2	1	3	2	6	0	0	1	0	1	3	2	1
010001110111	3	2	2	2	1	2	5	0	0	3	2	1	2	2	0	3
010001111000	0	2	3	3	0	4	2	3	1	0	1	1	1	2	0	0
010001111001	0	0	0	1	3	2	4	6	0	3	1	4	2	1	3	2
010001111010	0	3	2	0	1	2	0	2	0	1	5	2	0	5	3	0
010001111011	3	3	4	1	2	3	2	4	2	3	0	1	1	0	0	2
010001111100	0	2	0	2	5	3	3	0	0	3	0	1	0	0	2	2
010001111101	0	2	0	2	0	0	0	3	1	0	2	2	7	3	2	1
010001111110	4	4	1	0	2	1	4	0	0	1	3	0	3	2	3	3
010001111111	1	1	1	0	2	0	0	6	0	0	0	6	1	1	1	0
010010000000	2	0	3	2	4	0	1	2	4	1	0	3	1	3	1	1
010010000001	2	0	0	2	1	2	0	1	0	2	0	1	2	0	2	3
010010000010	0	1	0	0	5	0	1	2	3	0	3	3	0	1	0	0
010010000011	0	1	4	0	3	1	1	4	5	3	1	2	0	3	0	3
010010000100	3	1	1	1	1	0	0	1	2	0	3	0	2	0	2	1
010010000101	3	0	1	2	3	5	2	2	1	1	2	1	3	2	0	0
010010000110	4	0	0	1	0	2	2	0	3	4	5	0	2	0	0	1
010010000111	2	0	2	1	0	3	3	1	4	1	2	0	3	0	1	1
010010001000	1	2	1	3	2	1	2	2	1	3	0	0	6	0	2	2
010010001001	1	1	3	1	0	3	1	0	2	4	0	4	1	2	4	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010010001010	1	2	2	3	1	4	1	1	0	1	0	1	3	2	1	0
010010001011	2	1	4	0	2	4	0	0	0	1	4	3	0	5	0	2
010010001100	0	0	2	1	2	0	2	6	3	1	4	2	3	1	2	5
010010001101	3	2	2	1	2	1	0	1	2	1	2	2	1	1	1	0
010010001110	3	4	5	5	1	3	1	1	2	1	1	2	3	0	1	2
010010001111	2	2	1	1	3	1	2	2	0	3	2	0	0	4	0	0
010010010000	1	0	1	1	4	0	0	0	5	0	1	1	0	1	0	3
010010010001	2	4	3	1	1	3	0	2	0	2	1	1	0	1	4	2
010010010010	1	2	1	2	0	1	2	3	0	0	1	0	5	3	0	0
010010010011	2	1	2	2	4	1	2	2	4	3	5	1	0	1	1	0
010010010100	1	1	2	5	6	2	3	2	0	0	2	5	1	0	5	0
010010010101	0	4	2	1	1	1	5	0	1	2	1	0	2	0	0	0
010010010110	1	1	0	1	0	0	0	1	1	0	0	0	2	2	0	0
010010010111	1	0	0	2	0	0	1	3	2	2	1	4	1	3	1	2
010010011000	0	2	3	4	1	3	1	1	5	1	0	1	3	4	3	2
010010011001	2	4	3	2	1	0	2	4	0	0	3	5	0	1	1	1
010010011010	5	2	3	2	3	1	3	0	1	2	4	1	2	0	0	0
010010011011	0	0	1	0	0	2	1	1	3	1	1	0	0	2	1	2
010010011100	5	0	1	1	1	0	0	2	1	0	4	0	0	2	3	1
010010011101	3	2	0	3	1	0	1	0	1	0	1	2	2	0	0	1
010010011110	1	2	3	1	1	1	5	5	4	3	2	0	4	3	0	0
010010011111	1	0	4	2	0	1	4	0	1	4	0	5	2	2	3	2
010010100000	2	0	6	0	1	4	2	1	2	0	0	3	0	5	2	3
010010100001	1	0	2	0	0	1	4	1	1	1	0	4	0	1	1	0
010010100010	0	3	1	1	3	1	3	1	1	3	0	1	4	4	2	4
010010100011	1	0	2	0	0	3	0	1	0	1	1	2	2	2	0	0
010010100100	2	2	1	1	2	4	1	5	2	3	0	0	1	4	3	3
010010100101	4	0	5	3	1	0	2	3	0	1	0	2	0	3	3	0
010010100110	2	2	2	0	1	4	0	0	0	2	1	0	1	0	0	2
010010100111	2	0	3	3	0	3	1	2	0	0	2	0	1	0	3	0
010010101000	0	2	4	3	3	1	0	0	1	3	0	2	3	1	1	2
010010101001	0	2	4	0	4	2	1	0	4	3	1	1	3	1	1	1
010010101010	6	1	1	1	3	0	2	3	1	1	1	2	0	2	0	1
010010101011	4	0	3	1	1	2	0	0	2	3	0	3	1	7	2	2
010010101100	1	1	4	2	3	2	3	0	1	3	2	0	1	0	0	5
010010101101	1	3	5	0	2	1	5	1	1	1	2	4	4	0	2	1
010010101110	2	2	1	3	0	1	2	4	2	2	2	1	0	2	4	0
010010101111	1	3	0	3	0	0	0	0	2	1	3	2	4	2	0	1
010010110000	2	2	0	4	2	1	2	0	2	1	2	3	1	1	0	5
010010110001	1	1	4	0	1	0	1	0	0	2	0	2	1	1	0	3
010010110010	2	0	0	2	1	3	2	2	0	2	2	1	1	3	3	3
010010110011	4	1	2	3	0	0	1	3	1	3	1	2	4	0	0	1
010010110100	2	2	2	4	0	1	0	4	2	1	2	5	2	0	0	0
010010110101	0	3	2	3	4	1	1	2	4	0	1	4	1	0	1	1
010010110110	2	1	0	0	0	3	2	1	0	0	3	1	3	2	3	0
010010110111	3	4	2	5	5	1	3	0	0	0	1	3	0	0	4	1
010010111000	3	0	2	3	3	0	1	0	1	1	1	3	1	2	1	3
010010111001	1	1	0	0	0	2	4	0	2	0	2	0	2	3	1	1
010010111010	3	1	1	0	0	5	3	0	2	0	1	2	1	0	1	2
010010111011	3	2	0	4	3	4	1	3	0	1	2	0	3	1	3	3
010010111100	0	2	1	1	1	1	1	0	2	2	0	1	1	5	6	3
010010111101	2	1	0	3	1	1	2	0	1	2	1	0	1	0	2	4
010010111110	0	0	5	2	1	2	2	1	1	2	0	0	0	2	4	1
010010111111	3	4	2	1	0	0	3	0	3	2	1	2	2	1	1	3
010011000000	1	1	1	0	2	5	0	2	1	4	0	1	1	1	4	1
010011000001	2	0	0	0	2	2	4	3	2	4	0	1	0	4	1	4
010011000010	2	3	1	1	2	2	3	1	5	1	0	0	0	1	3	4
010011000011	0	3	1	3	1	3	2	3	4	2	1	3	1	1	2	3
010011000100	0	0	0	1	1	0	1	1	2	2	1	0	3	3	2	2
010011000101	1	0	4	3	3	0	1	3	2	2	2	4	1	1	1	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010011000110	2	1	1	1	2	3	0	1	0	0	3	0	0	1	1	3
010011000111	1	1	0	6	0	1	1	4	0	1	1	2	2	3	1	1
010011001000	3	3	1	8	6	3	1	2	1	3	1	5	2	5	1	1
010011001001	0	2	1	0	0	2	1	1	1	2	0	3	0	0	4	4
010011001010	0	3	2	2	0	4	1	1	1	1	0	3	0	0	2	0
010011001011	0	0	0	2	5	0	4	0	3	0	3	2	3	4	0	1
010011001100	0	2	0	1	1	0	2	1	0	0	1	1	3	0	0	1
010011001101	1	2	0	1	3	6	3	2	0	1	1	3	1	3	1	0
010011001110	8	1	2	4	2	3	0	0	1	2	4	2	0	0	0	4
010011001111	2	2	0	2	0	4	2	1	1	0	4	0	3	0	3	1
010011010000	1	0	1	1	2	1	1	0	1	3	2	4	3	4	0	4
010011010001	3	2	0	0	3	3	3	4	3	0	3	2	3	1	2	1
010011010010	3	0	1	0	0	0	0	2	1	3	4	3	0	2	2	1
010011010011	1	2	1	2	1	2	2	0	2	1	1	1	2	2	1	1
010011010100	0	4	2	0	1	0	1	4	0	6	0	1	2	4	3	0
010011010101	1	3	1	0	1	1	1	4	1	0	3	0	4	2	0	4
010011010110	1	0	5	3	0	1	1	3	2	4	3	1	1	2	3	3
010011010111	1	0	0	4	2	2	0	2	2	0	3	2	2	0	2	3
010011011000	0	3	4	4	0	0	0	0	4	5	1	2	4	4	2	1
010011011001	5	1	2	1	2	2	2	1	0	0	1	4	0	1	5	1
010011011010	1	0	3	2	1	0	1	5	0	3	2	0	1	1	6	3
010011011011	3	0	3	3	1	0	1	1	4	1	0	0	3	3	1	1
010011011100	0	0	3	5	0	1	0	2	0	0	0	1	3	2	0	3
010011011101	1	0	1	5	5	0	0	0	1	2	2	2	0	1	4	0
010011011110	0	6	1	3	1	1	1	1	5	8	0	1	0	3	2	0
010011011111	1	0	0	1	3	3	2	0	4	3	1	0	4	1	3	1
010011100000	1	0	2	3	1	0	2	2	0	1	1	2	1	0	0	2
010011100001	2	1	3	3	0	0	0	3	2	3	5	0	4	2	0	2
010011100010	1	0	0	0	0	1	0	4	2	1	0	0	1	2	2	4
010011100011	2	0	1	3	3	0	0	4	5	0	1	1	3	3	0	0
010011100100	3	1	1	1	0	1	2	0	1	1	1	0	1	1	0	1
010011100101	1	1	1	6	0	1	0	5	0	1	2	1	1	1	1	3
010011100110	3	0	6	2	0	1	1	2	1	4	0	3	1	1	2	2
010011100111	3	4	0	0	1	0	0	0	2	1	0	4	2	4	1	1
010011101000	3	2	5	4	2	3	1	1	1	0	0	0	4	3	3	0
010011101001	0	1	1	0	2	0	1	0	0	2	5	2	1	0	3	1
010011101010	4	3	6	2	3	1	3	3	2	3	4	1	0	3	4	2
010011101011	3	2	1	2	2	0	3	3	2	1	4	3	1	0	0	0
010011101100	1	2	3	1	0	1	1	2	1	3	1	0	0	2	3	1
010011101101	1	4	4	1	0	0	1	3	1	0	2	1	1	2	0	3
010011101110	1	3	4	2	3	0	1	0	6	2	1	1	2	0	1	0
010011101111	1	0	1	1	0	1	3	3	1	0	3	2	2	0	1	0
010011110000	0	1	3	0	0	3	0	1	0	0	0	2	3	2	1	1
010011110001	3	1	3	2	0	3	5	2	1	3	1	2	0	2	0	5
010011110010	1	0	2	2	0	4	3	1	1	2	1	1	1	1	0	0
010011110011	4	0	0	3	6	0	4	0	0	0	3	5	1	4	4	1
010011110100	0	2	0	2	0	3	0	1	2	2	4	0	0	2	3	2
010011110101	3	0	3	3	0	4	6	2	2	1	0	0	0	1	2	1
010011110110	0	1	8	1	1	1	1	2	5	2	3	2	2	0	0	2
010011110111	2	0	0	0	4	3	1	2	6	2	0	0	2	0	1	2
010011111000	3	2	1	4	0	1	5	3	0	1	4	2	0	3	1	0
010011111001	0	3	4	2	5	0	2	2	3	3	2	1	2	0	2	0
010011111010	2	2	3	0	2	1	0	1	2	3	1	1	0	0	4	1
010011111011	2	2	0	0	4	0	0	3	1	2	3	0	4	0	0	1
010011111100	4	0	4	0	2	3	2	0	2	1	0	2	0	3	3	2
010011111101	0	0	2	5	1	0	2	4	0	2	0	2	2	0	4	0
010011111110	3	0	0	3	2	3	3	2	0	3	2	4	2	1	3	0
010011111111	1	1	3	0	2	4	3	0	1	0	2	2	4	0	1	2
010100000000	4	2	2	0	2	3	0	3	0	2	2	3	2	4	1	0
010100000001	2	2	1	0	2	0	2	2	5	1	2	1	2	2	4	0



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010100000010	2	0	0	1	1	1	1	0	0	0	2	1	1	0	0	1
010100000011	3	1	1	2	3	1	1	0	3	1	4	2	2	1	2	2
010100000100	2	1	1	0	2	0	3	6	0	0	1	3	0	3	4	0
010100000101	1	2	3	1	1	2	1	0	2	2	1	0	1	1	2	2
010100000110	3	0	0	2	3	2	2	0	3	1	1	0	3	0	2	3
010100000111	3	3	2	3	1	2	3	0	1	1	2	1	0	2	0	0
010100001000	0	2	1	0	1	1	1	6	0	1	0	0	1	0	3	1
010100001001	1	1	1	0	0	0	1	2	0	0	0	0	1	2	1	2
010100001010	1	0	1	5	0	2	0	0	0	0	1	0	4	2	0	1
010100001011	1	2	0	2	2	1	1	1	5	3	1	3	1	0	1	0
010100001100	2	3	0	1	3	2	3	1	0	0	2	1	3	2	2	1
010100001101	2	1	3	3	0	1	3	1	4	0	0	2	1	1	2	0
010100001110	0	2	3	0	2	0	0	2	1	2	0	3	1	0	1	0
010100001111	5	1	2	0	0	4	3	3	1	2	0	0	3	3	0	2
010100010000	2	4	0	0	2	2	0	2	6	1	1	4	3	0	1	1
010100010001	1	1	4	4	3	3	1	2	4	3	1	4	2	2	3	2
010100010010	0	1	1	3	3	1	3	0	1	1	0	0	1	1	2	1
010100010011	2	1	3	2	2	1	0	1	1	3	1	1	1	1	1	0
010100010100	1	1	3	2	1	5	2	0	4	1	2	0	1	2	0	1
010100010101	4	1	2	2	0	3	3	0	2	0	0	1	0	0	3	4
010100010110	1	3	0	0	2	0	1	1	0	2	0	1	4	2	2	2
010100010111	3	1	0	0	1	1	0	4	1	3	3	0	1	1	5	1
010100011000	1	0	1	1	0	2	2	2	1	4	3	0	1	0	2	2
010100011001	1	0	1	3	4	2	0	2	1	0	2	3	5	2	2	1
010100011010	2	2	1	0	3	3	0	4	1	2	0	1	1	3	3	0
010100011011	0	1	1	1	2	3	5	2	4	2	0	4	0	4	2	2
010100011100	1	2	0	1	0	0	2	0	2	0	1	1	2	1	1	2
010100011101	1	0	0	1	3	1	1	1	0	0	3	0	1	1	1	0
010100011110	0	0	0	2	3	0	1	0	0	4	1	1	2	2	1	2
010100011111	0	0	2	1	2	0	0	2	0	0	0	0	0	0	1	4
010100100000	2	3	2	3	3	1	1	2	6	4	3	3	3	3	3	0
010100100001	2	0	0	1	2	1	2	3	1	0	1	4	0	0	4	2
010100100010	0	0	0	1	3	1	2	3	0	4	6	2	0	1	2	1
010100100011	1	1	3	0	1	1	2	0	2	0	2	3	1	0	1	0
010100100100	1	0	7	1	2	0	2	1	1	1	1	0	1	4	2	0
010100100101	0	2	0	0	0	6	1	2	0	2	1	1	3	0	3	0
010100100110	1	0	0	0	2	4	0	1	0	2	2	2	1	0	2	3
010100100111	2	1	1	3	4	0	1	0	3	2	0	4	1	2	0	7
010100101000	3	2	2	1	1	0	0	0	0	2	2	2	0	3	0	4
010100101001	1	0	0	0	4	0	1	1	1	1	0	3	2	0	1	0
010100101010	6	0	0	0	2	2	3	1	0	0	1	1	1	3	2	2
010100101011	2	1	0	4	0	1	4	0	1	2	4	0	1	1	1	2
010100101100	2	0	2	3	3	0	2	7	3	2	0	1	2	1	1	1
010100101101	0	0	6	3	0	0	1	1	0	1	1	3	1	1	0	2
010100101110	3	1	1	0	4	3	0	4	1	2	4	0	5	0	1	0
010100101111	4	2	1	1	1	2	0	2	3	4	2	0	0	3	0	1
010100110000	1	4	2	3	0	2	4	4	1	0	0	1	1	4	3	1
010100110001	1	0	0	1	1	2	1	2	2	0	2	6	0	2	1	1
010100110010	2	1	0	0	1	1	0	5	2	0	2	1	4	2	0	5
010100110011	2	2	2	0	0	1	2	3	0	2	3	1	0	1	0	1
010100110100	5	0	3	2	1	0	2	4	1	1	2	0	4	0	3	1
010100110101	3	2	1	3	5	2	2	1	1	3	0	0	0	0	0	1
010100110110	1	1	1	2	0	3	3	2	2	0	1	1	4	4	1	2
010100110111	2	0	0	2	0	4	0	0	1	3	4	1	2	1	4	1
010100111000	3	2	1	2	1	1	1	0	1	0	1	0	0	4	3	0
010100111001	5	1	3	3	3	1	2	1	1	4	6	0	2	1	2	5
010100111010	5	0	3	0	0	3	2	0	2	5	1	3	0	3	4	2
010100111011	1	0	2	0	3	3	2	0	3	0	2	2	2	1	2	0
010100111100	1	0	4	0	0	1	3	0	0	1	2	5	1	0	0	1
010100111101	0	1	0	1	2	3	1	1	3	4	3	5	0	0	1	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010100111110	2	5	4	0	1	0	4	1	1	1	3	2	2	4	1	1
010100111111	1	1	1	0	2	1	6	0	0	1	1	1	1	3	3	0
010101000000	2	1	2	3	1	0	1	1	1	7	3	3	0	2	1	1
010101000001	2	2	0	4	1	1	2	3	0	1	1	1	1	2	2	0
010101000010	0	1	1	0	1	3	1	1	0	0	4	3	0	0	4	1
010101000011	0	0	2	2	2	0	1	0	3	4	1	1	2	1	0	2
010101000100	3	0	2	0	2	1	1	1	1	1	0	0	3	0	0	0
010101000101	4	2	3	3	0	1	0	2	0	1	1	1	1	6	3	2
010101000110	2	4	1	1	1	0	1	2	1	2	4	0	0	0	1	0
010101000111	2	3	0	2	4	3	0	1	3	2	1	1	2	2	1	0
010101001000	0	1	3	1	0	2	4	1	7	0	2	0	1	1	1	0
010101001001	4	3	4	4	4	2	4	0	2	1	0	2	1	2	2	3
010101001010	1	1	1	4	0	1	4	2	2	4	2	5	0	2	3	0
010101001011	1	4	3	1	0	1	0	1	0	1	7	1	3	1	1	0
010101001100	3	2	1	3	0	0	0	3	3	0	1	0	2	0	1	0
010101001101	2	3	1	5	3	2	2	3	0	0	0	3	0	0	3	1
010101001110	2	1	2	1	4	0	2	3	0	2	2	1	1	1	3	1
010101001111	0	1	1	0	1	0	0	0	4	2	0	3	0	3	6	0
010101010000	2	2	3	2	3	1	0	2	2	0	1	2	0	5	0	1
010101010001	0	2	1	3	3	2	3	2	1	0	2	3	1	1	0	3
010101010010	1	0	2	4	2	2	0	1	5	1	0	0	2	4	0	0
010101010011	0	2	1	0	0	0	1	0	1	1	1	1	0	1	3	1
010101010100	1	1	0	0	1	3	0	1	1	1	1	1	0	1	3	1
010101010101	2	2	4	0	2	3	0	3	1	1	4	0	0	1	3	6
010101010110	2	2	1	1	1	2	0	0	2	1	0	1	2	0	3	0
010101010111	2	3	2	1	2	2	0	2	1	3	2	0	1	0	2	4
010101011000	1	1	0	1	1	3	0	0	5	1	5	0	0	2	3	0
010101011001	1	2	2	2	1	1	1	4	0	2	2	3	1	2	1	1
010101011010	3	1	1	0	1	1	2	0	1	3	1	2	3	0	1	2
010101011011	3	6	1	1	1	2	5	3	4	7	3	0	2	2	4	4
010101011100	0	4	1	0	0	1	0	2	0	1	2	3	1	1	3	2
010101011101	3	1	1	4	4	1	1	0	3	1	2	0	0	2	0	1
010101011110	2	3	2	4	1	0	0	1	0	1	1	2	5	3	2	9
010101011111	1	0	2	1	0	2	1	0	3	2	2	1	1	3	3	1
010101100000	1	1	1	1	1	0	4	2	6	3	3	1	0	1	0	3
010101100001	2	3	2	2	0	3	1	4	4	0	1	0	0	1	2	0
010101100010	0	4	0	0	0	3	1	2	0	0	4	2	4	0	3	0
010101100011	0	0	1	2	2	1	2	1	0	2	1	3	1	2	2	1
010101100100	3	0	3	1	4	2	3	0	0	1	2	0	0	4	0	1
010101100101	0	0	0	1	2	4	5	2	0	1	0	3	3	1	0	0
010101100110	3	1	1	1	1	2	3	4	4	0	4	2	0	2	2	4
010101100111	1	0	0	1	1	1	0	2	0	0	4	0	0	2	4	2
010101101000	0	5	2	4	3	0	4	2	2	1	0	0	1	0	3	2
010101101001	0	3	3	0	0	3	0	0	3	2	3	2	0	3	0	2
010101101010	1	0	1	0	0	0	2	2	1	2	2	3	2	1	1	0
010101101011	1	0	1	2	1	0	0	1	1	3	1	5	4	2	1	2
010101101100	4	1	3	1	0	0	5	1	2	0	0	5	3	1	0	1
010101101101	0	2	1	2	3	1	3	1	0	2	0	0	4	3	1	1
010101101110	1	3	3	0	3	0	0	3	1	1	2	0	3	6	0	1
010101101111	3	1	1	1	2	0	1	3	6	1	0	2	1	2	3	0
010101110000	0	0	0	2	1	4	0	2	1	4	1	0	3	0	1	1
010101110001	0	3	2	1	0	3	1	1	1	1	2	1	0	0	2	2
010101110010	1	1	2	3	3	0	1	1	0	1	2	1	2	2	3	2
010101110011	1	3	0	4	0	0	0	2	1	0	0	0	1	0	1	1
010101110100	0	0	0	4	3	4	1	5	1	2	2	0	0	4	1	1
010101110101	0	2	1	2	0	1	4	3	0	2	5	1	1	0	0	0
010101110110	0	5	0	2	2	1	1	2	2	1	2	1	1	2	1	3
010101110111	3	0	3	0	0	2	0	1	1	2	0	1	0	0	2	0
010101111000	0	0	0	3	2	1	2	0	0	1	1	1	0	3	1	0
010101111001	4	3	1	5	3	0	2	3	2	1	0	0	0	1	4	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010101111010	0	1	1	0	3	0	0	0	2	2	2	4	0	3	2	3
010101111011	1	1	4	1	1	1	0	0	0	3	1	0	4	6	1	1
010101111100	0	2	3	4	3	1	1	3	1	3	0	2	1	0	3	0
010101111101	0	0	1	0	0	1	1	0	4	1	2	3	2	1	4	2
010101111110	2	2	1	0	1	3	0	0	2	1	2	1	2	3	0	0
010101111111	1	1	0	1	2	2	3	0	3	1	0	0	0	1	0	4
010110000000	1	0	4	3	1	1	2	1	3	1	1	0	0	2	0	1
010110000001	4	1	1	3	1	5	0	0	3	0	0	4	5	3	0	0
010110000010	4	0	0	4	0	1	1	4	2	2	1	1	0	1	3	1
010110000011	0	0	2	0	2	0	2	2	3	1	2	1	1	1	1	1
010110000100	1	1	2	4	2	3	0	2	1	0	1	1	1	1	2	1
010110000101	3	2	1	0	0	2	4	2	1	0	0	1	1	0	1	2
010110000110	7	1	3	0	1	2	1	2	4	0	3	1	2	3	3	1
010110000111	2	4	2	1	0	1	1	0	1	2	2	2	0	0	0	2
010110001000	1	1	0	2	3	0	0	0	0	1	4	5	1	1	3	0
010110001001	1	0	2	1	2	4	1	3	1	2	3	0	1	1	2	2
010110001010	1	2	2	5	0	1	1	0	0	0	4	1	0	0	3	0
010110001011	2	1	0	0	2	1	3	0	1	1	1	1	0	2	1	1
010110001100	0	2	1	3	2	0	2	5	2	0	0	0	0	2	3	0
010110001101	2	0	1	4	3	0	5	1	0	3	1	0	3	2	1	1
010110001110	0	0	3	2	0	2	3	2	2	1	1	2	2	0	3	3
010110001111	2	3	1	2	0	5	2	1	0	0	0	1	3	2	0	2
010110010000	2	0	1	0	2	5	0	0	0	0	3	1	1	0	1	3
010110010001	0	1	3	2	1	2	0	1	2	5	1	5	3	0	1	1
010110010010	0	4	0	0	2	4	3	2	0	2	1	1	3	2	1	0
010110010011	0	1	1	0	1	1	0	0	2	2	0	5	3	1	0	2
010110010100	4	1	0	1	3	2	1	4	2	1	5	0	1	4	1	4
010110010101	0	0	2	1	1	0	4	0	1	1	0	2	0	1	2	2
010110010110	5	0	1	3	2	0	3	3	2	2	2	0	0	3	0	1
010110010111	1	4	3	1	1	3	1	0	0	0	0	0	1	3	1	1
010110011000	2	1	1	2	1	3	1	2	3	0	1	0	1	3	2	0
010110011001	4	2	1	0	2	2	1	3	0	2	1	7	0	0	6	0
010110011010	1	1	0	2	2	1	4	1	2	2	3	0	3	3	2	1
010110011011	2	2	2	2	4	1	0	0	5	2	0	2	3	1	1	0
010110011100	0	1	5	0	1	1	4	2	2	2	2	5	2	3	1	1
010110011101	4	2	1	4	1	0	0	3	1	0	3	0	1	1	0	4
010110011110	1	2	3	3	0	1	2	0	4	2	2	2	2	1	0	0
010110011111	4	2	2	3	1	1	1	0	0	0	1	3	0	0	1	1
010110100000	3	2	3	1	1	4	1	0	6	1	1	2	1	1	2	1
010110100001	1	2	0	1	3	0	4	3	2	0	0	2	2	0	0	0
010110100010	4	0	1	0	2	0	2	2	4	4	1	7	1	2	3	2
010110100011	3	1	2	2	1	0	1	0	1	1	1	1	3	2	2	0
010110100100	1	1	4	1	1	1	1	4	5	1	5	0	1	0	2	5
010110100101	0	2	0	1	2	0	4	1	0	2	1	1	0	1	3	0
010110100110	2	2	1	0	1	0	1	1	2	0	0	6	3	3	0	0
010110100111	0	3	4	1	1	3	2	1	4	1	0	0	0	2	3	0
010110101000	5	0	5	3	1	0	3	6	4	0	6	1	1	2	2	1
010110101001	0	0	1	1	2	2	1	0	1	1	2	2	0	2	2	0
010110101010	3	5	3	0	4	0	3	3	3	3	3	1	3	0	1	0
010110101011	1	0	3	1	0	1	2	0	1	3	0	2	1	1	2	4
010110101100	2	0	1	4	2	6	3	0	0	3	2	1	2	1	4	2
010110101101	0	0	1	0	2	3	5	0	1	1	1	3	2	0	0	2
010110101110	0	0	0	1	4	3	1	1	1	3	1	1	0	3	0	6
010110101111	1	0	0	2	2	1	0	3	0	0	0	1	3	4	2	0
010110110000	0	7	0	2	0	0	3	4	1	1	0	0	0	0	6	2
010110110001	3	3	1	2	1	1	1	0	0	2	2	3	1	3	1	2
010110110010	0	1	1	3	6	3	1	2	0	3	0	0	2	1	1	4
010110110011	0	2	0	3	1	1	0	1	2	0	0	1	2	0	6	1
010110110100	4	2	0	3	0	4	0	1	2	3	1	1	0	0	0	2
010110110101	0	1	0	1	0	4	2	0	1	2	4	0	0	2	1	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010110110110	1	0	1	0	1	0	0	0	1	0	1	0	0	1	0	3
010110110111	3	0	3	3	1	0	4	0	1	1	2	4	0	3	1	5
010110111000	4	0	1	0	1	0	1	3	1	1	0	0	2	2	0	0
010110111001	1	3	1	0	1	1	1	4	1	1	8	0	1	1	0	0
010110111010	1	2	0	2	2	2	1	1	5	1	1	1	2	1	3	1
010110111011	0	3	1	0	1	0	3	2	1	0	2	0	0	0	1	1
010110111100	1	0	1	0	0	0	0	2	0	0	1	1	2	0	4	0
010110111101	1	1	1	1	0	2	2	2	0	0	0	0	1	0	1	4
010110111110	1	2	0	0	2	2	5	3	4	1	1	4	1	2	6	3
010110111111	3	0	0	2	0	2	2	1	2	4	3	0	0	1	0	1
010111000000	3	3	1	3	3	4	2	1	1	1	0	0	1	6	1	0
010111000001	2	4	2	0	0	4	3	2	0	0	0	0	0	1	0	3
010111000010	4	0	1	2	0	2	0	1	3	0	1	0	3	0	3	3
010111000011	2	0	0	1	0	3	2	5	4	2	4	0	2	2	0	1
010111000100	0	1	1	2	3	2	0	0	0	3	3	3	1	0	4	3
010111000101	1	0	1	2	2	2	3	2	2	0	2	1	0	0	0	1
010111000110	1	2	0	1	1	1	0	1	0	0	2	0	1	0	1	1
010111000111	2	2	0	3	0	3	1	2	0	2	1	0	2	0	0	6
010111001000	1	0	0	1	3	2	0	0	3	1	2	2	1	0	0	2
010111001001	2	2	4	2	1	4	1	2	0	0	4	1	2	1	1	1
010111001010	0	0	0	1	0	3	2	0	2	1	0	1	0	0	3	3
010111001011	0	2	0	2	2	2	6	3	1	5	2	1	0	2	0	4
010111001100	1	3	1	0	4	2	0	2	2	0	5	0	2	1	3	3
010111001101	1	1	1	3	1	0	3	2	1	1	0	0	0	5	2	0
010111001110	4	3	4	1	1	0	0	1	3	3	0	3	0	0	3	2
010111001111	4	1	0	1	0	1	1	4	0	2	0	2	4	1	2	0
010111010000	1	0	0	1	2	3	2	2	0	2	0	2	0	2	5	2
010111010001	0	1	0	2	0	2	1	3	0	1	1	2	1	3	0	0
010111010010	2	1	0	2	3	1	3	0	3	0	0	0	4	0	2	2
010111010011	3	0	0	0	3	1	0	0	0	1	1	0	0	0	2	0
010111010100	4	0	2	0	2	3	2	0	1	0	1	1	1	1	0	1
010111010101	4	0	0	0	3	1	1	2	0	2	0	2	3	2	3	1
010111010110	2	2	1	3	1	2	0	1	4	0	4	0	4	0	7	0
010111010111	3	3	1	1	0	0	1	0	2	3	0	0	2	4	0	1
010111011000	3	2	0	1	4	0	0	1	1	1	1	4	4	1	3	2
010111011001	5	1	0	3	0	1	1	5	2	0	5	2	1	2	0	1
010111011010	1	2	2	3	0	2	1	0	0	1	2	0	1	2	1	3
010111011011	2	2	2	0	1	1	1	1	3	5	1	0	2	0	4	0
010111011100	1	3	2	0	0	1	0	0	3	0	4	2	4	1	0	0
010111011101	1	1	2	1	0	1	2	0	0	0	2	0	1	3	0	1
010111011110	2	1	1	1	1	2	3	2	1	0	3	3	4	1	1	1
010111011111	1	9	4	2	2	1	2	2	0	0	0	1	1	0	2	1
010111100000	2	3	2	1	1	3	1	1	1	2	0	0	0	1	1	1
010111100001	0	3	3	0	2	1	0	4	2	0	6	1	3	0	2	0
010111100010	1	2	0	1	2	0	0	0	2	5	0	5	4	2	1	3
010111100011	0	2	2	3	1	0	2	5	2	1	0	2	1	0	6	0
010111100100	0	2	3	0	0	1	3	2	0	1	1	0	4	1	0	0
010111100101	1	8	2	3	3	0	3	3	1	0	1	4	0	4	0	4
010111100110	0	1	0	3	2	1	2	0	1	2	3	3	2	3	2	0
010111100111	0	0	0	3	1	4	0	1	0	2	0	0	1	0	2	0
010111101000	3	1	5	0	0	0	0	1	4	4	3	0	0	2	0	2
010111101001	1	0	1	1	0	0	0	1	2	2	3	1	1	2	0	6
010111101010	2	3	3	1	2	2	0	3	2	1	2	2	0	3	1	3
010111101011	1	2	0	1	1	2	0	0	0	4	0	2	1	2	3	4
010111101100	3	0	0	0	1	1	0	3	0	0	2	1	1	3	2	1
010111101101	0	2	1	0	3	4	0	0	3	4	1	0	2	0	0	1
010111101110	2	2	0	4	1	4	2	0	6	0	0	1	2	0	0	2
010111101111	3	3	0	3	2	0	2	1	2	0	2	1	1	0	2	4
010111110000	0	3	1	2	0	3	3	1	0	1	5	3	2	2	0	2
010111110001	0	0	1	0	3	1	0	1	1	0	1	0	4	0	1	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
010111110010	2	0	2	0	0	1	1	1	0	0	0	4	1	0	0	2
010111110011	2	2	0	2	0	1	2	1	3	2	4	0	1	2	0	1
010111110100	5	3	1	1	3	0	3	3	2	0	2	0	1	1	0	1
010111110101	0	1	2	0	0	2	0	2	2	4	1	3	1	2	5	1
010111110110	0	1	2	4	2	1	1	0	0	0	0	3	0	0	4	3
010111110111	4	0	0	3	1	3	1	2	1	2	1	1	1	0	1	2
010111111000	0	1	0	3	0	2	2	2	1	3	3	2	2	1	1	1
010111111001	2	1	1	3	4	1	3	1	0	3	1	0	7	4	2	3
010111111010	0	2	2	3	0	2	3	0	0	1	2	1	4	0	1	3
010111111011	2	1	0	2	0	0	1	4	3	3	0	4	1	0	2	0
010111111100	0	1	0	3	0	0	0	3	0	1	4	6	2	0	2	0
010111111101	1	4	2	3	1	1	0	6	0	2	0	3	2	2	2	1
010111111110	2	1	2	0	3	1	2	5	2	1	1	0	1	3	1	2
010111111111	3	3	0	2	3	4	2	0	1	3	2	4	0	0	2	2
011000000000	0	3	2	1	0	0	1	2	3	1	2	1	2	2	3	4
011000000001	2	3	4	3	1	1	1	0	1	0	1	2	2	1	1	0
011000000010	0	1	1	0	2	1	2	1	1	1	2	2	0	1	0	1
011000000011	2	2	2	0	2	1	0	2	1	2	0	1	2	1	1	2
011000000100	0	2	1	1	0	3	0	2	3	1	3	2	3	2	2	2
011000000101	1	0	2	0	0	3	1	4	3	1	2	3	1	0	1	2
011000000110	2	3	0	0	1	2	5	2	0	3	1	1	2	3	2	4
011000000111	1	1	0	3	1	1	2	3	0	1	2	0	1	0	2	5
011000001000	2	4	0	0	1	2	1	1	1	5	1	3	1	0	1	1
011000001001	3	0	1	0	3	5	2	1	0	2	0	0	0	3	2	1
011000001010	0	0	1	3	0	3	2	1	1	0	2	0	2	2	3	0
011000001011	2	3	3	4	1	2	2	1	2	2	1	3	0	3	1	2
011000001100	3	2	0	3	0	0	0	2	2	0	3	0	4	1	3	1
011000001101	0	0	2	0	1	2	6	0	1	0	0	1	1	0	2	2
011000001110	2	4	3	0	2	3	2	2	1	1	0	3	0	1	3	0
011000001111	1	0	1	2	1	0	2	4	0	2	2	3	4	2	1	0
011000010000	4	6	0	4	0	0	3	5	1	0	0	2	2	2	0	1
011000010001	0	2	0	0	2	0	1	2	4	2	2	3	3	0	0	4
011000010010	0	1	0	0	1	2	2	4	2	3	2	0	2	0	2	0
011000010011	0	0	0	2	0	2	0	1	0	2	2	0	0	0	2	1
011000010100	4	0	1	0	0	1	6	0	0	1	1	1	0	2	3	3
011000010101	5	0	0	4	4	0	0	1	1	2	2	0	0	1	1	1
011000010110	2	0	1	2	3	1	2	3	1	2	4	1	3	3	2	0
011000010111	2	2	3	1	5	0	3	2	1	2	1	2	1	1	0	1
011000011000	2	1	1	2	3	3	3	0	0	0	0	2	3	4	2	2
011000011001	2	4	1	1	2	3	0	2	1	2	1	0	2	1	2	5
011000011010	2	0	2	2	1	2	2	2	3	0	2	0	3	0	0	0
011000011011	1	1	0	4	4	5	1	1	0	2	3	0	1	4	4	2
011000011100	0	0	1	2	1	0	1	1	1	2	3	2	2	5	0	0
011000011101	1	1	1	0	3	2	0	2	6	2	2	1	0	2	2	2
011000011110	3	2	1	3	0	1	0	0	0	1	4	3	0	0	2	3
011000011111	2	3	2	0	2	3	5	3	4	1	0	2	0	0	2	1
011000100000	3	3	0	4	1	3	2	1	0	0	3	1	1	0	0	2
011000100001	1	1	1	0	2	2	6	1	0	0	0	0	2	2	4	6
011000100010	0	0	0	2	0	1	0	0	1	3	1	3	1	3	0	1
011000100011	1	1	1	1	2	2	3	0	2	0	4	0	0	0	0	0
011000100100	3	0	3	2	0	3	1	0	7	0	0	0	0	5	6	0
011000100101	3	2	5	3	1	1	0	0	2	1	1	1	6	1	2	1
011000100110	1	0	1	0	2	1	0	3	3	0	0	4	0	0	0	2
011000100111	2	1	0	0	1	3	4	1	5	0	0	3	2	1	1	2
011000101000	2	0	2	0	5	1	1	2	6	2	1	0	2	0	4	1
011000101001	1	2	3	0	3	0	1	1	1	2	5	0	5	2	1	0
011000101010	1	2	0	3	0	0	2	3	4	0	4	0	0	0	4	0
011000101011	0	1	2	0	1	2	0	0	1	0	0	0	0	2	0	1
011000101100	0	6	1	0	3	4	0	1	1	3	2	2	5	1	0	2
011000101101	0	3	1	1	2	2	0	2	0	2	5	2	2	0	4	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011000101110	0	0	3	1	0	2	4	0	4	0	2	2	0	1	3	3
011000101111	6	2	6	0	0	2	0	2	1	3	2	4	2	0	0	1
011000110000	1	0	1	2	0	3	3	0	0	2	1	3	2	2	3	0
011000110001	2	0	1	3	2	2	4	0	0	0	2	0	3	2	1	1
011000110010	2	1	2	1	0	2	2	1	0	1	1	0	1	0	0	6
011000110011	5	2	2	3	5	0	1	1	3	3	4	4	1	1	3	2
011000110100	1	3	1	2	0	3	0	2	2	0	0	1	1	3	0	1
011000110101	3	0	1	1	0	0	3	1	2	2	0	0	2	3	1	0
011000110110	5	0	2	1	0	3	0	2	4	2	0	1	4	2	4	0
011000110111	0	1	0	0	2	3	0	2	0	1	3	4	0	2	3	1
011000111000	4	2	1	4	0	1	1	0	2	0	3	1	0	0	0	2
011000111001	0	1	0	5	2	0	0	2	1	0	0	1	2	2	3	0
011000111010	0	0	2	2	1	1	2	0	1	1	1	6	1	1	2	0
011000111011	1	1	1	2	1	0	1	2	2	3	1	1	2	1	0	0
011000111100	0	1	3	1	2	1	0	1	5	0	0	3	0	2	5	0
011000111101	1	2	3	0	0	3	2	6	0	3	4	0	4	2	0	3
011000111110	2	0	0	0	2	0	5	2	0	0	0	0	2	2	0	2
011000111111	2	0	1	0	2	1	4	0	2	2	0	3	0	0	0	0
011001000000	0	2	2	3	0	1	1	2	3	0	3	1	2	0	1	2
011001000001	0	2	0	2	2	3	0	3	3	3	1	2	0	4	3	0
011001000010	2	1	1	0	3	0	1	4	3	4	1	0	4	1	0	3
011001000011	1	4	1	1	1	2	4	1	2	1	2	2	2	2	2	1
011001000100	4	2	3	2	2	0	3	0	1	1	8	5	0	0	3	1
011001000101	1	0	2	3	0	0	0	0	2	0	0	6	4	3	4	1
011001000110	0	5	0	1	3	0	1	1	0	1	1	3	2	2	1	0
011001000111	0	2	1	0	2	1	1	3	1	1	0	2	0	1	2	2
011001001000	7	3	1	5	2	2	2	0	0	1	3	0	2	0	0	1
011001001001	1	3	0	2	0	1	0	0	2	1	0	0	0	0	0	0
011001001010	1	3	1	2	0	0	1	0	2	2	2	0	0	1	1	2
011001001011	0	1	0	3	0	0	1	1	1	2	2	4	0	0	5	0
011001001100	1	0	1	2	0	1	2	0	0	3	2	1	3	1	0	1
011001001101	2	1	3	3	1	4	3	0	4	2	0	1	2	1	4	0
011001001110	2	1	3	1	1	1	4	0	2	2	2	2	2	2	2	2
011001001111	2	2	0	2	0	7	0	2	0	0	2	4	2	1	0	2
011001010000	4	3	0	0	1	0	1	1	2	1	1	0	0	3	0	4
011001010001	3	3	0	0	3	3	3	0	1	1	1	0	5	0	2	0
011001010010	2	0	3	2	4	2	2	0	3	0	1	0	2	2	3	1
011001010011	2	0	1	1	0	0	3	1	0	4	1	0	3	5	1	2
011001010100	1	0	0	3	0	0	2	1	2	4	0	0	3	4	0	2
011001010101	4	0	1	1	1	0	1	2	1	2	2	0	0	2	2	1
011001010110	0	0	0	1	3	1	5	3	2	3	2	1	4	0	0	2
011001010111	1	1	2	0	3	3	3	1	2	2	1	4	3	4	1	1
011001011000	3	2	4	2	0	1	3	0	1	0	0	0	2	3	0	2
011001011001	7	2	1	3	3	0	3	3	2	2	0	5	0	1	1	1
011001011010	0	2	3	1	0	1	1	2	0	2	4	2	4	3	1	1
011001011011	3	0	1	0	2	2	6	1	3	0	2	0	4	5	3	0
011001011100	1	0	2	1	1	3	2	2	2	0	0	1	3	0	1	2
011001011101	3	1	3	2	1	0	2	2	2	0	2	1	1	1	4	1
011001011110	1	2	1	1	2	4	2	1	2	1	2	1	0	2	1	0
011001011111	1	4	4	2	0	0	7	8	2	1	0	0	3	0	0	1
011001100000	0	3	1	2	0	0	0	1	0	3	2	1	1	1	0	6
011001100001	7	2	1	1	3	4	3	2	2	0	3	0	0	4	2	4
011001100010	0	2	2	3	0	3	0	1	0	2	3	2	1	4	0	3
011001100011	2	0	5	0	0	1	0	0	2	4	1	6	2	0	2	1
011001100100	2	3	1	0	1	3	1	2	1	1	2	1	5	1	0	3
011001100101	1	4	3	1	2	2	2	1	4	0	5	0	2	3	2	1
011001100110	0	3	2	2	4	0	0	1	1	2	4	4	3	1	1	0
011001100111	2	0	0	2	0	2	0	2	0	4	0	0	0	0	3	2
011001101000	3	0	1	2	2	0	2	3	2	1	1	2	2	2	0	0
011001101001	1	4	1	1	3	1	2	3	0	5	2	3	0	2	0	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011001101010	3	0	0	2	0	1	3	0	1	1	2	4	0	2	0	2
011001101011	2	1	0	3	4	0	2	2	2	0	1	1	1	2	2	3
011001101100	0	0	3	1	0	0	0	3	0	1	2	2	2	2	1	0
011001101101	0	0	0	0	0	3	1	1	3	1	0	2	2	3	0	1
011001101110	6	5	2	0	0	3	2	1	2	1	1	3	0	1	4	4
011001101111	1	1	0	2	2	0	2	0	0	0	5	2	2	1	3	0
011001110000	0	0	3	1	0	3	2	0	6	1	0	1	1	1	0	0
011001110001	1	3	0	3	2	1	2	0	0	0	2	1	1	2	0	1
011001110010	0	0	6	3	0	1	1	1	5	4	2	3	0	2	2	2
011001110011	3	2	2	2	1	4	1	1	0	2	0	1	3	0	4	1
011001110100	0	2	0	2	3	2	2	0	5	2	4	0	0	1	1	5
011001110101	0	0	1	1	2	1	0	1	1	0	3	2	1	0	1	1
011001110110	3	2	1	3	0	2	3	2	0	3	2	0	6	1	4	2
011001110111	4	3	4	2	1	0	0	3	2	1	3	1	0	1	2	3
011001111000	3	0	1	0	0	0	0	1	1	4	4	2	2	2	1	1
011001111001	3	3	1	0	1	0	0	1	0	0	1	4	1	0	2	0
011001111010	0	2	0	1	2	0	0	3	3	3	1	1	2	0	1	0
011001111011	0	1	4	2	2	1	1	2	0	4	0	6	3	3	0	6
011001111100	0	3	1	2	2	3	4	1	0	0	0	0	1	1	2	1
011001111101	0	0	0	3	1	3	1	1	1	0	3	0	2	3	3	0
011001111110	2	1	5	1	1	1	3	1	1	1	0	3	0	1	2	1
011001111111	1	4	2	1	0	1	0	0	2	3	0	1	0	1	1	1
011010000000	0	1	0	3	3	0	3	2	2	2	1	4	2	1	3	2
011010000001	0	4	1	0	1	0	2	6	1	1	3	1	1	1	0	0
011010000010	4	2	1	2	1	1	4	3	0	1	0	0	1	1	0	2
011010000011	6	0	2	2	1	3	1	2	0	3	4	5	1	0	1	1
011010000100	1	1	2	3	2	0	4	0	0	1	1	1	0	1	1	2
011010000101	1	1	4	2	2	2	3	1	1	1	0	1	1	0	3	2
011010000110	1	1	4	1	3	3	2	3	0	1	3	4	6	1	1	4
011010000111	4	4	3	1	0	1	2	1	3	1	3	0	3	2	0	3
011010001000	2	0	0	1	3	0	1	0	0	4	1	1	1	4	2	0
011010001001	2	2	4	1	0	2	0	1	3	1	0	3	0	7	1	0
011010001010	2	2	0	0	0	4	0	3	0	0	0	2	0	4	0	3
011010001011	2	0	0	1	1	1	3	4	3	0	1	1	3	3	1	0
011010001100	2	1	3	4	0	0	1	3	0	1	0	1	5	1	1	4
011010001101	3	1	0	2	2	4	2	2	0	1	5	1	1	1	1	2
011010001110	0	2	2	0	2	3	0	0	2	2	3	0	5	1	0	4
011010001111	1	9	4	1	3	2	3	0	1	0	0	1	2	2	3	1
011010010000	1	2	1	2	4	0	1	3	2	1	0	3	0	4	3	1
011010010001	2	0	2	1	4	2	0	1	0	0	4	0	3	1	2	1
011010010010	2	0	3	2	1	1	2	3	0	6	0	0	0	1	0	2
011010010011	0	0	0	1	1	2	2	0	0	1	2	4	0	3	5	0
011010010100	0	0	1	4	4	1	4	0	2	2	0	4	4	4	1	2
011010010101	0	0	1	5	3	5	2	2	4	1	1	5	1	0	2	0
011010010110	2	0	2	3	2	1	0	0	1	1	1	0	2	0	3	0
011010010111	1	0	0	4	0	5	0	4	4	0	3	1	3	2	2	1
011010011000	5	0	3	2	0	0	2	2	2	2	1	0	0	2	2	1
011010011001	0	1	2	2	3	1	2	2	2	0	0	3	0	3	3	0
011010011010	1	2	2	1	0	1	2	1	0	3	0	0	2	2	3	1
011010011011	0	0	1	7	2	0	3	2	1	0	2	2	1	2	0	3
011010011100	3	4	3	2	0	1	3	3	0	4	1	1	1	0	2	1
011010011101	0	0	1	0	6	0	1	1	0	0	2	1	4	0	4	2
011010011110	5	2	0	0	2	3	0	0	0	1	0	2	1	2	2	2
011010011111	1	1	2	0	3	0	0	1	1	1	3	4	3	1	2	0
011010100000	2	2	1	1	1	0	4	2	3	2	3	1	0	1	1	2
011010100001	1	0	0	2	1	1	2	4	1	2	0	2	1	0	2	2
011010100010	0	0	0	0	0	0	3	1	4	0	1	1	0	0	1	0
011010100011	1	2	0	2	1	4	2	1	0	7	1	3	2	1	1	2
011010100100	0	4	1	0	4	1	0	0	2	2	1	2	2	2	4	0
011010100101	0	2	2	3	3	4	1	1	2	3	0	1	0	5	1	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011010100110	2	1	0	3	1	5	2	1	1	0	1	0	0	5	1	4
011010100111	1	1	0	1	2	0	1	0	2	2	1	1	1	3	1	0
011010101000	0	4	0	1	0	1	0	2	2	2	2	4	0	2	2	2
011010101001	1	1	0	1	1	3	0	3	3	3	5	0	1	0	3	4
011010101010	2	4	0	0	0	1	2	3	1	3	2	1	2	0	4	1
011010101011	3	1	1	3	3	4	0	0	0	1	1	1	2	1	0	2
011010101100	0	3	2	0	2	2	2	2	2	3	2	0	1	0	0	1
011010101101	0	1	1	0	1	1	1	0	0	1	2	0	2	1	1	0
011010101110	1	3	1	1	2	2	2	0	0	0	2	2	3	1	3	1
011010101111	1	0	0	0	0	2	4	3	1	2	2	3	3	3	2	1
011010110000	2	1	0	1	1	3	2	4	2	2	2	0	0	5	1	2
011010110001	2	1	1	0	2	2	3	1	2	0	3	0	0	0	0	2
011010110010	1	3	2	2	0	0	1	1	3	2	2	3	0	1	0	3
011010110011	6	0	0	1	2	2	0	1	0	0	1	0	1	0	0	5
011010110100	1	1	1	0	0	5	0	1	2	4	2	2	1	0	2	2
011010110101	3	1	1	1	4	2	0	0	0	3	1	1	0	1	1	3
011010110110	0	1	3	0	1	4	2	2	0	2	0	1	2	2	1	0
011010110111	4	2	1	0	0	0	1	1	1	0	1	4	0	0	3	0
011010111000	2	0	1	2	2	0	0	0	1	0	2	1	3	1	3	0
011010111001	0	2	0	3	0	0	0	3	3	3	0	2	3	1	2	3
011010111010	1	0	0	2	1	1	3	0	1	0	2	0	4	1	3	3
011010111011	2	2	0	1	1	4	1	0	1	0	4	2	0	2	2	0
011010111100	4	0	2	5	0	3	1	0	3	0	0	1	0	3	0	2
011010111101	2	3	3	0	1	2	0	0	2	0	2	3	3	2	2	4
011010111110	0	2	0	2	0	1	1	0	1	1	4	4	3	2	0	0
011010111111	1	2	1	0	1	0	1	4	0	5	1	0	0	3	0	3
011011000000	2	2	0	1	0	1	4	0	1	2	2	0	0	2	2	2
011011000001	3	4	0	1	1	5	3	4	1	3	4	2	3	1	1	1
011011000010	1	2	1	1	0	2	2	1	3	1	0	4	0	0	0	1
011011000011	0	1	1	0	1	4	3	3	0	4	3	1	3	2	1	4
011011000100	0	1	4	0	2	3	2	0	2	1	0	1	1	2	1	0
011011000101	1	4	2	2	4	3	0	1	0	4	1	2	1	0	2	3
011011000110	0	1	0	0	0	2	1	1	3	1	1	5	1	3	0	0
011011000111	0	4	2	3	0	1	2	1	1	0	0	0	3	4	1	1
011011001000	1	2	2	2	2	2	2	1	1	1	0	4	0	2	2	1
011011001001	1	0	2	2	0	0	0	0	0	1	2	2	0	1	1	0
011011001010	0	4	3	1	0	0	1	3	4	2	3	1	2	3	2	2
011011001011	0	0	1	1	0	0	0	0	2	2	4	1	1	2	3	0
011011001100	0	3	0	1	0	1	5	1	1	1	1	0	1	1	1	4
011011001101	1	1	1	0	4	0	3	1	2	0	3	7	0	0	2	2
011011001110	1	0	3	3	0	2	6	2	2	4	1	4	2	1	0	1
011011001111	2	1	0	2	2	1	1	0	0	1	2	1	3	1	1	0
011011010000	4	1	0	0	0	2	3	1	1	4	4	3	0	0	0	3
011011010001	4	0	0	0	1	0	2	1	1	1	2	5	1	2	2	2
011011010010	1	3	0	2	0	4	3	2	1	0	0	1	3	2	0	2
011011010011	0	2	1	2	2	0	2	3	2	0	3	1	6	1	1	0
011011010100	0	0	1	0	2	5	1	3	4	4	3	1	0	1	1	1
011011010101	3	4	2	0	1	1	3	0	0	3	1	1	0	1	1	0
011011010110	2	1	0	2	1	3	0	1	7	3	0	3	1	0	3	0
011011010111	0	1	1	1	0	1	2	2	0	1	2	2	0	0	3	0
011011011000	3	0	1	0	0	1	1	0	0	1	1	1	2	0	1	3
011011011001	3	6	4	2	1	1	0	3	3	0	2	3	0	1	3	6
011011011010	0	3	0	0	1	2	0	0	3	1	0	1	1	0	1	0
011011011011	1	0	3	1	5	2	1	1	3	4	0	3	0	0	3	3
011011011100	0	0	2	0	1	1	1	2	1	0	1	0	0	3	1	0
011011011101	1	1	1	3	1	1	1	2	3	0	2	2	3	2	3	0
011011011110	1	0	2	0	1	0	5	1	0	1	0	0	0	5	2	0
011011011111	1	0	2	1	1	4	2	3	0	1	2	1	0	1	2	4
011011100000	0	2	3	1	1	0	2	0	0	0	0	1	1	1	1	1
011011100001	0	2	2	1	1	2	1	1	1	0	2	0	2	3	2	2



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011011100010	2	0	5	2	1	3	4	2	1	2	0	0	0	1	5	4
011011100011	2	0	0	3	1	3	5	5	4	5	0	4	0	4	0	1
011011100100	1	3	3	1	3	0	2	1	0	1	0	0	0	4	3	1
011011100101	1	3	0	5	1	1	2	2	0	1	0	0	0	3	2	2
011011100110	0	2	1	1	0	2	0	2	1	4	3	1	0	4	2	0
011011100111	3	2	4	2	3	2	1	1	0	1	3	2	0	1	0	6
011011101000	2	2	3	1	2	2	1	2	0	2	1	0	0	1	1	2
011011101001	0	1	3	1	2	0	0	0	0	0	0	1	3	3	2	2
011011101010	1	2	3	2	1	1	2	0	3	0	0	1	2	0	1	0
011011101011	3	1	0	2	1	1	0	0	1	0	0	0	1	0	0	0
011011101100	1	1	2	0	0	1	0	3	1	0	1	1	1	1	2	3
011011101101	0	3	0	2	3	0	2	2	0	1	0	3	0	1	1	2
011011101110	2	0	2	2	0	4	2	3	3	1	0	1	0	0	1	0
011011101111	2	2	0	0	0	0	1	2	1	1	2	2	2	4	0	1
011011110000	2	0	2	2	0	1	1	3	2	0	1	0	2	0	2	2
011011110001	1	3	1	3	1	2	0	6	4	0	0	3	0	0	1	1
011011110010	2	0	0	0	0	0	1	0	1	1	2	3	0	0	0	1
011011110011	4	1	1	1	2	0	2	5	4	1	0	2	1	0	0	0
011011110100	0	2	2	1	3	1	0	1	0	1	0	1	0	2	3	1
011011110101	2	0	0	0	1	1	1	1	1	2	3	1	0	2	0	3
011011110110	1	2	0	1	1	2	4	3	5	0	1	0	4	3	1	0
011011110111	1	3	1	3	0	2	0	2	0	0	2	3	2	2	1	0
011011111000	2	0	0	4	2	1	1	2	0	3	0	4	3	3	0	0
011011111001	1	1	0	3	2	2	3	1	2	2	4	0	0	2	1	1
011011111010	1	0	2	0	2	2	1	3	3	1	2	2	0	1	2	1
011011111011	0	1	0	2	0	1	2	2	0	5	2	0	0	0	3	0
011011111100	1	0	2	1	3	2	5	2	8	2	0	1	4	1	1	1
011011111101	0	0	2	3	1	1	2	3	0	4	3	2	4	0	0	2
011011111110	0	4	3	3	3	1	0	0	2	1	3	0	0	0	1	4
011011111111	2	1	4	2	1	1	0	0	2	1	0	2	0	3	2	0
011100000000	1	5	0	1	1	0	0	0	2	0	1	1	0	2	1	1
011100000001	0	0	4	1	0	0	0	3	3	6	1	3	0	7	0	3
011100000010	2	1	4	0	2	2	0	0	0	2	0	1	0	3	4	0
011100000011	2	0	3	3	2	0	1	2	2	2	4	0	4	3	2	1
011100000100	2	2	4	3	3	0	2	2	2	4	3	4	2	1	0	1
011100000101	1	2	5	1	2	1	0	1	0	1	0	1	1	0	1	3
011100000110	1	2	0	1	4	0	2	2	4	4	3	2	4	0	0	5
011100000111	2	3	4	0	0	1	2	3	2	1	0	2	0	1	0	2
011100001000	2	3	1	0	2	3	0	2	2	0	2	0	0	0	0	3
011100001001	2	2	0	0	2	2	5	1	2	1	2	3	2	0	2	2
011100001010	5	7	1	0	3	3	3	1	0	2	3	1	0	1	0	0
011100001011	0	1	2	1	2	2	2	0	2	0	1	4	0	3	0	0
011100001100	3	1	3	2	2	4	1	0	0	0	0	4	2	3	0	3
011100001101	0	1	1	0	5	2	1	1	3	0	0	1	0	5	3	1
011100001110	0	3	1	0	2	3	0	4	2	2	0	3	1	3	0	3
011100001111	1	1	4	3	0	3	1	1	5	4	3	6	0	0	2	1
011100010000	0	3	3	1	2	0	0	1	3	0	3	6	3	3	0	2
011100010001	0	0	6	1	0	0	3	1	3	1	3	2	0	1	0	3
011100010010	5	1	3	0	0	0	1	2	1	4	1	2	0	2	0	2
011100010011	3	0	2	1	0	1	1	2	6	2	0	1	2	0	0	1
011100010100	0	3	2	3	2	3	2	1	1	5	0	2	2	1	3	1
011100010101	2	2	3	2	2	3	2	1	2	5	0	2	0	1	1	2
011100010110	3	4	1	3	2	2	0	2	2	0	1	2	5	1	0	1
011100010111	1	3	1	3	4	2	1	1	2	0	0	1	3	5	3	2
011100011000	3	1	4	0	0	1	0	3	0	3	1	4	1	1	2	1
011100011001	1	1	4	1	0	1	0	1	1	2	0	0	8	7	0	0
011100011010	2	3	0	0	1	0	2	1	0	2	0	0	0	1	0	2
011100011011	1	0	1	0	2	1	3	0	1	1	0	4	1	2	1	1
011100011100	1	0	0	4	2	1	2	0	1	2	0	0	3	1	3	2
011100011101	1	2	0	3	3	1	3	2	0	0	1	4	1	1	4	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011100011110	0	0	4	3	3	1	4	2	3	0	0	0	1	1	0	4
011100011111	1	3	2	4	4	0	1	2	2	2	5	0	1	3	0	1
011100100000	2	2	0	0	4	1	1	1	2	2	3	2	2	1	3	0
011100100001	1	1	0	4	2	1	0	2	2	0	1	2	1	1	0	0
011100100010	2	0	2	1	2	3	2	1	1	0	0	0	2	2	2	4
011100100011	2	3	3	2	2	2	2	4	0	0	1	0	2	3	1	3
011100100100	1	0	2	1	1	2	0	2	0	1	2	2	2	0	6	1
011100100101	2	3	3	2	3	4	1	0	1	1	3	3	0	3	0	0
011100100110	0	0	3	1	1	1	3	4	2	4	1	1	1	3	2	1
011100100111	4	2	4	2	1	1	0	0	3	0	1	2	0	0	2	0
011100101000	0	2	3	2	1	1	1	0	1	1	0	0	3	2	3	1
011100101001	3	0	0	0	2	1	0	1	1	1	1	4	2	0	1	0
011100101010	1	1	3	3	0	3	2	0	0	2	2	1	1	3	0	1
011100101011	1	0	2	2	3	0	3	4	2	1	1	1	1	3	1	6
011100101100	1	2	3	4	0	0	6	3	3	3	3	0	0	5	0	0
011100101101	0	4	0	4	2	0	0	2	1	5	3	3	2	1	0	0
011100101110	0	1	1	3	3	4	0	0	1	0	2	1	3	0	2	2
011100101111	4	1	2	3	0	4	0	5	0	4	4	1	2	0	7	0
011100110000	2	2	3	0	4	2	0	1	3	2	0	3	0	7	0	3
011100110001	1	2	1	2	4	4	0	0	2	2	1	3	0	1	2	2
011100110010	3	1	1	0	0	0	3	1	0	0	2	3	5	0	0	2
011100110011	0	5	3	0	5	0	2	3	0	0	1	6	2	0	2	2
011100110100	1	4	2	0	1	0	0	2	1	4	1	1	1	3	2	4
011100110101	3	4	3	1	1	1	0	3	4	3	0	2	0	2	2	4
011100110110	2	1	2	2	3	4	2	4	0	7	0	1	4	2	2	0
011100110111	2	0	3	3	1	0	2	1	5	0	3	3	0	1	0	3
011100111000	1	0	0	0	2	0	3	0	0	3	2	3	1	1	2	3
011100111001	0	3	3	0	3	0	4	2	2	0	0	0	3	1	5	4
011100111010	2	2	0	0	3	0	0	1	0	3	2	4	5	4	1	3
011100111011	6	4	1	3	1	0	4	3	1	1	1	0	1	3	1	1
011100111100	1	1	0	1	3	4	5	2	3	0	1	0	1	2	1	1
011100111101	2	0	0	1	1	1	0	0	0	5	4	1	3	4	2	2
011100111110	2	0	1	1	0	3	0	3	2	4	0	3	1	2	0	3
011100111111	0	4	5	0	2	2	1	2	1	2	2	5	2	6	0	1
011101000000	3	1	0	3	1	0	1	3	0	0	3	0	0	1	2	1
011101000001	2	0	4	3	2	2	1	6	2	1	3	0	0	0	2	1
011101000010	5	3	3	0	1	1	1	1	2	4	2	0	0	0	0	1
011101000011	1	1	0	0	1	1	1	2	3	0	1	3	0	0	1	0
011101000100	0	2	3	1	0	1	0	6	2	0	0	2	0	0	2	2
011101000101	1	1	1	1	2	0	2	1	2	0	1	4	2	1	2	2
011101000110	0	1	0	3	1	8	0	0	0	0	2	1	4	3	0	1
011101000111	2	3	3	4	2	1	2	0	4	1	2	2	0	1	1	0
011101001000	1	2	1	0	4	0	2	7	1	2	3	2	0	2	2	1
011101001001	2	1	0	0	2	2	2	0	0	0	2	0	2	4	2	1
011101001010	1	0	2	2	6	0	1	1	1	3	3	3	0	1	1	4
011101001011	0	0	1	3	0	2	0	2	1	0	4	2	4	3	0	1
011101001100	1	0	2	0	2	6	1	4	1	0	4	2	0	4	3	3
011101001101	1	1	1	1	4	0	0	0	2	0	2	1	8	1	1	1
011101001110	1	4	2	3	2	1	3	1	0	0	0	2	3	3	3	2
011101001111	1	1	2	3	2	1	2	2	1	0	3	0	2	4	0	1
011101010000	0	0	0	3	0	3	1	4	1	2	4	3	5	1	1	1
011101010001	3	0	4	2	0	2	0	0	0	2	1	1	1	0	0	4
011101010010	0	1	3	1	1	1	0	1	0	1	1	2	3	3	3	0
011101010011	5	2	0	2	3	1	1	0	0	0	2	0	0	3	1	0
011101010100	2	1	2	2	0	0	5	1	3	0	0	0	3	5	0	5
011101010101	3	0	1	5	2	3	0	1	0	2	0	2	1	3	0	1
011101010110	1	1	0	1	0	0	0	1	2	0	3	0	6	0	2	3
011101010111	4	0	1	2	1	3	2	1	0	3	1	2	0	0	1	3
011101011000	0	0	3	0	2	1	0	0	2	4	3	6	0	3	0	0
011101011001	3	1	4	5	0	0	1	5	3	2	1	3	1	3	3	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011101011010	1	0	0	4	2	1	4	1	6	2	2	2	3	2	2	2
011101011011	2	3	3	0	0	5	2	3	2	2	0	1	2	0	3	0
011101011100	1	6	0	5	0	3	0	0	0	2	4	3	0	0	1	0
011101011101	6	2	1	4	0	1	1	4	3	1	5	2	2	1	2	2
011101011110	1	0	0	0	1	1	2	4	1	0	0	1	0	3	0	0
011101011111	0	5	0	2	3	0	5	0	1	3	4	2	2	1	2	0
011101100000	2	1	2	1	0	0	0	3	0	0	4	2	1	0	0	0
011101100001	1	2	6	3	0	1	4	3	2	1	4	0	0	5	3	1
011101100010	0	1	4	0	2	5	0	2	4	2	0	2	0	4	3	3
011101100011	0	1	1	0	0	2	3	0	4	0	0	0	1	1	2	1
011101100100	4	1	1	3	1	0	2	3	0	0	0	1	1	4	3	2
011101100101	0	2	2	1	1	0	4	3	1	1	2	0	3	2	1	1
011101100110	0	0	1	4	0	3	0	0	3	1	0	2	0	2	3	1
011101100111	4	6	0	0	0	5	0	2	0	1	4	6	1	1	2	0
011101101000	3	3	2	3	0	1	0	2	3	0	1	1	4	4	1	3
011101101001	1	0	2	3	1	1	2	0	2	0	0	0	2	2	0	2
011101101010	0	3	4	0	1	1	2	0	3	4	5	2	1	1	2	0
011101101011	1	2	2	0	2	0	0	0	0	0	1	1	0	5	0	0
011101101100	0	0	0	0	3	3	2	1	2	3	0	2	0	5	3	3
011101101101	2	1	1	3	1	0	2	2	1	0	0	0	2	3	2	2
011101101110	1	1	1	0	1	0	0	4	1	0	1	1	2	1	2	2
011101101111	5	1	1	5	1	2	0	0	0	0	0	0	2	2	1	0
011101110000	0	2	0	5	0	1	0	0	0	3	2	2	2	2	1	2
011101110001	1	2	0	2	0	1	1	4	1	1	0	1	3	2	2	4
011101110010	0	2	2	3	4	1	3	2	1	1	0	5	1	0	2	2
011101110011	0	0	1	1	2	2	1	4	2	3	0	0	1	4	1	3
011101110100	4	0	4	2	3	2	4	3	0	0	2	1	0	0	1	2
011101110101	5	2	3	1	0	2	1	7	8	4	0	2	0	3	0	2
011101110110	2	1	1	2	3	1	4	1	0	0	0	1	2	2	1	3
011101110111	3	1	2	6	1	0	1	0	2	0	3	2	0	1	0	3
011101111000	3	1	3	1	2	1	1	0	0	0	1	0	0	2	0	2
011101111001	5	7	3	1	4	2	3	2	0	2	1	1	6	2	1	2
011101111010	0	1	4	2	0	5	4	0	3	2	0	9	2	0	0	0
011101111011	4	5	3	0	0	2	3	2	2	2	2	4	7	1	0	2
011101111100	0	2	2	2	1	0	3	0	0	0	2	4	5	3	1	2
011101111101	4	1	2	2	1	1	1	0	1	2	1	1	0	0	3	3
011101111110	1	0	4	0	2	1	1	1	1	4	1	1	0	1	1	1
011101111111	4	0	2	1	2	2	1	1	0	5	1	1	4	2	0	5
011110000000	3	2	1	1	0	3	2	0	0	0	3	3	1	1	0	0
011110000001	0	0	3	2	3	1	3	1	4	1	2	1	3	1	1	3
011110000010	3	2	0	3	5	1	1	1	0	3	0	1	4	1	1	0
011110000011	1	0	5	1	3	0	0	0	6	1	1	2	0	1	0	1
011110000100	0	1	3	1	1	3	3	4	2	2	1	2	0	0	3	0
011110000101	1	2	1	0	0	1	2	1	2	5	1	3	1	4	3	1
011110000110	0	1	1	3	3	0	1	2	0	1	3	2	0	0	1	0
011110000111	0	0	7	0	0	4	0	2	1	0	1	3	1	1	0	2
011110001000	2	1	1	0	0	3	1	2	3	2	3	3	0	2	5	2
011110001001	0	2	1	3	1	2	0	3	7	3	1	1	1	1	2	3
011110001010	0	2	2	0	2	0	1	2	0	0	3	1	0	3	2	0
011110001011	2	3	1	0	1	3	1	6	4	1	2	3	1	1	0	2
011110001100	0	3	3	4	0	4	5	0	0	1	4	4	1	0	3	1
011110001101	0	0	1	0	1	3	2	1	3	0	0	0	0	1	2	3
011110001110	2	1	2	0	4	1	1	1	2	3	0	3	1	4	3	3
011110001111	0	0	0	0	3	5	0	3	2	1	3	2	3	2	1	6
011110010000	0	0	2	2	3	1	6	1	1	3	0	0	1	1	2	0
011110010001	0	0	3	6	0	2	1	1	4	2	5	1	1	0	0	2
011110010010	0	0	1	4	0	2	1	1	3	0	1	1	1	1	2	0
011110010011	3	0	0	0	2	0	0	1	0	4	1	1	1	2	0	3
011110010100	3	3	1	0	1	0	4	3	0	1	3	1	0	0	2	0
011110010101	1	0	3	1	2	2	2	1	2	1	0	3	0	4	0	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011110010110	1	2	3	3	3	0	1	1	0	2	2	0	2	1	2	2
011110010111	3	2	2	3	3	1	2	5	2	3	0	1	0	2	0	1
011110011000	2	1	3	2	0	1	2	0	6	2	3	0	0	0	2	2
011110011001	2	0	3	3	1	0	0	0	4	1	3	1	1	2	2	2
011110011010	5	1	3	1	2	2	4	1	1	1	1	3	0	0	1	2
011110011011	0	0	2	5	1	5	1	0	3	0	1	2	1	0	0	4
011110011100	2	3	1	0	3	1	0	1	3	4	0	3	2	1	4	1
011110011101	0	0	0	7	1	4	0	2	1	1	0	0	0	1	4	0
011110011110	0	0	2	2	0	1	1	0	2	1	0	2	2	2	1	0
011110011111	2	2	3	0	0	1	1	5	3	3	0	1	1	1	3	0
011110100000	2	3	0	2	2	5	1	0	1	2	0	0	1	3	0	0
011110100001	0	0	4	2	3	0	2	2	2	0	0	5	0	1	5	2
011110100010	3	1	2	3	0	2	4	3	3	2	1	2	1	1	2	3
011110100011	2	2	2	2	0	0	2	1	2	2	1	1	0	3	3	0
011110100100	3	0	2	1	7	1	2	1	0	1	2	3	3	1	0	3
011110100101	2	0	3	2	1	2	0	1	1	4	2	3	0	2	0	1
011110100110	2	3	0	2	1	2	1	3	4	0	1	0	2	0	3	2
011110100111	0	2	1	3	1	2	0	0	0	0	2	1	6	1	2	3
011110101000	2	1	0	0	1	4	0	0	1	2	0	1	2	1	1	2
011110101001	0	1	0	1	3	5	0	1	3	1	0	1	0	1	0	0
011110101010	1	0	0	1	5	1	0	0	4	0	0	2	3	0	0	4
011110101011	1	0	3	5	1	3	1	1	3	2	1	1	1	0	0	0
011110101100	4	4	2	4	1	0	1	0	2	0	0	1	2	3	4	0
011110101101	0	1	0	2	2	0	4	2	3	2	0	0	1	2	4	2
011110101110	2	0	0	2	0	2	4	1	0	1	2	3	0	1	1	0
011110101111	1	2	0	3	3	3	2	2	3	0	3	1	1	0	1	0
011110110000	4	3	0	0	1	2	1	1	0	2	0	1	2	2	0	2
011110110001	0	0	1	0	1	1	1	1	3	2	0	0	3	0	2	0
011110110010	0	3	0	1	0	2	3	3	0	1	0	1	1	1	0	1
011110110011	0	3	1	3	1	1	0	0	0	2	1	2	2	1	0	0
011110110100	0	1	4	0	4	5	3	1	2	1	3	1	1	1	1	1
011110110101	5	0	1	1	1	3	4	1	1	3	1	1	2	0	0	0
011110110110	2	1	6	0	3	0	4	0	1	3	0	3	2	2	4	1
011110110111	1	0	1	1	0	2	2	2	0	0	3	2	0	4	0	1
011110111000	2	0	3	0	5	2	0	3	1	1	5	0	3	3	0	2
011110111001	0	0	2	1	0	0	2	0	3	3	3	1	3	1	3	2
011110111010	3	3	1	0	4	2	5	0	3	4	2	0	0	2	5	3
011110111011	3	2	2	2	0	1	2	2	2	3	0	3	0	3	4	1
011110111100	2	1	1	0	2	3	3	2	2	2	1	0	3	1	3	1
011110111101	0	2	3	0	2	0	1	2	2	3	2	2	0	0	0	0
011110111110	0	0	5	3	2	2	1	0	2	0	1	2	2	5	0	1
011110111111	1	0	0	2	2	0	2	2	1	1	0	2	0	0	3	3
011111000000	0	1	3	1	0	0	5	2	1	1	1	1	1	0	2	3
011111000001	1	2	2	2	0	0	4	3	1	3	1	1	2	0	0	1
011111000010	0	3	1	0	1	1	1	3	3	3	2	1	1	1	0	0
011111000011	4	0	0	4	0	0	1	0	1	4	3	2	0	1	2	2
011111000100	6	2	0	2	0	0	1	2	0	0	1	0	0	1	4	0
011111000101	2	0	2	2	1	2	1	0	0	5	1	0	1	0	3	2
011111000110	1	4	3	4	0	0	1	1	0	2	1	3	1	2	0	0
011111000111	0	1	0	2	1	2	4	1	3	4	3	1	0	5	4	0
011111001000	3	5	1	3	1	0	0	0	0	2	4	2	1	2	2	2
011111001001	5	4	5	3	2	3	1	1	0	2	1	3	1	1	2	2
011111001010	1	0	5	3	3	4	2	3	4	4	2	2	0	3	2	3
011111001011	0	2	1	2	0	1	1	0	3	2	2	0	0	2	4	0
011111001100	2	4	1	1	0	1	1	2	1	0	4	2	0	2	2	1
011111001101	1	0	0	0	0	1	3	0	3	2	0	3	0	7	0	1
011111001110	1	2	4	2	2	0	4	3	2	2	1	2	1	4	3	1
011111001111	0	0	0	0	1	4	2	1	3	0	3	0	1	3	5	0
011111010000	1	1	3	0	0	1	3	2	0	3	7	2	1	2	2	0
011111010001	0	0	1	0	2	4	4	0	2	1	1	3	1	0	1	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
011111010010	3	0	0	1	2	3	1	2	2	2	1	2	4	0	0	2
011111010011	2	3	0	1	3	1	1	0	2	1	1	3	0	7	0	2
011111010100	0	2	0	1	0	2	1	2	3	0	3	0	0	3	0	0
011111010101	0	5	1	3	3	1	2	2	1	1	1	2	0	3	3	0
011111010110	2	3	2	2	2	0	1	2	3	1	1	0	0	1	1	4
011111010111	2	1	0	0	2	2	0	2	0	3	1	3	3	0	2	0
011111011000	1	2	0	2	2	1	1	0	0	1	3	4	1	0	3	0
011111011001	0	0	2	0	3	0	2	1	3	5	1	0	0	2	0	0
011111011010	1	1	2	2	0	2	2	1	2	0	0	0	2	2	2	1
011111011011	3	2	2	2	5	1	3	1	2	2	3	5	5	3	0	0
011111011100	1	2	1	2	2	4	1	1	2	0	0	0	4	1	0	0
011111011101	4	3	1	0	4	5	2	1	2	3	2	1	0	0	2	0
011111011110	1	1	3	0	0	2	1	3	0	2	0	2	2	2	2	2
011111011111	1	1	3	1	0	3	5	2	0	0	1	3	1	1	1	3
011111100000	0	2	1	0	0	2	0	3	2	1	4	2	3	0	2	2
011111100001	2	5	5	1	1	1	0	3	0	1	4	0	4	2	1	5
011111100010	3	0	1	0	0	4	3	1	4	2	3	5	2	1	1	1
011111100011	2	3	0	0	0	2	1	0	5	0	3	4	2	2	1	3
011111100100	3	1	4	0	1	0	1	0	4	1	2	1	0	0	1	1
011111100101	3	0	4	6	0	3	0	1	1	1	2	3	0	0	0	0
011111100110	2	3	0	4	1	1	3	0	3	2	3	1	3	0	1	1
011111100111	0	2	1	0	2	0	3	0	1	5	3	1	1	2	1	0
011111101000	1	1	0	0	1	1	0	1	0	2	2	0	3	2	4	1
011111101001	1	4	4	3	1	1	0	4	0	0	2	1	3	3	0	3
011111101010	2	4	3	1	1	0	2	2	0	0	3	2	0	2	2	1
011111101011	0	0	1	0	3	3	1	0	4	0	2	0	4	3	0	3
011111101100	0	0	0	2	3	2	3	1	1	2	0	0	0	0	1	1
011111101101	1	0	4	0	0	0	0	2	0	2	0	2	3	0	2	3
011111101110	3	1	1	1	2	0	0	3	2	1	0	7	0	4	1	1
011111101111	1	1	0	3	6	0	1	0	2	0	1	0	3	3	3	4
011111110000	2	0	3	1	1	2	1	0	2	2	0	3	5	0	1	3
011111110001	1	0	3	0	0	0	0	5	3	2	3	0	0	5	0	0
011111110010	2	0	2	3	0	0	1	0	0	2	2	1	2	0	1	0
011111110011	1	4	3	2	1	0	2	3	1	1	2	0	4	0	2	2
011111110100	1	4	1	1	1	2	0	3	1	4	0	2	1	3	4	1
011111110101	1	1	0	0	2	2	2	0	2	2	0	0	3	1	3	0
011111110110	3	1	2	3	1	0	1	4	0	1	1	2	2	0	2	2
011111110111	0	3	2	0	1	2	0	2	1	1	2	0	2	4	1	3
011111111000	1	2	0	2	1	1	1	2	1	1	2	2	0	0	0	2
011111111001	0	1	0	1	3	2	4	1	0	0	2	0	0	2	0	0
011111111010	1	0	2	0	1	0	0	1	3	0	2	3	2	0	3	2
011111111011	1	1	6	0	1	1	5	0	2	3	0	0	4	2	2	2
011111111100	2	0	1	3	3	3	2	0	0	0	2	0	3	3	1	1
011111111101	1	0	3	1	2	1	1	2	0	3	0	1	1	0	2	2
011111111110	0	1	1	2	2	1	0	1	0	1	0	0	0	1	4	3
011111111111	2	3	2	1	1	3	0	1	3	0	0	0	1	2	2	1
100000000000	0	0	2	2	1	2	0	3	0	0	1	2	0	0	2	1
100000000001	0	1	2	1	0	0	1	1	0	1	0	0	1	0	0	0
100000000010	2	5	1	1	2	0	1	0	1	2	3	0	1	1	2	1
100000000011	3	0	1	3	0	0	1	4	1	0	2	1	1	0	0	0
100000000100	0	2	3	1	0	4	1	1	3	0	0	1	1	0	2	2
100000000101	2	1	0	2	4	2	5	1	0	3	1	0	0	0	1	1
100000000110	5	0	2	2	0	2	2	1	3	0	4	2	2	0	0	0
100000000111	0	1	3	1	0	2	1	0	4	5	3	2	2	3	4	2
100000001000	0	2	0	0	3	3	1	2	2	0	3	4	4	0	1	4
100000001001	1	2	4	2	1	4	0	4	0	2	0	2	0	3	2	0
100000001010	5	3	4	1	2	1	1	1	1	3	0	0	1	1	0	0
100000001011	0	0	5	0	3	1	2	2	1	2	0	1	4	3	1	5
100000001100	1	1	3	4	4	2	1	0	2	0	0	2	3	1	1	1
100000001101	2	1	3	2	0	5	4	1	0	0	1	1	0	1	3	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
1000000011110	2	2	0	2	1	2	0	0	2	1	3	0	3	1	1	7
1000000011111	0	1	2	4	1	1	2	0	4	1	6	1	4	0	0	0
1000000100000	3	0	1	0	1	2	0	1	1	0	1	1	0	8	1	0
1000000100001	0	0	1	2	0	2	0	2	2	2	4	2	0	4	0	0
1000000100010	0	1	3	3	1	1	2	0	1	0	2	1	1	2	2	2
1000000100011	0	0	2	3	1	2	0	1	2	2	2	0	3	2	1	4
1000000101000	3	0	0	4	4	0	2	0	1	0	3	0	4	1	7	2
1000000101001	2	0	1	3	2	6	5	1	2	3	2	1	3	0	3	5
1000000101010	2	3	1	0	4	3	1	5	2	0	0	0	0	1	0	0
1000000101011	1	1	1	1	0	4	0	0	2	2	1	4	1	0	1	0
1000000110000	2	7	0	0	0	0	0	1	2	0	0	0	1	2	0	0
1000000110001	0	1	1	3	1	0	2	1	1	2	1	0	2	2	3	3
1000000110010	1	3	3	1	6	1	3	3	0	1	1	0	1	2	2	1
1000000110011	0	3	1	1	2	0	1	1	0	0	0	3	3	1	1	0
1000000111000	2	1	0	2	2	6	1	2	0	0	1	0	1	0	0	1
1000000111001	2	0	2	1	1	2	3	1	2	0	2	5	0	1	3	1
1000000111010	3	1	4	1	3	2	0	1	1	0	0	3	1	2	2	2
1000000111011	0	3	0	1	0	3	3	1	0	4	0	1	1	3	1	1
1000001000000	2	0	2	0	1	2	0	2	1	0	1	3	2	2	2	0
1000001000001	3	0	0	0	3	0	1	3	0	5	2	2	2	4	1	0
1000001000010	2	1	0	2	2	1	2	1	1	0	0	3	3	3	0	0
1000001000011	1	0	0	1	0	0	2	2	2	5	1	1	0	3	2	0
1000001001000	1	0	1	0	1	0	0	0	3	3	1	1	1	3	2	0
1000001001001	0	8	3	0	2	0	4	1	0	0	2	4	2	0	1	2
1000001001010	0	1	2	2	1	2	0	1	0	0	5	1	2	1	3	4
1000001001011	1	2	0	1	3	4	0	2	2	1	2	0	3	0	0	1
1000001010000	1	2	0	1	0	0	1	3	3	1	0	3	1	0	2	3
1000001010001	2	1	2	1	0	0	0	2	4	0	1	1	0	1	1	1
1000001010010	2	3	2	1	1	2	2	1	1	4	0	0	0	2	4	3
1000001010011	1	0	2	3	4	0	2	4	2	2	1	5	0	6	0	4
1000001011000	1	0	2	0	0	0	1	1	3	2	1	3	2	2	1	3
1000001011001	2	0	0	1	1	1	2	2	3	0	2	2	0	0	5	1
1000001011010	2	2	0	1	1	2	0	1	1	4	1	2	1	0	2	1
1000001011011	0	2	1	3	3	3	2	2	0	3	0	3	2	1	1	0
1000001100000	2	0	1	1	3	2	0	0	1	2	1	2	3	3	1	0
1000001100001	2	5	1	1	0	4	2	1	3	1	0	2	4	1	1	2
1000001100010	1	2	0	1	0	1	0	0	4	3	1	1	4	0	1	3
1000001100011	0	2	5	2	0	1	3	1	0	1	0	1	2	2	0	0
1000001101000	0	2	3	1	1	2	1	0	2	0	1	2	0	1	2	0
1000001101001	2	4	0	0	0	2	3	4	0	0	0	4	1	2	1	4
1000001101010	1	0	0	5	1	0	2	1	0	2	0	0	0	2	3	1
1000001101011	2	1	2	3	0	2	1	0	0	0	2	0	2	2	3	0
1000001110000	2	2	2	2	5	1	2	0	0	0	1	0	0	1	2	2
1000001110001	4	2	1	3	0	1	4	1	2	3	1	1	0	0	0	2
1000001110010	2	4	0	3	0	1	1	0	2	4	2	2	2	0	2	4
1000001110011	3	0	1	3	2	3	0	2	2	2	2	2	3	2	1	0
1000001111000	2	0	2	1	0	2	2	0	1	3	0	1	3	0	1	1
1000001111001	1	0	0	1	0	3	0	1	0	0	6	1	0	3	3	2
1000001111010	1	0	3	1	1	3	0	3	1	1	2	2	2	1	0	3
1000001111011	2	0	1	0	1	1	3	0	0	4	0	2	3	1	3	0
1000010000000	3	0	0	0	2	0	2	2	2	3	1	1	1	0	1	0
1000010000001	0	4	1	0	1	4	2	3	0	2	1	4	0	0	2	0
1000010000010	1	2	2	1	0	1	3	0	2	1	0	3	3	2	1	2
1000010000011	2	2	0	2	1	2	1	2	7	2	3	1	0	2	4	2
1000010000100	0	2	1	0	0	3	0	3	1	0	3	0	2	0	4	2
1000010000101	0	3	2	0	0	0	0	2	3	0	2	1	4	1	0	0
1000010000110	1	1	2	1	2	1	2	2	2	1	1	4	2	1	2	0
1000010000111	0	1	1	0	2	0	3	2	0	2	3	1	2	0	3	2
1000010001000	2	4	1	4	1	2	1	0	0	1	2	1	0	3	3	4
1000010001001	0	1	1	2	0	2	1	6	1	1	1	1	4	0	0	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
100001001010	1	3	3	2	2	1	0	2	2	1	2	2	0	1	1	2
100001001011	5	1	5	1	3	2	0	1	2	2	3	4	2	1	0	2
100001001100	0	1	4	1	3	2	2	1	0	1	2	2	3	4	2	2
100001001101	2	2	2	0	2	2	2	2	3	1	1	1	0	3	3	0
100001001110	1	2	4	3	0	1	3	0	0	0	1	1	0	1	5	1
100001001111	2	2	1	2	0	1	3	2	0	0	3	2	0	3	4	0
100001010000	1	2	1	1	2	0	1	0	4	2	1	2	1	0	4	0
100001010001	1	2	1	0	2	2	3	3	1	4	3	3	1	4	0	4
100001010010	0	0	0	1	5	2	1	0	4	3	1	0	2	0	1	2
100001010011	2	2	0	2	3	0	0	2	0	0	0	3	6	3	1	2
100001010100	0	5	3	0	0	2	2	5	0	2	1	1	5	0	3	0
100001010101	2	1	0	0	1	0	0	6	0	4	1	1	2	3	2	3
100001010110	0	0	2	1	5	0	0	1	1	4	7	1	2	0	2	0
100001010111	2	0	3	2	0	1	2	0	2	2	2	0	5	0	0	0
100001011000	2	3	0	1	0	2	3	1	0	2	2	0	3	3	3	2
100001011001	1	0	1	0	2	1	0	0	0	0	4	3	1	0	1	4
100001011010	3	1	3	4	1	4	1	2	3	1	0	3	1	2	1	3
100001011011	2	0	1	1	4	3	0	3	1	0	1	0	0	0	3	0
100001011100	1	0	5	1	3	0	3	2	1	2	0	1	3	2	2	0
100001011101	0	2	1	3	3	1	2	3	0	3	1	4	2	2	1	2
100001011110	1	3	2	2	4	1	1	2	0	3	3	1	2	1	4	0
100001011111	0	0	0	3	0	2	3	1	0	3	0	2	1	2	2	3
100001100000	1	0	1	2	2	1	0	0	1	0	2	2	6	0	0	3
100001100001	3	2	2	2	1	3	2	3	1	1	0	1	3	0	0	1
100001100010	2	2	1	0	1	0	1	2	0	0	0	1	0	0	1	0
100001100011	1	4	0	0	1	2	2	1	2	0	0	0	1	5	2	1
100001100100	2	1	2	1	1	1	3	0	1	0	1	2	0	2	1	0
100001100101	0	5	6	1	1	2	0	0	1	4	1	0	0	3	0	3
100001100110	0	0	0	2	0	1	4	3	0	0	1	1	1	0	1	1
100001100111	0	3	1	2	3	1	6	0	0	3	0	1	5	1	1	2
100001101000	3	0	0	3	0	2	3	0	0	1	3	1	2	0	2	0
100001101001	2	2	0	3	1	0	1	2	0	2	0	3	1	0	5	1
100001101010	1	0	3	0	2	1	1	1	4	0	2	2	2	1	2	0
100001101011	0	4	3	1	1	3	1	0	1	1	1	2	0	1	2	1
100001101100	0	2	0	0	1	1	1	2	1	1	1	1	4	2	1	3
100001101101	0	3	1	1	0	0	1	0	1	0	1	2	0	0	0	2
100001101110	5	1	1	5	2	1	0	0	0	1	3	3	3	0	1	2
100001101111	1	2	5	2	3	2	1	2	0	0	0	2	1	0	2	1
100001110000	0	3	2	1	1	0	0	2	1	0	0	0	1	2	1	3
100001110001	2	1	3	3	1	0	0	1	5	3	1	1	1	0	5	1
100001110010	2	0	2	3	0	2	3	1	0	1	1	0	1	2	0	0
100001110011	2	1	2	0	0	1	2	1	1	2	0	3	4	0	5	0
100001110100	2	0	1	1	0	1	0	3	3	4	3	1	5	3	0	2
100001110101	5	0	1	2	0	2	1	2	1	0	0	2	2	3	2	2
100001110110	3	3	2	1	3	4	2	0	2	1	1	3	3	1	3	2
100001110111	1	4	1	0	3	1	2	1	1	1	2	1	2	0	0	0
100001111000	3	0	2	0	1	0	0	0	1	1	4	0	1	1	2	1
100001111001	4	3	1	0	0	2	1	2	0	3	1	2	5	0	2	1
100001111010	0	0	0	1	0	0	0	1	2	0	0	0	0	0	3	1
100001111011	3	0	1	0	1	1	0	2	1	2	0	0	1	5	3	0
100001111100	1	3	2	2	0	0	2	1	0	1	1	2	2	1	2	1
100001111101	3	2	1	1	2	1	2	1	1	3	1	3	1	2	1	3
100001111110	3	1	2	2	1	0	0	0	0	0	1	0	0	1	1	1
100001111111	1	0	1	0	0	0	0	6	2	0	0	5	0	0	0	3
100010000000	2	3	3	3	0	2	1	1	2	3	2	6	1	0	7	3
100010000001	1	0	1	2	3	1	0	0	1	1	2	2	0	1	2	1
100010000010	0	4	1	1	2	1	4	4	0	1	0	0	0	1	1	1
100010000011	2	1	0	3	0	0	3	7	2	0	1	2	2	4	2	3
100010000100	1	0	2	0	1	0	3	2	2	2	2	4	2	0	0	4
100010000101	0	1	2	0	2	1	1	0	1	0	3	1	0	0	4	5

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
100010000110	3	0	1	0	1	0	2	1	3	1	1	2	0	0	2	0
100010000111	0	2	0	2	1	0	1	0	0	2	4	0	4	1	0	1
100010001000	5	2	0	1	7	0	1	1	2	0	0	1	1	0	1	0
100010001001	5	1	2	3	2	1	3	0	0	1	2	2	0	1	4	0
100010001010	1	1	2	1	2	0	4	2	1	4	2	0	2	1	1	2
100010001011	3	1	3	2	3	0	4	0	0	3	1	1	4	5	3	1
100010001100	1	0	1	5	0	2	0	0	2	2	0	3	0	1	0	0
100010001101	1	3	0	0	1	0	1	1	0	0	1	1	0	1	0	0
100010001110	2	1	2	1	2	0	1	1	0	1	4	0	5	0	3	0
100010001111	1	0	1	2	1	1	0	3	1	1	0	2	4	1	3	1
100010010000	1	0	2	1	1	1	2	0	3	0	2	3	3	4	2	0
100010010001	1	0	0	1	2	4	3	3	4	3	1	0	3	3	0	1
100010010010	2	2	0	3	2	0	0	10	1	4	0	2	1	2	0	2
100010010011	1	0	0	5	0	3	4	2	1	4	2	0	1	3	1	2
100010010100	0	1	1	2	1	3	4	0	0	1	2	3	1	4	2	3
100010010101	0	5	2	0	4	0	1	2	4	2	0	3	1	3	2	1
100010010110	1	1	1	0	0	1	1	0	2	2	0	0	4	1	4	0
100010010111	3	2	1	3	0	1	1	2	5	0	1	0	1	1	0	1
100010011000	4	3	3	3	0	0	4	0	3	2	2	3	4	0	2	1
100010011001	4	2	2	0	5	4	0	2	3	1	2	0	2	2	0	0
100010011010	0	0	0	2	4	1	1	1	4	0	3	1	0	2	1	2
100010011011	2	0	2	2	1	1	2	1	2	0	3	1	0	1	2	4
100010011100	3	0	1	2	2	1	0	2	0	2	1	1	3	3	4	4
100010011101	3	1	1	1	0	0	2	2	3	1	1	2	1	0	4	3
100010011110	0	1	1	0	2	1	1	1	4	1	1	5	1	2	3	2
100010011111	0	1	1	5	5	2	4	1	1	1	2	1	0	2	2	2
100010100000	0	2	1	3	1	0	0	2	0	2	1	3	3	0	0	1
100010100001	5	0	0	2	2	3	2	0	1	3	1	1	3	1	2	0
100010100010	0	1	3	1	1	2	0	1	1	4	1	0	2	3	3	0
100010100011	1	0	4	0	1	3	1	1	3	4	5	1	2	4	0	5
100010100100	1	5	1	2	0	2	1	3	1	3	3	2	2	1	1	1
100010100101	0	0	0	0	1	3	2	0	1	4	0	1	4	3	1	1
100010100110	1	0	0	6	0	0	0	1	1	0	2	0	1	1	2	4
100010100111	2	1	0	2	0	2	0	1	2	0	0	1	2	1	0	4
100010101000	1	5	2	1	0	0	0	2	1	1	1	0	0	1	6	1
100010101001	4	0	0	2	2	1	2	3	1	0	2	2	4	1	2	1
100010101010	0	2	1	1	0	3	2	2	1	0	2	1	0	3	3	5
100010101011	1	0	0	1	1	0	3	1	2	3	0	2	3	0	1	2
100010101100	4	0	0	1	2	1	4	1	0	2	1	4	3	6	1	1
100010101101	0	0	0	2	3	1	0	1	2	0	2	3	4	2	2	2
100010101110	2	2	2	1	3	4	0	2	3	0	0	2	4	2	3	0
100010101111	1	7	4	0	0	2	4	0	0	2	1	1	4	4	1	1
100010110000	4	1	2	1	2	1	3	1	2	1	0	2	2	3	0	1
100010110001	2	0	0	0	3	3	2	2	2	1	3	0	0	3	2	3
100010110010	3	2	2	3	2	0	2	1	0	1	2	1	1	0	2	1
100010110011	1	1	2	2	2	0	0	4	4	1	3	1	1	3	1	1
100010110100	1	0	2	1	2	2	0	1	3	4	0	0	0	1	0	0
100010110101	2	4	3	1	0	1	0	1	2	1	1	1	4	3	0	0
100010110110	1	2	1	2	2	0	2	3	4	1	1	3	2	3	0	2
100010110111	3	0	0	2	0	4	1	0	2	4	0	4	3	2	0	0
100010111000	1	1	2	3	3	0	4	4	0	1	2	0	3	0	1	1
100010111001	6	1	1	0	0	0	3	1	2	3	0	2	4	0	4	2
100010111010	1	2	0	1	0	0	0	0	2	2	1	4	0	0	2	2
100010111011	0	0	0	1	1	0	1	1	2	2	2	0	1	0	3	2
100010111100	3	2	1	0	4	3	3	1	0	2	3	0	6	4	1	0
100010111101	0	2	2	0	0	2	2	2	2	0	0	2	3	2	2	0
100010111110	1	1	0	3	2	1	0	0	2	0	4	1	0	1	1	2
100010111111	3	0	0	2	0	0	1	2	2	2	2	6	1	1	0	0
100011000000	1	3	2	3	0	1	0	2	0	0	2	0	1	2	0	2
100011000001	1	0	0	3	0	0	0	1	2	5	0	5	4	3	0	4



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
100011000010	4	3	1	0	0	2	4	0	0	3	0	4	3	3	2	0
100011000011	2	0	1	3	2	1	1	2	3	3	3	2	1	4	4	0
100011000100	0	3	1	0	3	0	0	3	1	2	2	1	1	0	3	1
100011000101	2	4	4	1	3	1	2	1	1	1	0	2	0	0	0	0
100011000110	7	3	4	0	2	0	2	3	3	1	1	2	0	1	3	3
100011000111	1	3	0	2	1	1	1	4	1	2	2	0	2	4	0	0
100011001000	0	2	2	2	4	0	1	1	5	0	2	2	1	0	1	0
100011001001	2	9	1	1	1	2	3	2	0	0	0	2	3	0	0	1
100011001010	3	3	2	1	1	2	1	2	2	1	0	2	2	2	2	2
100011001011	3	0	1	0	2	0	2	0	1	2	0	0	0	4	1	0
100011001100	2	3	2	1	3	1	2	0	5	2	3	1	0	0	1	0
100011001101	2	2	1	0	0	0	2	1	0	2	2	0	2	2	4	1
100011001110	2	1	1	1	3	1	2	2	0	3	0	0	2	3	1	2
100011001111	1	1	1	1	2	3	3	3	1	0	3	2	2	3	1	0
100011010000	2	3	1	1	0	3	1	3	1	1	0	1	0	2	1	4
100011010001	3	0	1	4	4	1	3	1	3	3	3	1	1	5	1	1
100011010010	1	2	2	6	0	1	1	1	1	2	0	2	2	1	7	2
100011010011	2	1	0	2	5	0	0	3	2	1	1	1	0	2	3	6
100011010100	1	2	1	4	3	5	2	2	0	3	2	1	2	0	2	2
100011010101	1	0	5	4	4	0	0	2	3	0	3	0	1	1	2	3
100011010110	1	0	2	5	0	0	0	2	2	3	3	0	2	0	1	0
100011010111	0	2	0	1	2	0	2	1	4	2	0	0	4	0	6	0
100011011000	0	3	1	4	1	4	2	1	5	1	1	2	3	1	2	0
100011011001	0	3	0	0	1	0	4	3	5	2	7	0	3	4	2	1
100011011010	0	2	2	1	0	0	1	2	0	3	1	0	0	3	0	1
100011011011	3	1	3	1	0	2	2	0	1	1	0	3	3	1	1	4
100011011100	1	4	3	2	2	0	2	0	0	3	3	2	3	0	0	1
100011011101	0	2	0	1	1	1	0	3	2	1	2	0	0	2	0	4
100011011110	2	2	0	1	1	1	1	2	3	3	3	1	0	2	5	1
100011011111	2	1	2	3	2	0	1	0	2	3	2	2	1	2	0	2
100011100000	1	2	0	0	2	0	1	0	1	1	2	1	3	1	0	1
100011100001	2	0	0	5	0	2	5	1	0	2	1	0	2	0	6	0
100011100010	1	3	5	4	5	4	2	1	1	0	1	3	3	1	0	0
100011100011	1	2	3	0	3	1	3	0	2	2	0	0	1	1	3	3
100011100100	2	2	0	2	2	3	1	6	4	2	1	0	5	1	0	0
100011100101	0	4	1	0	0	1	3	2	0	2	0	2	4	1	2	1
100011100110	2	1	2	0	4	2	1	0	0	2	0	3	2	3	2	0
100011100111	1	5	5	1	3	0	1	1	0	4	1	0	0	3	0	3
100011101000	2	0	2	0	2	2	4	3	2	0	3	1	0	0	2	0
100011101001	0	1	6	0	0	3	0	1	2	1	0	3	3	0	1	2
100011101010	1	1	0	0	3	0	1	3	1	0	3	0	0	5	0	2
100011101011	2	2	0	1	0	5	2	0	3	4	0	3	3	6	2	2
100011101100	1	1	0	2	4	0	1	1	2	0	2	2	3	1	1	0
100011101101	1	1	1	6	0	3	0	3	2	1	1	0	1	0	1	1
100011101110	1	3	1	5	3	3	0	2	0	1	3	2	1	1	0	0
100011101111	1	0	1	4	2	0	0	2	2	0	0	3	1	0	0	1
100011110000	2	3	4	0	2	1	1	2	4	1	1	0	0	3	1	5
100011110001	2	0	3	0	1	4	2	3	0	0	0	0	7	0	3	0
100011110010	0	0	6	1	2	1	0	1	2	0	3	1	2	2	4	2
100011110011	1	1	3	1	3	1	0	0	1	0	1	2	1	3	1	4
100011110100	2	6	0	1	3	0	1	1	5	0	5	0	1	1	1	2
100011110101	0	0	1	0	1	0	0	1	4	6	2	4	0	3	1	4
100011110110	3	2	2	1	1	0	3	5	0	1	0	0	1	2	4	3
100011110111	1	1	1	0	0	1	0	1	0	2	4	2	2	5	0	5
100011111000	1	2	1	0	1	1	1	0	2	1	0	2	0	1	1	2
100011111001	0	4	3	3	0	1	2	1	2	6	2	2	2	0	1	3
100011111010	1	0	1	4	4	0	5	3	4	2	3	6	1	3	0	0
100011111011	0	2	3	0	1	1	0	3	2	2	2	0	1	3	2	2
100011111100	0	3	3	2	3	4	1	0	3	1	5	2	1	0	1	5
100011111101	0	1	0	2	4	2	1	4	0	1	5	2	0	5	4	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
100011111110	2	2	2	3	2	3	0	0	0	1	0	2	4	1	1	7
100011111111	4	1	5	3	3	2	1	0	1	1	1	1	4	3	2	3
100100000000	1	3	1	1	2	1	2	0	4	2	3	1	1	3	0	0
100100000001	5	1	0	3	0	5	1	1	1	0	7	2	1	3	2	2
100100000010	4	3	3	3	1	2	2	1	0	3	1	0	2	1	0	2
100100000011	1	1	0	0	1	1	1	2	0	4	0	2	0	2	1	3
100100000100	0	1	0	3	0	1	2	1	1	2	1	1	1	0	1	0
100100000101	2	3	0	4	2	0	0	3	2	1	0	7	2	3	3	0
100100000110	1	0	2	2	1	1	3	1	2	2	3	1	1	2	1	0
100100000111	1	2	3	5	1	1	0	0	3	1	1	2	1	2	0	2
100100001000	0	0	5	0	1	1	1	1	0	3	4	2	0	1	0	1
100100001001	0	0	3	1	2	0	2	1	6	3	5	0	0	2	2	4
100100001010	0	1	2	0	0	6	1	1	4	2	0	3	0	2	1	1
100100001011	2	0	0	4	5	2	1	3	0	2	3	5	3	2	1	1
100100001100	5	0	6	0	6	1	4	2	1	0	2	0	2	2	1	4
100100001101	2	3	2	2	0	0	2	1	1	2	3	3	1	1	0	2
100100001110	1	3	2	0	3	1	1	2	1	1	1	4	1	2	0	0
100100001111	2	2	1	2	1	2	1	0	1	3	0	2	2	0	0	1
100100010000	1	1	0	4	0	1	4	1	1	2	2	3	0	2	5	1
100100010001	2	3	0	7	3	0	2	1	0	0	1	3	0	0	1	1
100100010010	4	0	0	2	0	3	1	3	0	0	3	1	1	1	0	3
100100010011	2	2	0	1	3	0	0	0	1	0	2	0	1	2	2	3
100100010100	2	2	0	2	0	0	3	0	0	0	1	2	5	0	2	1
100100010101	0	0	0	0	4	0	1	0	2	0	1	4	0	2	2	1
100100010110	4	3	1	0	2	0	1	2	2	3	1	1	0	0	1	2
100100010111	2	1	4	4	2	1	2	0	1	2	0	4	0	0	3	2
100100011000	2	1	4	3	0	2	0	5	0	2	2	0	3	1	0	2
100100011001	3	2	1	3	7	3	4	1	1	0	4	0	0	0	3	1
100100011010	1	0	2	0	2	0	0	0	0	2	1	2	1	5	2	3
100100011011	4	0	1	0	1	1	0	2	1	0	1	4	0	2	2	2
100100011100	0	8	2	0	0	4	4	1	2	4	0	0	2	3	1	0
100100011101	1	0	0	0	2	3	0	3	1	2	3	2	1	0	2	0
100100011110	2	4	1	1	3	2	3	0	0	2	1	3	2	0	3	1
100100011111	2	1	0	2	0	5	6	0	0	0	0	2	0	4	0	2
100100100000	2	0	1	5	2	0	5	2	0	1	1	0	0	2	1	1
100100100001	2	0	4	0	2	2	1	0	3	1	3	3	0	0	1	3
100100100010	5	0	0	1	0	1	2	4	3	0	0	3	1	2	2	3
100100100011	2	1	4	1	1	0	4	0	3	4	0	6	1	0	0	2
100100100100	1	0	2	0	4	2	0	3	1	0	4	1	0	1	0	2
100100100101	1	3	3	4	1	0	1	1	0	2	2	0	1	0	4	1
100100100110	1	0	2	0	4	0	0	1	1	1	2	1	0	2	2	5
100100100111	4	1	2	0	0	3	7	2	0	0	1	2	2	4	2	2
100100101000	2	2	1	2	3	1	0	0	4	3	3	2	0	1	2	0
100100101001	3	0	2	4	1	2	0	1	1	0	0	0	1	0	0	1
100100101010	2	1	2	2	1	1	2	4	3	1	3	3	0	1	2	1
100100101011	0	5	2	2	1	4	2	2	2	0	7	0	0	2	3	1
100100101100	3	2	2	0	1	4	4	2	1	1	0	0	2	1	1	0
100100101101	1	1	4	1	2	2	0	2	3	0	2	3	2	3	2	2
100100101110	0	0	1	1	0	0	3	1	0	2	1	2	0	0	0	1
100100101111	4	3	3	0	1	2	0	3	4	0	1	0	1	6	0	4
100100110000	0	1	3	0	0	2	0	2	1	0	0	1	1	1	1	1
100100110001	1	2	6	1	0	4	0	2	0	2	3	1	4	2	2	0
100100110010	5	3	0	2	1	2	1	3	3	2	3	1	0	2	2	0
100100110011	3	2	0	2	1	1	1	1	2	3	0	2	1	1	0	2
100100110100	3	3	3	0	0	3	0	0	5	0	3	4	1	1	0	3
100100110101	1	2	0	0	3	0	0	6	0	0	0	6	3	2	0	5
100100110110	2	1	2	2	0	0	4	2	0	3	0	1	4	4	0	1
100100110111	1	1	1	0	3	2	2	4	6	1	2	1	1	2	1	3
100100111000	0	2	0	5	2	0	0	3	3	1	0	0	0	2	0	0
100100111001	0	0	2	3	2	2	1	0	1	0	0	3	2	0	1	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
100100111010	3	0	1	4	2	3	2	0	0	1	0	2	2	2	2	2
100100111011	1	0	3	4	0	2	1	2	1	3	1	0	4	5	2	1
100100111100	1	2	2	1	1	2	2	4	2	2	3	0	0	3	1	0
100100111101	4	1	0	0	4	2	1	4	0	3	3	0	1	1	0	1
100100111110	0	2	2	4	0	1	2	1	1	2	7	0	3	1	0	0
100100111111	2	0	0	2	1	0	0	2	0	2	2	0	0	2	0	1
100101000000	2	3	5	0	2	3	0	3	1	0	0	0	4	0	1	1
100101000001	0	1	2	1	2	0	0	0	0	1	2	0	0	3	1	3
100101000010	3	0	2	3	1	2	3	0	2	1	2	2	0	3	3	3
100101000011	1	1	1	2	2	3	2	3	1	4	1	0	3	2	2	4
100101000100	1	4	4	4	0	1	1	0	0	2	2	2	4	1	3	0
100101000101	2	0	4	0	0	2	0	4	4	1	4	1	2	2	0	1
100101000110	2	3	4	2	0	0	1	2	0	0	0	2	2	2	3	2
100101000111	0	4	2	1	1	4	0	5	2	2	0	0	0	0	0	4
100101001000	0	0	4	0	0	3	3	0	0	3	1	1	1	0	3	1
100101001001	0	0	0	2	3	2	3	0	3	0	0	2	0	3	0	4
100101001010	3	3	3	3	0	1	1	0	7	4	1	3	3	0	3	4
100101001011	2	0	4	5	0	1	1	0	3	3	1	2	2	3	1	0
100101001100	2	2	0	3	1	3	0	1	0	0	3	6	2	4	3	0
100101001101	1	1	0	3	0	0	0	0	3	1	0	4	0	2	1	0
100101001110	4	2	2	4	2	0	7	3	0	4	0	3	1	4	3	3
100101001111	0	1	2	2	1	2	0	1	2	0	0	1	2	1	1	0
100101010000	0	1	0	0	0	1	2	1	0	1	1	2	0	2	7	6
100101010001	2	0	2	2	0	0	2	1	1	5	0	1	1	0	3	2
100101010010	3	3	2	2	2	6	0	1	2	2	1	1	0	5	1	1
100101010011	2	3	0	1	2	0	0	6	0	2	0	0	0	1	2	1
100101010100	0	0	2	0	1	1	0	0	1	0	3	0	2	2	1	1
100101010101	4	0	1	0	3	0	2	1	2	1	4	2	0	5	4	6
100101010110	2	1	1	3	3	0	2	4	0	0	3	4	0	3	1	1
100101010111	1	3	2	1	0	1	1	0	0	2	1	3	2	1	4	1
100101011000	1	1	0	1	4	3	1	2	0	2	0	3	1	0	0	0
100101011001	1	4	0	3	2	0	3	1	2	1	1	0	1	1	0	2
100101011010	0	5	1	1	1	1	1	2	1	2	0	2	0	0	1	5
100101011011	4	1	2	5	0	2	2	1	3	3	2	0	1	1	3	1
100101011100	0	1	1	0	3	1	2	1	0	2	2	1	4	1	0	0
100101011101	1	1	0	0	2	1	1	1	1	0	0	0	0	3	2	0
100101011110	0	0	0	3	2	0	0	0	1	0	4	0	1	2	0	1
100101011111	1	0	3	2	1	2	2	2	2	1	1	0	2	0	0	1
100101100000	3	1	2	2	0	0	1	0	3	3	2	3	0	1	2	3
100101100001	5	1	2	2	4	0	0	3	4	0	0	3	4	3	1	1
100101100010	1	0	1	0	0	3	0	1	2	0	4	1	1	0	3	1
100101100011	2	0	2	3	2	0	3	0	0	0	0	2	0	1	1	1
100101100100	4	2	0	2	1	1	1	2	1	1	0	2	3	1	0	1
100101100101	0	0	1	2	2	2	1	1	1	0	2	1	3	4	4	3
100101100110	3	0	3	2	3	0	2	2	0	2	1	1	0	2	0	0
100101100111	2	1	2	1	2	2	2	3	3	2	4	6	2	0	0	3
100101101000	4	0	3	0	2	6	3	3	0	2	1	4	4	4	1	1
100101101001	1	2	2	4	3	0	0	2	2	0	0	0	1	1	2	0
100101101010	4	2	2	2	2	1	3	2	1	0	1	1	1	1	1	0
100101101011	2	5	1	0	2	3	3	1	2	0	2	1	2	0	0	0
100101101100	3	2	1	4	2	2	1	0	1	1	5	0	2	4	4	1
100101101101	1	2	4	2	3	1	1	0	2	3	1	1	1	0	0	3
100101101110	1	0	2	2	0	3	4	0	2	3	0	0	0	0	0	1
100101101111	0	1	3	0	1	2	1	0	0	0	1	1	4	1	1	1
100101110000	2	3	3	0	3	1	1	2	0	5	0	3	1	3	2	0
100101110001	4	1	0	5	1	1	7	2	0	2	0	1	0	1	1	0
100101110010	3	4	4	4	3	2	2	0	0	2	0	0	1	1	2	0
100101110011	0	3	2	0	2	6	0	3	3	0	0	1	2	1	1	1
100101110100	4	3	1	3	0	1	3	1	1	4	2	0	4	1	2	1
100101110101	1	1	2	1	0	0	0	1	3	1	1	0	3	1	2	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
100101110110	3	1	1	5	2	0	2	2	0	0	0	1	0	3	0	0
100101110111	2	2	1	1	2	0	2	1	0	1	4	1	0	3	1	1
100101111000	5	3	3	0	0	2	1	1	1	0	4	3	1	1	2	0
100101111001	1	0	5	0	1	3	2	0	1	4	0	1	1	3	6	5
100101111010	0	1	2	0	1	0	0	0	0	2	2	1	1	2	1	3
100101111011	3	0	0	0	2	1	1	0	3	4	2	3	0	5	1	0
100101111100	4	1	3	0	2	4	2	2	0	1	2	1	2	3	1	4
100101111101	1	2	2	0	2	1	1	2	1	2	4	1	4	4	2	1
100101111110	4	0	2	1	1	5	2	1	0	0	2	1	0	0	0	0
100101111111	3	2	1	3	0	0	0	1	2	1	5	4	1	0	1	1
100110000000	2	3	0	0	3	2	4	3	3	0	1	2	0	0	2	0
100110000001	1	1	0	3	1	0	0	2	0	3	2	4	0	0	1	1
100110000010	1	1	0	0	0	1	1	0	3	1	2	5	3	3	0	2
100110000011	1	4	1	1	3	3	4	3	1	4	4	0	2	3	2	1
100110000100	1	2	2	3	0	0	0	2	0	0	0	0	3	5	5	2
100110000101	3	0	0	1	2	2	0	3	1	2	0	1	0	2	2	4
100110000110	0	0	0	0	1	2	1	2	1	2	1	5	2	5	0	0
100110000111	0	0	1	3	0	0	3	2	0	1	1	2	2	4	3	3
100110001000	1	1	1	0	1	0	1	1	0	1	2	4	0	1	0	3
100110001001	1	1	4	1	2	0	4	1	2	3	5	3	0	2	3	1
100110001010	0	3	1	0	0	2	3	4	3	2	2	2	2	6	0	0
100110001011	2	1	1	0	1	2	2	1	0	2	2	2	2	1	1	0
100110001100	0	4	0	0	2	5	1	1	1	3	2	3	2	1	1	3
100110001101	0	4	0	5	2	2	2	4	1	2	3	0	1	4	2	1
100110001110	3	0	1	2	4	0	4	2	0	2	0	1	1	6	0	3
100110001111	0	1	4	1	2	0	2	3	0	2	4	5	1	0	4	4
100110010000	1	3	0	2	0	2	0	2	1	2	1	1	0	2	3	0
100110010001	1	0	4	1	2	2	1	1	0	2	5	2	5	0	1	0
100110010010	0	0	2	1	1	1	0	2	1	1	2	2	2	0	4	1
100110010011	4	6	0	2	2	2	2	4	2	3	0	2	3	0	0	7
100110010100	0	0	5	1	1	0	0	3	2	0	0	2	2	1	0	2
100110010101	4	0	1	4	0	3	0	1	7	2	0	5	4	3	0	3
100110010110	1	1	2	2	2	2	2	1	1	2	1	4	2	1	2	0
100110010111	0	3	2	0	1	1	2	3	2	5	3	0	1	0	2	2
100110011000	4	6	1	2	1	3	1	1	0	0	1	1	0	1	2	0
100110011001	3	0	1	1	1	2	0	2	1	4	2	2	0	2	1	4
100110011010	3	4	1	2	0	1	1	1	0	0	1	0	2	0	0	3
100110011011	3	2	1	5	6	0	2	0	0	0	2	2	2	2	1	3
100110011100	1	1	0	3	3	1	1	0	2	2	0	0	3	4	0	2
100110011101	6	0	4	2	3	3	4	0	1	2	2	1	2	1	2	4
100110011110	0	2	0	3	0	2	4	1	0	0	1	1	0	2	4	2
100110011111	5	1	0	2	1	1	4	2	2	0	2	3	5	4	1	2
100110100000	3	0	3	0	3	1	2	2	3	0	0	0	0	0	0	1
100110100001	0	2	0	3	2	0	3	2	1	1	2	0	0	2	2	4
100110100010	0	0	2	2	3	2	2	0	2	4	4	2	0	0	2	2
100110100011	0	3	0	0	1	1	3	2	2	2	1	3	1	0	5	0
100110100100	2	2	2	3	1	5	1	3	1	1	2	2	1	1	0	1
100110100101	3	1	2	0	0	0	0	2	1	0	1	1	0	1	1	1
100110100110	3	2	0	2	3	3	0	2	3	0	3	0	2	1	2	5
100110100111	0	0	3	1	0	1	2	5	1	6	0	2	2	3	0	1
100110101000	1	0	1	4	2	0	0	1	4	0	0	1	1	4	0	2
100110101001	3	2	0	1	2	3	1	4	0	4	4	0	0	3	2	0
100110101010	4	5	1	2	2	0	3	3	0	2	2	1	2	0	1	3
100110101011	1	0	0	1	2	0	2	0	1	2	2	0	1	3	0	0
100110101100	3	0	2	3	0	3	3	0	0	1	2	0	2	3	0	1
100110101101	2	0	0	1	0	1	0	4	2	0	0	1	1	2	0	0
100110101110	0	1	2	1	3	3	3	2	0	0	2	0	3	2	1	1
100110101111	2	1	0	0	0	4	0	0	3	3	2	3	0	0	0	1
100110110000	1	3	4	0	0	0	3	0	1	1	1	0	2	2	0	2
100110110001	1	0	0	2	4	3	5	2	0	2	3	0	2	3	1	4

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
100110110010	0	2	1	1	2	1	2	0	1	2	2	0	2	1	0	3
100110110011	0	1	2	3	0	2	0	3	1	0	1	1	1	2	0	0
100110110100	2	3	5	3	1	3	4	0	3	1	2	2	4	2	3	0
100110110101	1	1	0	0	1	2	3	1	3	3	0	2	3	0	5	3
100110110110	1	0	0	2	2	2	0	1	0	1	0	0	1	4	1	1
100110110111	0	0	3	3	5	1	1	0	1	3	0	0	2	3	2	3
100110111000	5	2	1	0	1	1	2	1	0	3	3	0	1	2	3	0
100110111001	0	3	3	3	4	1	1	2	0	0	2	2	2	1	0	0
100110111010	4	3	0	0	0	0	0	2	1	1	0	1	1	0	0	0
100110111011	0	1	0	0	1	2	2	2	3	2	0	2	0	1	4	3
100110111100	2	1	0	0	2	3	4	0	0	1	3	0	1	4	2	2
100110111101	3	1	3	2	0	1	4	1	3	4	3	2	1	1	1	0
100110111110	0	3	1	4	4	3	0	0	2	0	2	0	1	1	0	2
100110111111	4	0	0	1	0	0	1	0	1	0	1	3	6	0	1	2
100111000000	1	1	0	2	7	0	0	0	3	0	0	2	0	0	1	1
100111000001	0	2	3	3	0	2	3	1	2	0	1	0	1	3	1	3
100111000010	2	3	1	2	2	2	0	4	3	4	1	4	0	0	0	2
100111000011	1	1	2	1	0	1	1	2	0	2	0	1	0	1	0	0
100111000100	2	1	3	2	0	1	0	0	0	1	4	2	0	1	1	0
100111000101	1	1	3	0	3	5	1	2	0	2	1	3	0	5	3	2
100111000110	0	6	2	0	0	1	1	3	0	0	1	1	3	1	2	0
100111000111	2	2	1	3	1	1	1	1	2	0	0	2	1	1	0	0
100111001000	1	4	0	1	3	2	3	1	3	3	1	5	1	2	0	1
100111001001	1	1	0	0	3	0	2	2	3	1	2	0	3	2	5	1
100111001010	7	4	3	1	0	1	4	1	1	5	1	0	4	0	1	1
100111001011	2	2	1	1	4	3	1	1	1	0	3	1	0	1	0	0
100111001100	0	0	2	4	6	2	1	0	0	0	6	4	0	0	1	0
100111001101	0	1	3	5	2	2	2	1	3	0	3	3	2	2	3	1
100111001110	3	0	2	0	0	1	0	3	1	1	3	2	2	3	1	2
100111001111	2	6	0	0	4	2	2	1	0	1	0	0	2	0	0	1
100111010000	0	3	2	1	2	0	2	3	1	0	2	2	0	2	2	1
100111010001	0	1	0	3	0	1	3	3	3	1	1	0	2	2	3	1
100111010010	0	2	1	0	0	0	2	0	4	1	3	1	0	1	1	3
100111010011	6	0	0	2	0	1	0	1	1	3	3	2	0	2	1	2
100111010100	0	0	1	0	0	0	4	3	0	4	4	1	1	2	0	0
100111010101	0	0	3	0	2	1	2	4	2	1	0	0	2	2	0	2
100111010110	3	1	2	1	0	0	0	2	5	2	3	0	0	1	2	5
100111010111	0	0	0	1	3	1	1	1	0	1	2	0	1	0	1	3
100111011000	3	1	0	0	0	1	2	2	3	4	0	1	3	1	2	3
100111011001	3	0	0	1	2	0	1	0	4	1	1	1	1	6	0	3
100111011010	1	3	0	3	1	2	3	0	2	1	2	2	0	4	2	2
100111011011	0	3	3	1	0	0	1	0	3	0	2	2	0	0	3	0
100111011100	7	3	0	1	0	0	1	0	0	4	0	0	3	3	1	1
100111011101	0	2	0	0	0	5	1	4	1	0	0	0	3	3	0	0
100111011110	1	2	7	2	2	3	1	2	0	3	1	3	0	0	1	0
100111011111	1	2	2	6	4	4	1	2	2	1	2	1	1	4	0	1
100111100000	0	0	1	4	4	1	3	2	2	3	4	3	0	1	1	4
100111100001	2	3	2	2	0	2	0	1	1	3	3	2	0	0	0	0
100111100010	2	0	0	3	0	2	0	3	1	5	0	0	1	5	2	0
100111100011	2	3	1	1	1	0	1	3	2	3	1	2	2	2	0	2
100111100100	0	1	0	3	3	3	2	2	1	2	0	2	2	0	1	2
100111100101	0	0	0	1	2	2	3	1	0	2	1	2	1	3	4	1
100111100110	2	6	1	4	2	0	2	1	0	1	5	1	0	0	2	0
100111100111	1	0	3	1	1	3	1	0	2	4	3	0	2	1	1	3
100111101000	2	3	1	2	1	1	2	1	2	3	1	0	2	3	1	4
100111101001	0	0	0	1	0	6	2	1	3	4	4	0	2	0	1	5
100111101010	2	1	0	0	3	2	2	3	5	3	2	1	2	1	0	4
100111101011	4	2	1	1	2	1	1	2	0	2	4	0	3	2	3	2
100111101100	1	1	0	2	1	3	2	1	4	2	1	0	0	1	0	2
100111101101	3	2	0	3	1	0	1	2	2	1	0	0	1	3	0	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
1001111101110	3	1	2	1	0	1	2	1	0	1	4	2	0	0	1	1
1001111101111	2	4	3	0	1	4	2	3	1	2	0	3	1	3	1	2
1001111100000	0	1	0	2	0	3	2	0	3	3	1	2	0	1	1	1
1001111100001	0	3	0	1	1	2	4	2	0	0	0	0	0	0	1	2
1001111100010	3	0	1	1	4	1	3	0	2	0	1	0	3	1	1	6
1001111100011	0	0	3	4	0	3	4	2	2	2	2	0	3	2	3	0
1001111101000	4	2	0	1	2	1	0	3	0	3	3	3	1	5	6	2
1001111101001	0	0	1	3	1	1	1	0	0	0	0	2	2	1	2	2
1001111101010	0	1	1	4	0	2	1	0	1	0	1	2	0	0	3	0
1001111101011	1	2	3	0	2	3	0	0	2	0	0	1	0	2	2	1
100111110000	0	2	1	0	3	1	0	3	0	3	0	3	0	1	3	1
100111110001	1	3	3	1	0	1	3	3	1	2	5	0	0	1	1	0
1001111101010	3	3	0	1	1	0	0	0	2	3	0	3	0	2	0	3
1001111101011	1	4	0	0	0	1	0	1	1	0	0	0	2	1	2	2
100111111000	0	3	0	2	0	2	0	2	0	3	2	4	0	1	1	0
1001111110101	3	1	1	4	1	0	2	0	2	0	2	4	2	1	0	3
1001111110110	3	0	1	0	5	1	3	3	0	0	5	4	1	3	0	2
1001111111111	1	2	0	3	1	0	2	5	0	4	3	2	1	1	1	0
1010000000000	3	2	2	2	2	0	1	1	1	2	0	2	0	1	2	3
1010000000001	0	0	0	1	0	3	0	2	1	1	0	0	0	1	4	1
1010000000010	0	2	0	2	0	2	0	2	0	0	1	1	0	1	3	5
1010000000011	2	4	1	3	2	1	0	1	0	3	2	3	2	3	4	0
1010000001000	3	3	2	4	0	2	0	2	0	1	0	3	1	1	2	5
1010000001001	0	2	3	0	0	3	0	4	2	4	3	3	1	1	0	1
1010000001010	0	1	2	3	2	0	3	4	0	0	2	1	0	2	4	1
1010000001011	0	2	1	2	4	0	4	1	0	1	1	0	2	1	3	1
1010000010000	1	2	1	2	1	2	1	1	0	4	3	0	1	1	4	0
1010000010001	5	1	0	1	0	8	2	0	2	0	4	1	2	0	0	0
1010000010010	2	0	2	2	0	0	0	3	2	1	4	1	3	1	2	0
1010000010011	0	4	3	0	0	2	1	2	0	4	0	0	2	0	0	1
1010000011000	1	3	0	0	1	3	1	0	1	2	0	0	0	3	1	2
1010000011001	0	3	3	1	5	1	4	1	1	0	3	2	1	0	0	0
1010000011010	1	0	0	0	2	0	0	0	4	6	2	1	0	3	4	5
1010000011011	2	1	3	1	2	0	2	5	3	0	0	2	2	1	0	2
1010000100000	0	0	1	2	1	0	0	1	1	3	3	3	1	2	0	1
1010000100001	0	0	3	4	3	2	0	0	1	0	3	3	0	1	1	0
1010000100010	0	3	1	1	0	5	2	1	3	1	2	0	0	0	3	1
1010000100011	1	3	5	3	1	1	5	2	2	1	3	1	0	2	0	2
1010000101000	3	0	0	2	2	0	0	1	1	1	2	0	2	1	1	1
1010000101001	0	3	3	0	2	1	1	0	1	1	0	0	3	4	3	3
1010000101010	2	2	1	0	2	4	1	2	2	0	1	2	5	2	2	1
1010000101011	3	0	4	0	0	0	4	0	2	0	1	0	1	2	2	2
1010000110000	0	0	0	0	0	2	2	2	6	1	2	0	1	2	2	2
1010000110001	0	3	1	0	3	1	1	2	0	3	0	3	1	2	0	0
1010000110010	0	2	0	1	2	2	2	6	0	0	2	0	4	3	1	0
1010000110011	4	5	3	0	1	0	0	2	1	0	0	1	1	1	3	2
1010000111000	0	2	4	2	0	2	2	2	4	1	1	0	4	2	5	1
1010000111001	2	0	6	3	0	4	0	0	2	5	1	5	4	1	0	2
1010000111010	2	2	2	2	5	1	0	0	1	2	2	0	0	0	0	0
1010000111011	0	1	2	1	3	0	1	2	2	1	0	3	1	0	1	3
1010001000000	0	0	1	2	3	1	2	0	1	1	0	4	0	0	1	2
1010001000001	5	4	3	1	3	0	0	1	0	1	3	1	1	6	3	2
1010001000010	4	2	0	3	0	0	0	0	0	2	1	0	1	0	2	2
1010001000011	0	2	0	0	2	0	0	4	2	0	3	2	2	1	1	0
1010001001000	0	1	1	4	2	4	1	0	0	1	1	3	3	2	2	0
1010001001001	2	1	1	4	1	1	0	2	1	1	0	1	2	1	1	1
1010001001010	3	4	1	1	0	3	1	0	1	0	1	1	3	2	0	0
1010001001011	0	1	2	1	0	1	0	0	0	1	0	1	1	3	0	1
1010001010000	2	1	0	2	0	0	2	1	1	2	4	0	4	6	1	4
1010001010001	0	1	1	2	0	0	0	3	1	1	2	0	2	5	1	5

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101000101010	0	0	2	3	3	0	1	0	0	3	0	2	1	4	1	1
101000101011	1	3	2	2	2	2	1	0	2	0	2	4	4	0	3	0
101000101100	1	0	4	0	2	0	2	1	1	3	1	4	2	0	0	3
101000101101	1	4	0	0	5	1	0	0	1	1	2	1	0	3	0	0
101000101110	4	3	0	2	1	0	1	1	3	1	3	1	0	1	1	0
101000101111	1	1	0	1	0	2	0	3	0	0	1	5	0	0	2	0
101000110000	1	2	1	1	1	2	0	5	1	2	2	0	4	2	1	2
101000110001	1	0	1	2	2	0	2	4	0	1	2	2	3	2	2	0
101000110010	4	0	2	0	2	3	0	2	2	0	4	4	0	0	0	1
101000110011	2	2	0	1	2	1	1	3	1	0	1	0	1	2	0	0
101000110100	1	1	1	0	0	1	2	0	3	6	0	1	2	3	2	1
101000110101	2	1	2	0	2	0	0	1	0	0	2	0	2	1	4	4
101000110110	0	1	2	1	0	3	0	1	1	0	0	3	2	1	5	2
101000110111	2	4	3	0	4	3	0	1	1	0	0	1	4	4	3	1
101000111000	2	3	4	0	3	2	5	0	0	1	2	2	1	2	0	1
101000111001	1	2	3	2	0	0	3	0	1	3	4	1	2	4	2	0
101000111010	0	6	0	0	3	0	2	5	0	1	0	0	0	5	1	5
101000111011	0	1	1	4	8	0	0	3	2	0	3	1	0	3	1	3
101000111100	1	2	0	2	3	1	4	0	2	2	1	1	3	1	0	2
101000111101	4	2	1	2	1	0	2	0	0	0	2	0	0	3	0	1
101000111110	2	1	0	0	0	2	1	2	2	2	2	1	3	3	1	3
101000111111	1	1	1	1	1	3	0	4	0	3	1	1	1	1	0	0
101001000000	1	2	3	2	1	0	1	1	3	0	2	0	1	1	1	3
101001000001	0	0	0	2	2	1	3	2	2	0	5	2	1	4	0	0
101001000010	0	0	0	0	3	0	2	0	1	0	0	0	1	3	3	4
101001000011	2	0	4	2	3	2	4	1	2	3	1	0	0	2	0	2
101001000100	3	1	0	3	2	0	1	3	0	1	4	1	1	0	4	2
101001000101	1	0	2	1	1	4	0	2	0	4	1	1	1	4	0	2
101001000110	0	1	6	2	2	0	2	1	0	0	3	2	3	1	1	1
101001000111	3	2	1	0	0	1	0	1	3	5	1	1	6	1	1	0
101001001000	0	1	3	3	1	0	3	1	0	0	1	1	1	2	2	3
101001001001	2	3	1	0	1	0	0	0	3	4	1	0	0	5	2	1
101001001010	2	1	1	0	2	1	0	0	0	1	1	3	4	1	0	0
101001001011	1	0	2	3	1	4	2	2	1	1	4	2	5	0	0	1
101001001100	3	1	5	2	1	1	0	1	1	5	0	1	3	0	6	0
101001001101	1	2	3	1	2	1	0	1	2	0	0	1	2	0	2	1
101001001110	0	1	0	2	1	1	2	3	0	2	1	2	1	1	2	0
101001001111	3	1	0	2	0	0	2	1	1	1	1	1	1	4	1	2
101001010000	1	2	0	2	2	2	1	2	0	1	1	3	3	2	0	0
101001010001	0	2	1	4	2	4	0	0	0	1	2	2	1	1	1	2
101001010010	2	0	0	1	3	0	6	1	1	4	0	2	4	0	1	2
101001010011	1	3	3	0	1	5	3	4	1	1	1	0	1	3	2	0
101001010100	2	1	0	2	0	0	1	3	1	1	2	3	1	1	0	3
101001010101	3	3	1	1	2	0	3	1	2	0	4	2	5	1	0	4
101001010110	2	0	2	0	1	1	2	1	1	2	2	1	2	2	0	2
101001010111	1	0	0	0	4	1	0	2	3	2	1	1	0	3	0	1
101001011000	0	0	2	4	4	2	2	0	1	2	0	1	0	3	3	2
101001011001	1	1	4	3	8	4	1	1	0	0	0	4	0	0	1	0
101001011010	3	3	0	0	2	0	2	0	2	1	2	2	3	0	1	2
101001011011	1	0	3	1	1	2	5	5	2	0	1	1	2	1	1	1
101001011100	2	0	2	0	3	1	4	0	3	2	2	0	0	0	0	0
101001011101	3	3	2	2	1	0	0	2	4	1	2	5	2	2	1	3
101001011110	0	2	0	0	1	0	1	3	1	3	6	4	1	1	3	1
101001011111	1	3	0	0	3	2	0	1	1	3	5	0	0	5	0	4
101001100000	0	2	1	0	2	2	5	0	0	1	3	1	4	1	1	0
101001100001	1	0	0	0	0	5	2	1	2	2	1	2	3	4	1	1
101001100010	2	0	2	1	4	4	4	3	3	2	0	2	3	2	0	0
101001100011	2	1	1	0	0	1	0	1	0	4	2	4	3	0	4	0
101001100100	1	1	3	3	0	1	1	0	1	1	0	2	0	0	2	2
101001100101	0	2	2	3	0	0	3	2	0	1	1	3	1	4	2	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101001100110	0	1	0	0	1	0	2	1	2	1	1	4	2	1	2	0
101001100111	1	0	0	0	0	2	2	2	1	2	2	1	1	2	1	2
101001101000	0	2	1	2	2	3	0	4	4	2	3	2	0	2	0	2
101001101001	1	0	0	1	0	2	3	2	0	1	0	0	2	0	0	3
101001101010	2	1	4	2	2	5	0	1	1	2	1	0	0	0	1	3
101001101011	0	2	2	0	0	3	2	1	4	6	1	2	1	1	2	0
101001101100	1	0	1	6	0	3	1	0	0	3	1	1	4	2	0	4
101001101101	0	1	4	0	1	1	3	1	0	0	2	3	0	2	1	4
101001101110	3	0	0	2	3	2	0	1	1	2	0	1	0	2	0	2
101001101111	2	1	1	1	1	1	1	0	4	0	2	1	2	0	2	2
101001110000	4	2	2	1	1	1	2	5	2	3	3	1	0	4	3	0
101001110001	5	1	1	1	0	1	3	1	1	1	1	1	1	1	5	3
101001110010	5	1	0	1	0	2	0	1	2	1	0	1	1	0	0	0
101001110011	3	1	0	2	0	1	0	2	1	0	2	2	1	6	2	4
101001110100	3	1	0	0	0	0	4	0	0	2	3	2	1	0	0	0
101001110101	1	2	2	1	2	0	1	3	3	0	3	0	2	0	3	1
101001110110	0	5	0	0	1	2	0	1	3	1	2	3	0	3	0	0
101001110111	2	1	1	1	4	1	1	3	1	2	1	4	4	4	0	1
101001111000	0	3	3	1	2	0	0	0	0	3	0	0	1	0	0	2
101001111001	1	1	3	3	0	1	1	4	0	1	0	0	0	1	3	1
101001111010	1	1	3	7	0	1	2	1	4	1	3	0	3	1	5	0
101001111011	0	0	0	3	1	3	3	1	2	1	0	2	1	0	0	1
101001111100	6	2	1	3	2	1	1	2	1	1	1	7	0	0	3	2
101001111101	1	5	0	5	1	1	2	0	1	0	3	1	1	3	3	0
101001111110	0	1	1	0	4	2	1	4	0	2	2	2	0	4	1	2
101001111111	0	0	2	1	2	1	3	0	3	2	2	0	0	1	0	2
101010000000	0	0	1	2	0	3	0	3	0	0	0	1	2	0	1	0
101010000001	3	0	2	2	2	0	1	0	6	3	1	3	3	0	5	0
101010000010	3	0	2	0	0	3	1	1	0	1	2	1	1	4	0	2
101010000011	4	2	2	1	3	2	1	1	3	3	0	5	1	0	2	4
101010000100	2	2	0	2	1	4	1	1	2	1	0	2	4	0	2	1
101010000101	2	0	0	2	2	3	1	4	0	1	1	0	0	0	0	2
101010000110	4	3	3	0	2	1	0	1	0	2	1	2	0	3	3	0
101010000111	2	4	2	0	3	2	1	2	0	1	1	1	1	1	2	4
101010001000	3	3	3	0	0	0	1	2	1	0	0	3	3	1	2	2
101010001001	1	0	2	0	0	0	2	0	2	1	3	3	0	1	1	3
101010001010	2	3	6	2	1	2	2	0	1	0	2	2	1	0	2	0
101010001011	0	5	0	5	0	1	3	4	0	2	0	1	0	1	0	6
101010001100	1	2	0	4	2	3	1	0	6	3	2	1	0	0	2	0
101010001101	1	3	2	0	2	0	1	3	2	2	1	2	0	3	0	2
101010001110	2	1	0	0	2	1	1	0	1	0	1	4	3	0	2	3
101010001111	0	0	0	2	0	0	0	0	3	1	1	1	3	4	1	0
101010010000	3	2	0	2	1	3	1	4	2	3	1	6	1	7	2	0
101010010001	1	2	2	3	1	0	5	0	3	1	0	0	1	2	2	3
101010010010	5	0	2	4	0	1	1	2	2	4	1	2	0	2	1	0
101010010011	3	1	0	0	0	0	1	1	1	1	6	1	2	0	2	1
101010010100	4	4	1	1	2	3	4	2	1	2	3	1	1	2	0	1
101010010101	0	0	3	5	3	0	3	3	0	3	3	2	2	2	3	2
101010010110	0	4	1	2	3	0	3	2	0	4	6	3	1	2	2	3
101010010111	0	5	2	0	2	1	0	2	1	0	3	0	2	2	0	1
101010011000	1	0	0	4	2	0	0	0	0	1	0	1	3	2	3	0
101010011001	4	0	1	2	0	0	1	0	1	2	3	1	3	5	0	0
101010011010	0	1	0	4	5	3	1	2	4	1	1	2	2	3	0	1
101010011011	2	0	3	0	2	0	1	1	3	1	0	1	2	0	2	0
101010011100	2	2	1	0	0	1	1	3	1	2	5	2	2	2	6	0
101010011101	2	0	1	0	2	1	0	3	3	0	0	1	1	3	3	0
101010011110	5	2	0	2	1	1	5	1	4	5	1	1	2	6	3	2
101010011111	0	0	4	2	2	2	1	2	3	1	0	2	1	0	4	0
101010100000	2	3	2	3	1	0	1	1	3	1	3	1	1	3	3	3
101010100001	0	0	1	1	0	0	2	2	0	1	1	0	0	2	1	2



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101010100010	0	6	1	1	2	2	0	3	1	1	1	1	0	0	3	2
101010100011	1	0	0	0	1	1	2	1	1	0	1	0	2	0	1	5
1010101000100	1	2	3	1	0	1	4	4	1	0	0	2	0	0	4	1
1010101000101	1	2	3	1	2	0	0	2	1	2	2	2	1	3	1	2
1010101000110	2	2	1	1	0	2	2	3	0	1	0	3	5	3	1	2
1010101000111	0	1	2	1	2	0	0	0	3	1	3	1	1	4	0	4
101010101000	0	2	0	2	0	0	0	0	1	6	1	2	1	3	4	0
1010101010001	2	1	0	3	3	0	1	1	1	2	1	0	0	1	2	1
101010101010	2	4	2	0	0	1	4	4	0	3	3	2	5	0	0	3
101010101011	2	2	2	6	2	4	0	1	2	1	0	0	2	4	0	0
101010101100	0	3	2	1	2	1	3	0	1	1	0	2	1	2	3	1
101010101101	3	4	1	1	1	2	0	1	4	0	1	2	0	1	1	0
101010101110	0	0	1	2	2	4	0	2	4	1	1	4	4	2	0	2
101010101111	3	1	0	0	0	0	2	1	0	3	0	2	2	1	2	1
101010110000	0	8	1	1	2	0	3	0	0	1	1	2	5	2	2	2
1010101100001	1	1	1	1	6	2	1	3	4	2	2	0	1	0	0	0
1010101100010	2	1	5	1	4	2	1	3	2	2	1	2	1	0	0	2
1010101100011	1	1	4	1	1	3	4	4	1	0	2	2	2	1	0	0
101010110100	3	2	0	1	3	2	2	2	2	1	2	0	4	0	1	3
101010110101	2	1	6	1	1	0	0	7	0	2	1	1	0	2	2	0
101010110110	0	1	4	1	0	3	2	0	1	1	4	1	3	1	1	0
101010110111	1	3	1	0	1	1	2	1	1	1	1	1	0	0	0	3
101010111000	1	3	0	1	2	1	1	1	1	3	3	3	3	1	3	2
101010111001	3	4	3	0	3	3	2	0	0	0	1	1	0	0	2	0
101010111010	1	2	2	1	1	3	2	0	4	0	0	2	7	2	2	2
101010111011	1	1	0	1	0	0	4	1	4	1	3	1	1	5	0	3
101010111100	0	1	0	1	1	1	1	4	2	1	1	3	2	0	3	1
101010111101	0	2	3	0	0	0	1	4	4	0	1	3	5	0	5	5
101010111110	0	0	0	3	1	1	2	4	1	3	1	2	1	0	5	0
101010111111	1	1	1	1	2	2	3	3	2	2	2	0	1	1	2	4
101011000000	0	3	1	1	3	3	2	0	0	0	1	2	1	4	0	0
1010110000001	1	3	0	0	2	1	1	4	4	0	4	3	4	4	3	2
1010110000010	2	3	1	0	1	3	4	1	1	0	2	3	2	0	3	3
1010110000011	0	1	3	1	1	1	0	1	2	2	0	1	1	0	0	3
1010110000100	4	3	0	2	2	5	1	1	2	2	0	4	6	0	0	3
1010110000101	0	3	0	2	3	0	4	0	4	2	1	3	1	0	2	2
1010110000110	1	0	0	0	3	0	1	2	3	0	0	1	3	1	2	0
1010110000111	3	1	5	2	0	0	0	1	1	0	0	1	6	3	0	0
1010110001000	0	1	1	2	2	4	2	3	3	1	3	4	0	0	2	3
1010110001001	5	1	2	1	0	3	4	0	0	0	0	2	0	1	0	1
1010110001010	2	1	2	0	4	1	1	2	1	2	1	0	1	3	1	2
1010110001011	1	3	0	3	4	1	0	1	0	0	1	1	0	1	5	6
1010110001100	3	2	0	0	4	0	0	2	0	1	0	2	4	0	2	1
1010110001101	0	0	4	1	1	1	2	1	0	0	0	2	3	1	2	1
1010110001110	2	1	0	1	1	3	1	4	2	1	1	6	0	0	0	7
1010110001111	0	1	0	2	2	2	2	4	2	3	2	1	3	2	3	1
101011010000	2	0	7	3	1	1	3	1	3	0	0	4	1	1	1	4
1010110100001	2	0	2	0	2	3	4	1	2	0	0	0	1	2	2	3
1010110100010	2	6	0	1	1	3	2	1	0	3	4	0	1	4	3	0
1010110100011	0	4	3	2	3	0	1	1	2	2	5	2	2	2	5	0
101011010100	3	2	0	3	1	1	2	3	3	3	1	0	1	0	1	1
101011010101	0	2	1	0	2	1	2	2	3	5	2	2	2	2	1	0
101011010110	0	0	1	3	0	0	3	4	2	2	1	5	3	1	0	1
101011010111	2	1	0	2	4	3	3	1	0	0	0	1	2	0	2	1
101011011000	2	2	1	3	6	0	1	1	4	4	1	0	3	4	3	0
1010110110001	1	0	0	1	0	1	2	1	0	1	2	1	1	3	0	1
1010110110010	4	0	2	0	6	2	2	1	3	2	0	0	0	1	4	3
1010110110011	2	1	3	1	2	2	2	0	2	1	1	1	0	0	3	2
101011011100	1	1	4	0	2	3	2	4	1	2	2	0	2	0	1	1
101011011101	0	2	2	1	0	0	0	0	6	1	1	4	1	1	1	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101011011110	3	0	2	0	0	0	0	2	0	2	0	1	1	3	0	4
101011011111	1	2	2	3	1	1	1	2	0	0	1	2	0	1	2	0
101011100000	1	2	0	0	3	1	2	1	2	0	4	1	0	3	6	1
101011100001	1	1	0	1	3	2	3	0	0	3	2	1	0	1	2	2
101011100010	3	0	1	2	2	2	3	2	1	0	4	0	0	2	0	2
101011100011	0	0	1	1	5	1	0	1	0	1	1	0	0	3	0	3
101011100100	3	3	2	3	0	6	4	1	2	0	0	1	2	2	2	2
101011100101	0	1	1	0	0	4	0	0	2	4	0	0	2	1	0	2
101011100110	0	1	0	2	2	0	1	2	1	5	0	2	0	5	0	0
101011100111	3	2	0	3	3	2	3	1	0	5	0	1	1	1	0	0
101011101000	0	0	0	1	2	3	3	1	3	2	3	0	0	0	2	1
101011101001	2	4	0	0	2	3	6	3	2	0	0	4	1	3	0	2
101011101010	2	2	2	2	1	0	0	0	1	0	0	1	1	1	2	0
101011101011	1	0	0	0	0	1	4	2	1	0	0	2	1	0	0	1
101011101100	0	0	0	3	5	1	2	2	2	1	0	0	2	0	0	4
101011101101	0	1	4	2	0	0	0	1	1	1	0	1	0	2	2	1
101011101110	2	5	1	1	2	1	0	0	2	0	2	1	1	2	1	0
101011101111	1	1	6	1	1	0	0	5	0	3	2	3	1	0	0	0
101011110000	3	3	4	0	1	4	0	3	0	3	2	1	0	0	0	0
101011110001	0	0	1	1	2	0	2	1	2	0	2	0	0	0	1	3
101011110010	3	1	0	0	3	3	0	1	0	0	2	3	4	0	2	2
101011110011	0	2	4	1	2	1	2	1	2	2	2	0	0	1	4	0
101011110100	2	1	3	1	0	2	0	1	2	3	3	0	4	1	0	0
101011110101	2	0	1	4	2	1	0	0	1	0	2	1	0	0	6	1
101011110110	1	0	2	0	1	1	2	1	1	2	1	0	1	0	0	0
101011110111	1	0	0	2	1	1	0	1	0	0	0	0	1	2	1	1
101011111000	0	1	1	2	1	3	3	3	3	2	1	2	0	2	2	0
101011111001	3	0	0	0	2	1	5	1	3	3	2	0	2	2	2	1
101011111010	0	1	1	2	3	0	0	0	0	1	2	2	0	2	4	4
101011111011	4	1	0	2	1	0	6	0	3	5	1	0	2	3	2	1
101011111100	3	0	1	3	1	7	2	1	1	0	1	1	6	5	5	5
101011111101	2	1	2	1	0	0	0	0	2	0	0	4	2	2	2	7
101011111110	0	0	0	2	2	2	0	1	0	1	1	3	1	0	1	4
101011111111	3	0	0	0	0	1	3	0	1	0	1	1	2	0	3	0
101100000000	0	2	0	3	2	2	0	0	0	3	4	1	2	0	5	6
101100000001	3	0	0	1	1	0	1	2	2	1	0	1	2	3	2	2
101100000010	0	2	2	1	2	2	1	2	1	2	0	0	2	1	0	1
101100000011	1	2	1	3	0	2	0	1	2	0	0	0	3	1	0	1
101100000100	3	1	1	0	0	0	2	4	1	5	3	0	0	0	1	5
101100000101	0	0	1	3	2	0	0	2	0	0	0	1	0	2	4	2
101100000110	2	0	3	1	1	3	2	2	3	4	0	1	2	4	1	0
101100000111	2	0	0	1	0	4	0	0	1	2	3	1	2	0	1	0
101100001000	0	5	2	0	2	2	2	2	1	1	4	3	4	2	2	1
101100001001	2	2	4	1	2	0	6	1	1	0	2	0	6	3	1	2
101100001010	1	2	1	1	1	1	3	1	3	0	0	2	5	6	1	1
101100001011	5	1	0	2	3	1	0	3	1	2	4	2	1	1	2	0
101100001100	1	0	2	1	5	4	1	0	2	3	1	1	0	3	0	2
101100001101	3	3	2	4	1	1	1	1	0	0	2	2	2	3	2	3
101100001110	4	0	1	2	5	4	1	0	0	4	0	2	0	1	4	2
101100001111	3	0	2	2	0	3	3	2	2	1	5	1	3	4	3	2
101100010000	0	0	1	0	1	0	0	2	4	0	3	0	2	5	1	3
101100010001	1	0	2	3	1	7	0	2	0	0	0	0	3	3	0	4
101100010010	5	2	1	4	1	0	3	5	0	0	2	3	0	0	0	3
101100010011	0	1	0	0	0	2	1	1	3	2	0	0	2	2	2	2
101100010100	0	0	0	4	0	2	0	4	1	1	1	3	2	3	2	3
101100010101	5	3	1	1	1	0	2	2	2	0	2	1	0	1	0	1
101100010110	5	1	1	2	0	0	4	0	1	1	0	2	0	0	0	3
101100010111	2	1	0	0	0	0	0	0	3	1	2	0	1	0	1	2
101100011000	3	0	0	1	0	1	1	0	1	5	1	3	0	1	2	2
101100011001	1	1	7	0	2	0	2	2	2	4	0	3	2	3	3	5

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101100011010	0	2	0	9	2	0	0	1	4	4	0	0	0	0	1	2
101100011011	0	3	1	2	3	0	0	0	1	2	3	5	1	0	0	0
101100011100	0	3	0	5	2	0	3	0	0	2	3	0	1	1	2	1
101100011101	3	3	3	1	2	2	2	1	1	2	1	3	0	2	1	0
101100011110	5	0	0	0	5	0	3	1	1	0	3	0	3	0	2	6
101100011111	1	0	4	2	2	3	0	0	0	0	2	0	1	3	3	3
101100100000	0	1	1	4	1	0	0	1	4	2	2	0	3	0	0	0
101100100001	1	2	3	3	1	1	0	1	2	1	0	3	1	6	0	3
101100100010	2	3	0	0	1	3	4	1	1	1	1	5	3	2	2	2
101100100011	1	0	3	2	4	0	4	0	3	1	0	1	2	2	1	2
101100100100	1	0	0	2	1	7	3	2	2	0	0	3	2	3	0	2
101100100101	0	2	2	1	0	3	0	0	2	5	0	2	3	1	2	1
101100100110	2	4	0	1	0	2	2	3	2	1	2	1	5	1	1	0
101100100111	1	2	3	0	1	0	2	2	1	0	3	0	2	2	1	0
101100101000	2	4	3	3	1	3	1	1	2	0	3	1	0	3	3	1
101100101001	3	3	0	0	2	3	2	2	4	2	4	1	5	1	0	1
101100101010	7	2	3	2	1	3	0	0	0	0	1	2	3	3	0	3
101100101011	1	5	1	2	0	1	3	1	0	1	0	2	0	1	2	0
101100101100	0	0	1	1	3	0	0	0	0	0	0	2	0	0	1	1
101100101101	2	0	0	3	0	0	3	1	3	2	0	2	2	1	2	1
101100101110	2	1	0	1	5	4	3	0	2	2	3	2	1	1	0	3
101100101111	0	0	2	4	1	0	2	1	2	4	2	2	3	4	3	3
101100110000	2	1	0	2	1	2	4	0	0	1	4	2	0	0	0	1
101100110001	2	1	2	3	1	4	1	2	0	0	1	1	0	2	5	0
101100110010	1	3	1	0	2	1	0	3	2	1	0	2	0	0	0	1
101100110011	0	2	1	0	0	4	1	0	1	0	5	0	1	2	1	2
101100110100	0	3	2	0	0	3	4	2	0	3	3	0	2	2	2	1
101100110101	0	2	2	3	2	0	4	0	1	3	0	0	2	1	0	0
101100110110	3	0	0	2	2	2	1	2	2	0	2	3	3	0	0	0
101100110111	1	1	0	1	3	1	0	3	0	2	2	0	3	0	0	2
101100111000	3	1	4	3	1	3	2	0	2	0	5	4	1	1	1	1
101100111001	3	3	1	0	1	2	0	0	1	4	1	4	4	1	0	4
101100111010	3	2	2	2	1	0	3	0	3	1	3	3	0	2	5	5
101100111011	0	2	2	2	3	1	4	3	2	2	5	3	2	2	1	1
101100111100	3	0	1	2	0	2	4	0	2	4	0	4	1	2	3	1
101100111101	1	0	0	3	2	0	2	0	1	4	0	0	2	4	0	0
101100111110	1	2	0	2	1	1	1	1	2	1	1	0	4	0	3	3
101100111111	1	1	2	1	2	4	1	1	1	0	4	3	0	0	2	2
101101000000	4	0	3	1	0	3	1	1	3	0	1	2	0	0	1	0
101101000001	2	1	0	5	2	3	1	0	0	3	3	2	0	1	3	3
101101000010	1	0	0	0	0	0	2	2	3	2	4	3	3	2	4	1
101101000011	0	1	0	3	2	2	2	3	0	1	0	1	1	1	0	3
101101000100	0	4	2	2	3	4	1	0	0	4	1	2	0	2	1	0
101101000101	2	3	3	3	2	4	2	1	0	1	5	3	3	0	1	0
101101000110	3	3	3	0	3	1	1	1	2	0	1	3	2	3	0	2
101101000111	0	1	0	4	0	8	3	2	1	2	2	3	0	2	2	3
101101001000	3	3	0	2	3	4	0	3	3	3	0	1	0	5	0	3
101101001001	0	2	2	1	0	5	1	2	1	1	4	1	1	0	0	0
101101001010	1	3	1	2	2	2	1	2	4	1	0	1	0	0	0	0
101101001011	0	3	1	4	1	5	2	0	1	1	4	1	0	0	0	1
101101001100	0	0	0	0	3	0	1	0	1	0	0	4	1	1	0	4
101101001101	1	3	2	1	3	3	0	1	0	2	3	2	1	6	0	5
101101001110	1	3	7	3	3	3	0	2	1	1	2	3	5	1	1	4
101101001111	1	0	2	4	3	4	1	0	1	1	0	1	0	0	1	5
101101010000	0	4	2	3	0	2	2	3	0	2	1	0	1	4	3	0
101101010001	5	0	0	3	2	2	5	3	2	1	1	1	0	1	3	0
101101010010	1	0	2	1	1	2	4	0	0	2	4	0	0	2	0	2
101101010011	0	3	4	1	3	0	2	0	1	5	4	3	1	0	2	1
101101010100	0	0	2	2	0	2	1	3	0	1	3	0	0	0	3	0
101101010101	2	0	1	1	0	2	4	4	1	0	1	2	1	2	1	5

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101101010110	1	0	1	4	4	0	2	0	0	1	4	3	2	2	1	1
101101010111	1	1	4	3	2	1	1	0	0	2	1	0	1	3	3	1
101101011000	0	3	0	0	1	0	1	0	0	3	3	0	0	1	0	0
101101011001	1	1	5	2	3	0	1	1	4	4	0	8	4	2	0	0
101101011010	1	0	1	1	1	3	0	3	2	3	1	1	2	4	3	2
101101011011	0	1	1	1	0	2	0	2	3	0	0	0	1	1	1	2
101101011100	2	0	3	1	1	2	3	0	1	4	2	0	1	3	1	1
101101011101	0	1	0	0	1	0	1	0	2	1	1	4	2	2	0	1
101101011110	1	4	2	1	1	2	0	0	0	0	4	3	1	0	2	0
101101011111	6	0	0	3	0	1	0	1	0	0	3	4	0	0	3	2
101101100000	0	2	0	1	0	0	1	2	1	2	3	4	0	1	0	0
101101100001	1	2	1	1	3	0	0	1	3	3	6	1	1	0	0	4
101101100010	2	3	1	2	1	4	1	0	2	0	0	0	1	2	2	0
101101100011	0	3	3	0	1	1	0	1	0	1	2	2	0	2	1	2
101101100100	1	0	3	1	3	0	0	1	1	2	3	2	3	2	0	2
101101100101	1	3	0	4	0	1	1	1	3	3	1	1	2	4	1	0
101101100110	0	4	1	0	2	1	1	1	1	4	0	1	2	3	1	4
101101100111	3	5	0	2	1	3	1	0	2	2	2	3	2	0	1	1
101101101000	1	0	0	2	4	1	2	1	3	1	2	0	5	0	0	1
101101101001	3	0	5	2	1	2	0	0	4	3	0	2	3	0	2	0
101101101010	3	0	3	3	4	2	2	0	1	2	3	2	3	1	3	0
101101101011	1	0	1	2	0	0	4	2	6	3	5	2	1	4	0	1
101101101100	6	2	1	4	0	1	0	0	2	4	2	3	3	2	0	2
101101101101	4	0	3	2	0	1	1	0	1	0	1	0	1	0	0	2
101101101110	3	1	2	2	1	3	1	3	3	1	1	0	0	0	0	4
101101101111	0	0	4	1	2	1	1	1	3	3	0	1	0	2	1	3
101101110000	1	2	5	1	1	3	2	1	4	0	2	5	2	3	5	0
101101110001	1	1	4	0	0	1	1	4	0	1	2	2	1	2	0	0
101101110010	0	4	1	0	4	1	2	3	2	0	1	3	0	3	2	1
101101110011	3	3	1	4	2	1	5	1	2	0	1	3	1	3	6	0
101101110100	0	3	0	1	0	4	2	0	0	5	0	0	3	3	0	0
101101110101	1	0	2	4	3	0	2	1	3	2	0	0	1	0	0	0
101101110110	0	1	3	0	0	3	2	0	3	0	0	0	2	2	1	2
101101110111	3	0	1	0	1	2	1	1	0	2	1	2	1	0	0	2
101101111000	1	3	1	0	1	2	0	2	0	1	3	4	3	1	0	0
101101111001	1	1	1	3	1	1	0	1	0	0	3	0	2	2	1	2
101101111010	2	3	1	1	1	4	0	2	1	1	0	0	0	4	0	1
101101111011	1	2	2	1	2	0	0	0	2	4	1	3	0	0	0	3
101101111100	4	3	1	0	2	1	1	3	2	0	2	3	3	1	2	1
101101111101	3	0	1	1	0	2	1	2	1	5	2	0	0	1	0	3
101101111110	0	3	1	0	4	3	0	2	0	1	0	0	0	1	0	1
101101111111	2	3	2	2	0	4	1	0	0	1	0	2	4	2	0	2
101110000000	0	1	3	6	4	0	3	1	1	0	5	2	1	4	3	1
101110000001	0	1	0	1	2	3	1	1	2	3	1	4	3	4	4	1
101110000010	0	0	2	3	0	5	0	3	1	2	1	1	0	1	3	1
101110000011	1	1	0	1	0	2	1	1	2	3	0	1	0	2	0	2
101110000100	0	3	1	0	1	3	0	2	0	0	2	6	3	3	1	1
101110000101	1	0	2	3	0	2	0	1	1	1	0	2	5	4	2	1
101110000110	1	3	1	0	0	1	0	2	3	3	0	1	0	2	0	2
101110000111	0	6	0	2	3	3	2	4	1	1	6	1	3	2	1	0
101110001000	3	3	4	2	1	0	1	4	2	1	1	0	1	0	2	1
101110001001	1	1	0	1	0	3	2	3	1	0	2	2	0	3	2	0
101110001010	0	0	1	0	0	2	2	3	2	1	0	2	1	1	3	0
101110001011	3	2	0	1	3	1	0	0	3	1	3	5	0	1	0	2
101110001100	2	4	1	3	6	2	3	0	3	1	0	3	2	3	1	0
101110001101	2	2	1	3	1	4	1	2	3	0	1	0	6	1	0	0
101110001110	1	1	0	0	2	1	0	5	3	2	2	1	3	1	2	2
101110001111	2	0	1	4	1	3	3	2	1	0	4	1	0	0	0	4
101110010000	0	1	0	0	1	0	0	0	0	2	2	3	1	1	3	1
101110010001	1	0	1	1	1	2	4	0	2	0	2	3	0	0	2	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101110010010	1	4	3	1	2	1	0	1	2	2	3	1	0	4	3	0
101110010011	2	0	3	0	1	3	0	3	0	0	1	2	5	1	0	0
101110010100	2	0	1	0	0	1	2	0	4	2	4	4	0	0	0	0
101110010101	1	1	7	0	0	1	2	1	2	4	1	1	3	3	0	2
101110010110	2	3	0	3	0	0	2	0	0	2	0	0	0	0	0	2
101110010111	4	2	1	3	1	0	1	1	0	2	1	0	1	0	2	0
101110011000	2	4	1	0	3	0	0	3	2	0	0	0	1	1	4	0
101110011001	2	0	0	3	3	0	1	0	0	2	1	3	1	1	1	1
101110011010	1	0	3	0	0	1	0	4	0	0	2	3	0	1	1	1
101110011011	1	1	1	3	0	0	0	5	2	2	2	1	1	0	2	1
101110011100	0	5	0	0	1	2	0	0	0	1	1	1	1	2	2	1
101110011101	0	2	1	0	0	1	3	3	3	1	2	0	0	1	2	0
101110011110	3	1	2	0	0	0	3	0	2	3	2	6	1	0	0	1
101110011111	1	0	4	1	3	0	0	1	3	2	1	0	2	1	3	0
101110100000	3	1	1	4	1	2	1	2	0	4	2	5	4	2	2	1
101110100001	2	2	1	2	2	2	0	4	3	1	0	0	3	1	1	2
101110100010	3	0	0	1	2	0	3	0	3	3	0	2	2	0	0	1
101110100011	1	1	2	3	2	0	3	1	5	4	1	1	2	1	2	1
101110100100	2	2	1	0	2	0	1	0	3	1	0	1	2	1	2	0
101110100101	1	0	2	3	4	0	3	0	1	2	0	0	2	0	0	2
101110100110	0	0	0	0	3	2	1	1	2	1	3	1	2	2	2	4
101110100111	1	0	1	1	2	1	1	0	1	0	3	0	4	0	0	0
101110101000	4	0	2	0	1	2	0	0	0	2	0	1	2	1	0	1
101110101001	2	1	0	1	0	5	1	1	2	3	0	5	5	1	1	1
101110101010	2	1	2	4	0	3	0	0	1	1	0	1	0	0	5	1
101110101011	2	0	1	0	3	2	0	2	1	5	4	3	1	0	3	3
101110101100	1	0	3	0	1	2	2	0	4	0	2	2	1	3	0	2
101110101101	0	0	2	1	0	2	3	0	6	3	3	1	0	1	0	2
101110101110	2	0	1	2	2	4	2	1	2	0	2	5	2	3	3	1
101110101111	0	2	4	1	2	2	0	0	3	1	1	0	1	0	3	2
101110110000	3	2	2	0	3	2	1	3	1	0	2	1	0	1	1	0
101110110001	0	2	0	2	3	3	1	0	1	2	4	2	1	6	3	3
101110110010	2	3	1	1	1	1	1	1	1	0	2	2	4	4	5	1
101110110011	0	1	3	2	5	0	1	4	2	1	2	2	2	0	3	0
101110110100	2	0	4	4	1	5	3	3	3	0	4	0	1	0	0	3
101110110101	4	5	3	0	1	0	0	1	1	0	2	1	0	1	2	2
101110110110	0	1	0	2	3	1	3	1	1	2	0	1	4	1	1	4
101110110111	5	1	2	2	1	1	2	4	6	1	4	3	1	0	0	4
101110111000	2	0	1	4	2	0	3	2	2	0	1	1	3	3	3	0
101110111001	2	2	4	0	0	2	3	2	2	3	1	1	1	1	3	0
101110111010	1	0	3	1	2	1	1	2	1	0	0	1	2	1	3	2
101110111011	0	1	1	1	0	2	0	2	1	1	3	2	2	3	0	0
101110111100	4	1	1	2	1	3	0	2	0	1	0	2	1	0	5	0
101110111101	1	1	2	6	0	2	1	5	1	0	0	0	0	2	0	2
101110111110	0	2	3	1	1	0	0	4	1	3	2	1	1	4	2	2
101110111111	1	0	5	0	0	0	4	2	3	2	0	1	3	0	1	0
101111000000	2	3	3	2	2	5	0	3	2	0	3	3	1	0	0	0
101111000001	3	2	1	1	2	0	1	0	2	1	1	0	0	0	1	1
101111000010	2	2	2	0	1	0	1	2	2	1	0	0	1	0	0	3
101111000011	1	1	4	1	0	5	0	3	1	4	0	0	0	2	4	1
101111000100	1	2	1	0	2	1	2	1	0	1	0	0	2	0	2	2
101111000101	1	4	2	0	3	3	2	1	2	1	0	0	2	0	3	0
101111000110	2	3	0	0	3	2	2	0	2	2	1	2	2	6	1	1
101111000111	3	2	1	1	0	2	3	1	2	4	1	3	0	2	1	2
101111001000	0	2	2	0	3	3	2	1	2	0	1	5	3	1	1	4
101111001001	1	0	2	2	4	0	2	0	1	1	1	3	2	0	0	3
101111001010	0	2	3	0	0	0	3	2	3	4	1	1	1	0	1	1
101111001011	0	0	0	2	4	2	1	1	3	2	1	4	0	1	4	0
101111001100	1	3	4	3	1	3	2	3	1	3	2	3	1	0	3	2
101111001101	0	1	0	2	0	1	1	0	0	0	1	3	2	0	0	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
101111001110	1	0	0	2	1	2	1	3	0	5	1	1	0	8	1	1
101111001111	0	3	2	0	1	2	1	2	0	0	2	2	2	1	4	0
101111010000	4	3	1	1	4	2	1	2	0	0	2	4	1	2	1	1
101111010001	6	1	0	3	4	1	4	0	0	3	1	4	1	2	3	1
101111010010	1	1	0	0	0	0	4	3	0	2	0	4	2	1	3	2
101111010011	2	2	0	2	2	0	1	0	3	2	1	1	0	0	1	1
101111010100	1	2	1	0	1	2	0	1	3	1	1	1	1	0	0	1
101111010101	2	0	1	3	2	0	2	0	2	0	1	3	1	1	1	1
101111010110	0	1	0	0	0	1	1	1	1	1	1	0	0	3	1	0
101111010111	1	3	1	0	1	4	2	2	4	0	0	1	4	3	1	1
101111011000	0	3	5	3	2	0	1	1	0	1	0	3	5	1	5	3
101111011001	3	2	1	3	5	2	0	2	5	2	2	3	0	6	1	2
101111011010	3	1	3	5	1	3	2	0	1	0	2	0	0	0	3	0
101111011011	2	3	2	3	0	2	2	2	1	4	1	1	2	1	4	3
101111011100	0	2	1	2	2	0	2	2	0	2	0	0	0	3	7	0
101111011101	4	2	2	2	1	1	3	0	0	1	3	2	0	2	3	1
101111011110	1	2	1	1	6	2	2	1	1	0	3	3	5	1	0	0
101111011111	1	2	3	2	2	5	0	0	0	0	2	1	3	1	0	1
101111100000	2	0	4	5	3	0	2	0	2	3	0	1	0	5	0	1
101111100001	2	2	1	2	2	2	1	2	1	0	4	2	2	0	0	3
101111100010	0	2	3	2	0	2	0	4	1	0	1	1	0	0	0	0
101111100011	4	0	4	2	1	0	0	1	0	0	0	1	4	1	2	3
101111100100	0	4	1	1	2	4	2	1	0	0	1	2	1	5	0	2
101111100101	0	3	1	3	3	0	2	0	0	0	2	1	6	2	2	1
101111100110	0	0	4	0	1	0	1	1	0	4	2	1	1	1	1	1
101111100111	2	2	4	2	6	1	2	3	0	1	0	0	2	3	3	3
101111101000	5	1	1	2	0	3	3	2	1	0	1	0	0	2	0	0
101111101001	1	2	0	1	3	0	1	2	2	2	3	1	1	0	0	3
101111101010	0	2	3	3	1	1	0	1	3	0	0	1	2	2	0	0
101111101011	2	1	0	0	5	2	2	0	0	3	1	1	1	5	3	0
101111101100	1	5	0	1	0	4	0	3	2	3	3	3	3	0	2	3
101111101101	0	0	2	1	0	1	3	0	1	1	2	2	2	1	1	3
101111101110	0	2	1	2	2	4	4	0	1	2	1	0	1	2	2	1
101111101111	1	0	0	1	0	0	0	0	1	1	0	2	0	6	0	1
101111110000	2	0	2	1	4	1	1	3	0	3	0	0	2	0	3	1
101111110001	0	0	2	4	1	0	0	2	0	2	5	2	0	0	0	0
101111110010	2	0	0	0	0	1	0	2	0	2	2	2	0	2	2	1
101111110011	1	2	1	2	1	1	3	1	1	0	2	0	0	3	0	2
101111110100	0	0	0	2	3	0	4	3	0	1	2	1	0	1	3	3
101111110101	4	3	5	0	3	3	2	0	3	0	3	2	1	3	0	0
101111110110	3	0	1	1	2	0	0	0	2	0	4	2	2	2	0	2
101111110111	5	0	0	2	0	2	3	1	2	0	2	1	3	0	0	1
101111111000	2	2	2	1	3	0	2	0	3	1	0	1	0	0	2	1
101111111001	4	1	1	0	0	4	1	3	4	0	1	0	2	1	1	0
101111111010	1	0	3	1	1	0	1	2	1	2	0	0	0	0	2	0
101111111011	3	0	3	0	5	2	0	3	0	2	1	1	0	4	3	1
101111111100	1	2	1	0	2	0	2	2	0	2	3	0	0	2	3	4
101111111101	3	3	4	1	3	4	2	3	3	1	3	0	2	3	2	1
101111111110	1	0	6	1	0	2	0	2	0	2	4	0	3	0	0	0
101111111111	1	0	0	0	3	1	2	0	3	5	1	0	1	3	3	5
110000000000	2	4	2	0	1	1	2	1	4	4	0	0	2	2	1	2
110000000001	4	1	2	1	3	1	1	5	0	2	0	1	0	0	0	4
110000000010	2	1	4	1	4	3	1	0	0	0	0	1	1	2	0	7
110000000011	2	2	1	2	2	2	2	3	3	2	2	0	0	2	3	0
110000000100	6	0	2	0	0	0	0	1	3	3	0	1	0	3	0	2
110000000101	5	3	0	0	4	3	1	0	1	3	0	1	3	2	0	1
110000000110	1	0	0	1	0	0	1	4	2	3	4	2	0	3	5	0
110000000111	3	3	0	1	0	2	1	0	1	2	1	0	2	0	0	4
110000001000	3	0	2	3	1	2	1	0	2	1	1	0	0	3	2	0
110000001001	3	0	3	3	2	2	2	3	3	1	3	2	1	0	2	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110000001010	1	0	2	5	0	0	0	1	0	0	1	1	2	3	1	2
110000001011	1	0	2	1	1	0	0	3	2	3	2	1	3	1	0	0
110000001100	1	2	5	1	0	1	1	3	0	4	2	2	3	1	3	0
110000001101	0	0	2	4	1	0	1	1	1	0	2	1	5	0	2	4
110000001110	3	1	3	1	2	2	3	2	2	0	2	2	2	1	1	0
110000001111	1	1	3	2	0	1	1	1	3	3	4	1	1	0	1	0
110000010000	0	0	2	0	2	2	0	2	0	0	2	2	3	0	1	3
110000010001	0	1	3	5	2	0	2	1	1	1	3	1	2	0	3	0
110000010010	1	3	0	2	3	0	2	1	5	0	2	0	0	1	3	3
110000010011	1	1	3	1	0	3	2	4	2	1	4	1	3	2	0	2
110000010100	0	0	0	2	0	4	1	0	2	2	1	1	3	1	2	2
110000010101	0	1	0	0	2	3	5	2	2	0	2	2	2	5	3	1
110000010110	4	1	1	1	2	1	2	2	0	2	0	1	2	2	2	2
110000010111	2	0	3	1	2	0	0	2	4	3	2	1	2	0	2	4
110000011000	0	0	0	2	0	2	1	0	2	0	2	1	0	5	1	0
110000011001	0	1	0	0	0	2	2	4	3	3	2	0	0	0	1	3
110000011010	0	1	1	3	0	1	2	4	2	3	4	1	1	1	3	3
110000011011	0	2	0	3	3	3	2	2	4	0	0	1	1	0	1	3
110000011100	1	0	1	0	1	0	1	0	0	1	0	2	4	0	1	4
110000011101	1	1	1	1	1	0	4	2	1	3	2	2	1	4	1	4
110000011110	3	0	4	0	1	3	2	3	1	3	3	3	3	0	1	2
110000011111	2	1	1	2	4	1	1	1	0	2	1	2	5	4	0	1
110000100000	0	3	2	1	3	2	0	0	5	3	3	3	0	1	3	0
110000100001	0	1	1	1	2	2	1	1	0	0	3	0	1	6	0	2
110000100010	1	1	1	0	5	3	0	3	1	1	5	3	1	3	5	2
110000100011	6	2	1	0	7	0	3	0	6	0	0	0	0	0	1	2
110000100100	1	1	2	3	3	3	0	3	2	2	0	2	2	1	1	1
110000100101	0	2	2	0	0	3	4	0	2	1	1	2	1	1	1	3
110000100110	1	1	0	1	1	1	1	0	0	1	2	3	1	0	1	2
110000100111	1	2	1	1	0	3	2	1	0	3	3	0	1	2	3	0
110000101000	2	4	5	0	2	1	0	1	1	0	0	1	3	2	3	0
110000101001	2	3	1	2	1	0	1	2	2	1	0	1	1	1	0	1
110000101010	0	5	1	4	3	4	1	0	0	4	4	5	1	0	0	0
110000101011	2	4	3	1	0	1	4	1	2	0	0	7	0	1	6	3
110000101100	2	2	0	3	0	2	3	1	2	1	2	3	1	0	0	3
110000101101	5	5	2	1	0	5	1	0	1	0	0	3	0	1	1	0
110000101110	0	0	2	0	3	0	4	1	1	1	4	3	3	2	0	4
110000101111	1	3	0	2	2	1	1	0	2	0	3	2	1	2	0	0
110000110000	2	2	0	1	1	3	2	1	2	2	3	1	0	4	7	1
110000110001	1	1	3	1	0	0	1	0	0	2	1	4	3	0	0	0
110000110010	0	1	0	1	1	4	3	3	0	0	0	1	2	3	1	2
110000110011	2	1	0	1	3	2	1	0	0	0	2	2	5	0	3	1
110000110100	0	2	0	0	1	5	2	3	1	1	0	3	1	3	1	1
110000110101	0	0	1	3	0	1	0	1	0	1	1	2	0	2	2	0
110000110110	0	0	3	1	2	1	1	0	2	0	1	0	1	0	1	1
110000110111	0	2	0	3	0	0	0	0	4	4	1	1	0	1	4	6
110000111000	0	1	3	0	1	0	4	1	3	1	2	2	0	2	2	2
110000111001	1	2	0	2	2	4	0	0	1	0	1	0	1	1	1	0
110000111010	1	2	0	2	0	3	2	0	0	0	0	2	3	1	0	0
110000111011	1	0	4	1	3	2	2	2	3	3	4	2	0	2	2	1
110000111100	1	2	4	2	1	3	2	4	1	1	6	2	0	2	1	0
110000111101	2	1	1	0	0	0	1	3	0	1	3	3	1	0	0	2
110000111110	1	4	0	0	3	3	3	1	0	2	1	4	1	0	1	1
110000111111	1	0	2	1	0	2	5	5	1	3	1	0	1	1	3	5
110001000000	1	5	2	1	5	2	4	1	0	0	0	2	2	1	2	1
110001000001	5	5	0	3	1	0	2	0	5	2	2	0	1	1	0	2
110001000010	0	5	0	1	2	0	0	3	2	0	3	1	0	1	1	2
110001000011	1	0	3	1	2	3	0	1	4	1	1	2	2	2	1	2
110001000100	3	0	2	3	2	3	3	3	2	0	2	1	2	1	1	1
110001000101	1	0	0	1	1	4	0	1	3	1	0	4	1	3	2	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110001000110	1	0	6	0	2	2	1	4	1	4	1	3	4	2	2	2
110001000111	1	0	0	1	0	2	1	0	2	1	3	2	0	1	0	1
110001001000	0	2	0	1	1	1	5	0	2	2	1	3	2	0	1	1
110001001001	2	2	0	1	1	3	1	4	5	2	0	2	1	0	1	2
110001001010	1	3	5	1	3	0	3	2	5	3	5	1	4	2	0	1
110001001011	0	4	3	1	1	0	1	0	2	6	2	1	1	0	1	2
110001001100	0	3	0	4	0	2	2	0	4	3	0	3	2	2	0	2
110001001101	1	2	0	0	1	0	1	0	1	0	0	2	0	1	1	2
110001001110	2	1	0	1	3	1	0	3	6	0	2	0	2	1	3	1
110001001111	3	0	2	2	0	0	1	0	2	4	2	1	0	1	4	5
110001010000	1	5	0	1	2	1	1	4	0	1	5	3	2	0	0	1
110001010001	2	7	1	0	0	2	4	0	5	4	2	0	5	3	0	1
110001010010	0	2	0	1	4	0	2	1	1	4	0	2	0	0	3	0
110001010011	0	1	0	0	0	4	3	0	0	2	0	0	0	0	1	1
110001010100	3	0	0	2	2	0	4	5	2	2	2	2	2	2	0	3
110001010101	1	3	2	2	3	3	0	0	1	5	2	1	1	0	2	3
110001010110	3	1	0	2	1	3	2	5	4	4	1	2	3	4	0	3
110001010111	4	1	0	1	1	1	0	0	3	0	0	0	2	1	3	0
110001011000	0	0	1	4	0	5	0	2	4	2	0	2	0	1	3	5
110001011001	2	2	4	0	2	0	3	0	2	0	0	5	1	0	2	0
110001011010	1	1	1	0	5	5	2	0	0	4	5	0	1	0	4	0
110001011011	2	2	0	0	1	2	4	2	0	2	3	1	2	1	4	0
110001011100	3	1	1	0	0	1	5	4	2	1	2	1	4	0	0	2
110001011101	1	3	2	1	2	1	1	1	1	3	0	2	2	1	2	2
110001011110	1	0	2	0	1	0	3	0	2	1	0	2	1	0	0	2
110001011111	0	0	2	4	1	6	4	3	4	4	0	0	3	2	1	0
110001100000	3	2	4	3	3	2	2	1	1	1	0	3	0	2	1	5
110001100001	3	1	0	0	3	0	0	0	2	4	0	1	2	0	0	3
110001100010	3	0	1	1	9	0	0	0	4	4	3	4	0	1	0	0
110001100011	1	2	3	4	3	0	1	1	0	0	1	3	2	0	1	4
110001100100	2	3	0	4	2	4	2	3	3	3	2	4	1	1	6	2
110001100101	1	4	1	1	2	0	7	2	2	4	3	3	1	3	2	3
110001100110	2	2	1	3	1	1	1	0	1	0	0	4	0	3	4	2
110001100111	1	0	0	1	2	2	0	3	0	0	0	1	5	1	1	7
110001101000	0	4	3	1	1	3	3	0	5	2	1	3	4	2	2	0
110001101001	2	1	0	2	3	1	0	1	2	0	1	2	1	6	1	1
110001101010	2	5	1	2	3	3	3	0	2	1	3	1	3	3	1	2
110001101011	2	1	0	2	0	0	0	0	4	5	2	0	2	2	0	1
110001101100	3	1	6	1	2	0	0	2	1	1	2	0	1	1	1	0
110001101101	4	2	4	0	0	0	2	2	2	1	0	0	0	5	3	1
110001101110	3	1	1	4	5	4	0	1	2	1	2	0	0	5	0	0
110001101111	4	0	4	0	2	4	1	0	0	5	0	0	2	0	3	0
110001110000	0	1	2	1	3	4	1	0	0	0	2	3	1	0	2	0
110001110001	1	4	2	0	4	1	3	5	1	2	0	2	4	2	1	0
110001110010	5	2	0	1	4	0	0	0	3	2	2	0	0	5	2	5
110001110011	1	1	2	0	1	1	3	2	2	0	0	1	0	2	2	2
110001110100	0	3	1	2	2	2	2	0	1	2	0	0	0	2	1	0
110001110101	0	2	2	1	1	2	3	3	3	0	1	1	1	1	1	3
110001110110	1	0	1	3	2	0	1	3	0	2	5	0	1	2	3	1
110001110111	3	2	2	1	1	0	0	0	2	0	1	3	1	1	2	3
110001111000	2	0	0	2	2	0	0	0	0	1	1	1	0	0	0	0
110001111001	1	2	0	2	0	3	1	0	0	5	4	1	0	3	1	0
110001111010	0	2	3	5	2	2	4	0	3	5	3	3	4	5	0	0
110001111011	0	3	1	0	4	0	1	1	6	1	3	4	3	1	3	2
110001111100	0	3	1	3	2	0	0	1	0	4	2	3	2	1	2	0
110001111101	2	1	0	2	5	0	1	1	2	1	0	4	0	2	3	4
110001111110	2	1	1	0	3	1	1	1	0	2	1	1	1	1	0	2
110001111111	0	0	0	2	0	0	1	2	0	2	1	0	2	0	1	0
110010000000	0	0	0	4	2	3	1	0	4	1	1	2	0	0	5	0
110010000001	1	3	2	0	4	4	1	0	0	0	0	1	1	0	1	3



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110010000010	3	3	5	2	1	0	3	1	0	3	3	1	0	1	2	1
110010000011	2	2	3	5	3	1	0	1	3	0	1	1	3	0	2	0
110010000100	2	1	0	6	1	0	0	1	1	1	2	0	3	4	3	1
110010000101	3	2	2	3	0	1	1	0	1	3	0	3	2	1	2	0
110010000110	3	1	0	0	1	0	4	2	0	1	1	1	3	3	0	1
110010000111	0	2	2	3	5	5	0	0	0	5	2	0	2	1	1	0
110010001000	1	1	1	1	2	1	3	0	3	1	0	0	2	0	1	2
110010001001	1	0	0	0	2	3	1	2	1	3	0	1	2	1	5	1
110010001010	0	3	1	1	1	0	0	0	0	2	1	3	1	2	2	2
110010001011	0	1	0	1	0	1	1	0	0	3	0	2	2	0	0	2
110010001100	0	2	0	2	2	3	3	1	1	0	0	1	0	0	9	3
110010001101	2	0	2	3	1	1	0	3	1	2	2	2	2	2	2	2
110010001110	0	2	0	4	0	3	1	0	3	3	0	0	3	0	0	2
110010001111	1	1	0	3	0	0	0	1	0	3	2	6	0	2	0	3
110010010000	4	1	0	2	2	1	2	2	0	1	2	1	0	3	5	3
110010010001	2	1	2	1	1	1	2	6	1	2	0	1	1	1	4	1
110010010010	0	6	3	2	1	4	1	0	1	2	3	1	2	2	1	1
110010010011	0	0	1	1	2	0	6	2	2	0	2	2	2	1	4	0
110010010100	1	0	2	1	2	1	3	2	0	1	1	3	0	5	0	0
110010010101	1	0	2	0	1	5	2	1	1	2	2	2	4	3	0	2
110010010110	1	1	1	2	0	4	2	2	0	1	3	1	1	2	1	0
110010010111	3	1	2	3	2	3	0	0	3	1	2	0	0	3	0	3
110010011000	2	3	2	1	3	0	3	4	1	1	3	2	0	6	2	0
110010011001	1	0	0	0	2	2	1	0	1	0	2	1	2	2	0	1
110010011010	2	2	2	3	1	1	0	4	0	0	0	0	2	1	5	1
110010011011	2	2	1	0	0	4	0	1	1	0	0	3	3	0	0	4
110010011100	2	2	0	0	0	5	1	0	2	2	0	2	4	3	3	0
110010011101	1	1	0	0	3	4	4	0	0	0	0	0	2	1	3	2
110010011110	2	2	0	1	3	1	4	1	2	1	3	3	3	2	0	5
110010011111	3	2	0	0	0	0	0	0	2	1	4	1	3	0	1	4
110010100000	2	0	3	1	3	1	1	0	1	0	1	1	0	1	1	0
110010100001	4	1	2	0	0	3	1	0	3	2	2	0	0	4	0	3
110010100010	0	1	3	2	0	0	2	0	0	2	2	2	0	2	0	2
110010100011	3	1	0	2	0	2	1	1	1	5	0	0	0	3	0	2
110010100100	0	1	0	1	3	0	0	1	2	1	1	1	2	0	1	2
110010100101	2	1	0	2	3	0	0	0	3	2	1	1	2	3	1	0
110010100110	0	0	0	0	1	0	4	3	0	4	0	1	2	2	1	2
110010100111	4	0	0	1	1	4	1	2	0	2	4	1	1	0	1	2
110010101000	4	1	1	3	0	0	2	1	0	0	4	2	0	1	3	1
110010101001	2	1	3	4	0	2	1	2	3	2	2	0	0	0	1	3
110010101010	1	1	1	0	1	0	1	0	2	0	1	2	3	2	0	2
110010101011	1	0	1	5	2	0	1	0	4	0	2	4	2	6	4	2
110010101100	1	2	1	3	0	0	0	0	2	3	3	0	2	2	5	4
110010101101	1	4	2	1	2	1	3	3	2	1	0	1	1	1	4	0
110010101110	2	3	0	4	2	2	2	1	0	3	4	0	1	1	1	2
110010101111	2	0	0	1	2	2	1	2	2	2	1	2	3	2	2	3
110010110000	1	0	1	1	4	2	0	1	1	1	0	2	2	0	2	3
110010110001	0	1	3	2	1	0	0	0	2	1	3	1	2	1	2	0
110010110010	0	2	0	3	2	0	1	0	2	2	2	0	3	0	2	0
110010110011	1	1	2	0	3	1	0	0	0	4	4	2	1	0	1	2
110010110100	2	2	0	2	3	0	1	4	1	2	2	0	0	1	3	0
110010110101	0	3	0	1	0	1	2	0	2	1	1	2	0	1	0	0
110010110110	3	0	1	1	2	4	2	3	2	0	3	2	1	0	0	0
110010110111	2	2	2	0	0	2	1	3	4	2	1	1	0	4	0	3
110010111000	6	0	0	2	4	2	1	1	0	1	0	3	2	2	3	6
110010111001	2	0	0	3	4	3	2	1	3	0	2	3	1	1	0	3
110010111010	0	1	1	0	1	0	1	0	4	1	0	2	1	0	1	0
110010111011	0	3	1	1	2	0	1	1	1	2	0	2	3	2	0	7
110010111100	3	2	2	0	0	2	2	3	2	1	0	1	2	0	0	2
110010111101	2	3	1	1	1	1	2	0	3	4	0	4	1	0	1	1

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110010111110	1	0	1	1	2	0	4	0	3	0	1	1	0	2	2	3
110010111111	3	2	4	2	3	4	1	1	2	2	0	0	1	2	4	0
110011000000	2	3	2	4	4	2	1	1	7	2	0	2	1	3	0	4
110011000001	2	2	3	1	5	3	2	1	4	4	1	2	0	1	2	3
110011000010	4	6	2	0	3	1	2	3	3	0	1	2	4	2	1	0
110011000011	0	1	2	3	2	2	1	0	2	0	4	1	2	5	6	0
110011000100	2	5	0	0	3	1	5	1	1	2	1	1	2	0	0	1
110011000101	0	0	3	4	2	4	1	2	1	2	2	2	0	0	2	0
110011000110	1	0	1	0	4	2	3	1	0	2	3	1	0	0	0	2
110011000111	0	0	1	0	0	2	0	0	1	1	0	0	2	1	1	0
110011001000	4	3	3	3	0	0	2	2	1	4	1	0	0	0	1	1
110011001001	4	0	2	1	2	3	1	1	1	2	4	2	0	3	3	4
110011001010	6	1	3	0	1	0	1	4	2	3	0	2	3	1	1	0
110011001011	0	2	0	0	1	0	3	2	1	1	3	1	0	0	0	1
110011001100	1	3	4	1	0	3	0	0	0	5	1	0	1	1	3	1
110011001101	1	2	6	2	1	1	5	0	1	0	2	2	2	2	2	1
110011001110	2	4	0	1	1	0	3	2	1	3	1	0	2	2	6	1
110011001111	1	1	1	2	0	1	1	0	0	0	0	1	2	1	4	3
110011010000	2	2	2	0	1	3	1	5	0	3	3	0	4	2	0	1
110011010001	2	1	0	1	0	2	4	3	4	1	1	2	1	2	3	0
110011010010	1	0	2	0	1	2	1	0	0	0	2	2	1	0	2	0
110011010011	0	3	0	4	1	0	3	0	0	3	2	2	1	2	1	2
110011010100	0	2	1	0	2	2	3	0	0	0	1	1	1	4	0	1
110011010101	2	4	0	4	1	0	2	2	4	2	0	2	3	1	2	2
110011010110	1	1	2	2	2	3	2	2	2	3	2	2	0	1	3	2
110011010111	1	4	1	0	0	2	0	5	1	2	0	0	1	1	1	0
110011011000	3	1	2	3	2	2	1	1	2	1	2	1	4	2	3	1
110011011001	3	1	1	1	1	3	0	2	1	0	0	2	3	1	0	3
110011011010	1	0	0	2	2	3	0	2	0	1	1	2	0	0	2	2
110011011011	0	1	0	2	3	1	1	2	2	1	0	1	2	0	3	2
110011011100	3	1	0	1	1	0	4	3	0	4	0	0	4	2	0	1
110011011101	0	3	2	3	5	0	2	0	2	2	2	3	0	0	2	0
110011011110	1	1	1	1	2	4	0	1	3	1	0	0	1	3	1	0
110011011111	1	4	3	2	3	0	0	0	2	1	2	3	2	0	0	4
110011100000	0	1	1	0	1	0	0	2	2	0	0	5	3	2	0	0
110011100001	2	1	1	0	2	3	0	2	1	1	0	4	0	4	1	3
110011100010	2	0	0	2	0	1	1	0	1	0	3	0	3	0	0	2
110011100011	2	3	2	2	0	0	3	2	0	0	2	0	0	6	0	1
110011100100	0	2	3	2	0	0	2	3	0	1	2	0	2	0	0	0
110011100101	2	4	2	2	2	2	2	3	3	1	3	0	0	1	2	0
110011100110	0	1	1	1	5	4	4	2	5	0	2	0	2	0	0	2
110011100111	3	1	1	3	2	0	5	0	0	2	6	0	4	2	1	0
110011101000	3	4	2	3	1	0	1	1	1	2	6	3	2	1	2	3
110011101001	3	1	2	1	0	2	6	0	2	0	0	0	2	1	3	1
110011101010	1	0	2	1	1	2	1	2	2	1	0	1	0	1	1	1
110011101011	2	0	1	2	2	0	3	3	1	2	0	2	1	0	0	1
110011101100	2	0	5	1	1	1	2	6	1	3	2	1	3	3	4	1
110011101101	1	1	1	0	2	1	2	4	2	1	3	5	1	3	4	1
110011101110	0	3	0	0	2	2	2	1	2	2	0	2	1	1	2	0
110011101111	2	2	1	2	1	3	3	0	0	0	0	0	0	1	2	1
110011110000	3	1	1	2	4	1	1	2	1	0	1	1	2	0	2	2
110011110001	4	1	1	2	2	0	0	0	2	0	1	3	0	1	0	2
110011110010	1	6	1	2	1	3	0	2	1	0	1	0	1	2	2	1
110011110011	2	0	3	2	0	0	0	2	5	2	1	1	4	2	2	4
110011110100	0	0	0	1	1	0	1	0	2	3	0	0	4	1	3	3
110011110101	1	3	1	2	2	0	2	1	1	2	5	0	4	2	0	0
110011110110	0	2	0	1	3	3	1	3	0	0	0	0	1	3	0	1
110011110111	4	4	2	3	2	0	0	2	2	2	4	2	1	4	4	2
110011111000	5	0	1	0	3	0	0	2	0	2	0	0	2	1	3	2
110011111001	2	1	1	0	0	0	0	1	1	4	3	3	0	1	0	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110011111010	1	0	1	1	3	0	0	1	1	2	3	0	1	0	1	2
110011111011	2	5	0	2	0	0	4	0	0	0	0	1	3	0	0	1
110011111100	3	4	1	0	3	0	0	1	2	0	2	1	1	1	2	0
110011111101	2	4	5	0	1	0	1	2	1	1	6	3	1	0	1	1
110011111110	1	3	4	0	1	0	1	3	0	0	2	3	1	0	1	3
110011111111	1	1	1	2	1	4	1	2	0	2	3	1	2	1	3	0
110100000000	0	4	0	2	0	3	0	0	1	1	2	0	1	4	2	4
110100000001	2	0	4	0	4	2	1	1	1	4	1	2	1	2	1	0
110100000010	3	5	3	0	1	2	3	2	2	0	0	3	1	2	1	2
110100000011	6	0	0	1	1	0	2	2	1	2	0	2	3	4	0	0
110100000100	2	0	0	1	1	3	3	2	1	0	5	5	3	1	2	0
110100000101	0	1	1	4	3	1	2	0	1	3	3	3	1	0	2	5
110100000110	1	0	0	1	4	0	1	4	1	0	3	2	1	0	0	1
110100000111	0	1	0	2	2	1	0	2	2	1	0	0	1	1	0	0
110100001000	0	1	2	1	1	1	0	5	2	2	4	1	0	1	1	2
110100001001	0	1	0	7	2	2	2	4	3	0	2	2	1	4	0	0
110100001010	1	1	1	3	1	0	0	0	4	0	1	0	2	0	4	0
110100001011	0	0	2	0	1	0	1	4	2	1	4	0	0	1	0	0
110100001100	5	3	2	1	1	4	2	5	0	1	2	2	1	1	2	1
110100001101	0	0	1	1	0	3	2	1	3	1	1	1	2	0	0	2
110100001110	0	2	4	0	1	2	1	0	3	0	0	6	1	1	2	0
110100001111	2	4	2	0	4	1	0	0	2	2	0	5	4	0	1	0
110100010000	1	0	0	0	3	3	3	0	2	2	0	2	0	0	0	1
110100010001	1	1	1	0	2	3	2	1	0	0	0	1	7	2	4	1
110100010010	4	1	4	1	1	2	3	0	3	0	1	1	0	1	0	5
110100010011	3	2	2	1	0	3	0	1	2	0	0	3	1	1	2	0
110100010100	0	1	1	2	4	7	5	4	0	1	1	0	0	1	3	2
110100010101	0	1	2	1	1	2	0	2	1	0	4	1	1	0	3	2
110100010110	1	2	2	1	0	0	1	3	0	2	1	0	0	1	1	1
110100010111	2	0	2	3	1	1	3	0	0	2	6	5	2	2	5	1
110100011000	0	0	1	0	1	1	0	1	3	2	3	0	0	1	0	2
110100011001	4	1	1	1	0	0	0	1	1	1	0	4	3	0	1	2
110100011010	0	4	2	3	1	0	0	1	0	3	2	0	0	1	1	1
110100011011	0	1	2	0	3	1	3	1	2	0	2	2	1	1	1	2
110100011100	0	1	2	1	1	0	0	2	1	5	1	1	3	1	3	1
110100011101	3	0	2	3	2	3	3	1	3	0	2	3	1	0	4	0
110100011110	2	1	0	3	2	2	0	2	4	0	1	3	6	1	1	1
110100011111	5	1	2	1	0	2	6	5	0	3	0	2	4	4	2	0
110100100000	1	1	0	2	2	0	4	3	0	0	3	0	3	0	0	2
110100100001	3	1	1	1	1	0	0	2	0	2	1	3	0	2	1	0
110100100010	2	0	2	1	5	0	0	0	2	2	0	1	4	2	0	4
110100100011	0	1	0	1	1	0	1	2	3	1	3	1	1	5	0	0
110100100100	0	0	0	2	0	0	1	1	1	5	3	2	4	1	1	2
110100100101	0	1	3	2	2	1	0	0	1	3	1	0	1	3	4	0
110100100110	0	3	0	1	2	0	1	0	4	1	0	4	4	0	0	0
110100100111	1	1	1	0	0	1	2	1	2	1	1	0	0	2	1	0
110100101000	0	4	0	0	3	1	3	1	0	2	2	1	2	0	1	2
110100101001	0	3	1	0	1	1	0	1	0	2	1	0	1	2	2	3
110100101010	0	1	2	1	0	1	4	0	0	2	1	0	0	1	2	3
110100101011	0	0	0	1	2	0	0	2	4	1	0	0	1	3	1	1
110100101100	1	1	0	1	3	1	2	0	3	2	0	4	2	3	1	1
110100101101	1	1	2	1	0	3	3	0	2	2	2	1	2	2	4	1
110100101110	0	0	1	2	3	2	0	1	3	3	3	0	1	0	2	0
110100101111	0	0	4	0	1	2	0	1	0	0	0	3	4	0	0	0
110100110000	3	1	1	0	2	0	2	3	4	4	0	2	0	3	0	2
110100110001	1	3	0	0	3	5	0	2	2	1	2	2	3	4	1	4
110100110010	6	1	4	2	1	1	2	1	1	3	0	1	3	1	1	2
110100110011	0	0	1	4	2	0	2	3	1	2	2	2	0	0	3	0
110100110100	1	1	1	1	2	1	2	2	4	1	0	0	4	0	1	2
110100110101	2	2	2	1	1	0	0	0	4	0	0	1	3	1	1	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110100110110	0	2	1	2	3	0	1	0	2	2	1	0	5	1	4	0
110100110111	5	1	0	1	0	3	3	0	2	2	1	0	5	4	4	3
110100111000	0	2	2	0	0	3	6	1	2	0	0	0	0	2	0	2
110100111001	1	0	1	1	3	0	1	2	1	0	3	4	0	4	1	3
110100111010	1	3	0	0	0	0	6	2	2	0	1	1	5	2	1	3
110100111011	2	0	1	2	1	0	2	3	0	1	0	0	0	5	1	3
110100111100	4	3	0	0	1	6	0	1	1	4	1	2	1	0	1	2
110100111101	2	0	1	4	3	0	0	1	0	3	2	3	0	0	1	2
110100111110	4	3	1	1	0	2	2	0	0	0	0	0	4	2	4	0
110100111111	5	5	1	0	3	1	2	1	1	1	2	0	1	4	0	1
110101000000	0	4	2	0	0	2	4	1	1	0	0	0	2	1	1	1
110101000001	0	1	4	2	3	0	2	2	0	1	4	2	1	2	2	1
110101000010	0	1	4	1	0	1	3	0	0	0	0	1	5	0	1	1
110101000011	0	1	1	1	3	0	4	2	2	3	4	1	2	1	0	1
110101000100	0	1	1	3	3	1	2	2	0	1	1	0	2	1	0	1
110101000101	2	2	0	0	4	1	2	1	1	2	4	2	1	2	1	1
110101000110	2	1	3	3	1	1	1	2	5	1	2	1	3	1	2	4
110101000111	2	3	1	1	2	2	2	2	1	3	0	4	0	1	0	0
110101001000	3	1	2	2	1	2	2	0	0	4	0	1	2	4	1	1
110101001001	3	0	1	5	0	2	2	3	0	1	2	2	2	2	4	1
110101001010	4	1	1	0	0	2	0	2	1	0	0	1	1	1	4	3
110101001011	1	5	2	4	0	2	2	2	2	0	1	3	5	1	0	4
110101001100	1	2	4	0	1	0	2	0	0	0	0	1	1	0	3	1
110101001101	1	1	0	3	0	2	2	2	1	2	1	0	0	2	0	0
110101001110	5	0	0	2	3	4	3	4	0	4	4	4	1	1	0	1
110101001111	1	3	3	0	0	1	4	1	0	0	1	3	0	1	1	1
110101010000	1	0	1	3	4	0	1	2	5	2	2	1	1	4	0	1
110101010001	4	5	3	2	0	1	1	3	0	1	0	1	0	3	1	0
110101010010	4	1	0	3	1	1	0	2	2	1	1	0	2	0	2	0
110101010011	1	0	0	1	0	1	0	1	0	1	2	3	3	0	1	2
110101010100	4	3	0	2	1	1	2	0	1	2	5	1	4	1	0	0
110101010101	4	0	1	1	1	2	1	0	2	1	2	3	2	1	0	2
110101010110	0	1	3	0	1	7	4	2	0	1	4	2	0	1	1	0
110101010111	0	0	0	5	0	0	0	3	1	0	5	3	4	4	1	1
110101011000	2	0	1	1	1	1	1	1	2	1	1	0	0	0	2	4
110101011001	0	2	1	0	0	1	2	0	0	1	0	6	0	1	0	1
110101011010	1	2	0	4	1	2	2	2	1	0	0	0	3	0	1	2
110101011011	1	5	5	3	2	3	3	4	0	4	2	0	2	0	1	1
110101011100	3	1	1	1	0	4	1	1	0	0	5	2	2	1	0	1
110101011101	2	3	1	1	3	4	2	1	0	2	0	0	3	0	3	1
110101011110	1	3	2	5	0	2	1	0	2	2	3	0	2	3	2	0
110101011111	1	0	4	0	0	2	4	0	1	5	1	2	0	0	0	1
110101100000	0	0	0	1	2	0	2	3	3	0	4	0	2	0	0	3
110101100001	1	0	1	0	0	0	2	4	0	1	1	0	2	4	1	0
110101100010	1	1	1	0	1	3	2	0	1	2	0	6	1	3	3	1
110101100011	3	0	0	3	0	0	0	0	1	3	1	2	2	0	1	2
110101100100	0	0	2	1	4	0	3	3	1	2	0	0	2	1	2	1
110101100101	3	1	5	4	3	1	4	2	2	0	0	2	2	3	3	1
110101100110	3	2	3	0	1	3	3	4	2	2	1	0	1	1	0	4
110101100111	0	1	0	2	2	2	3	2	0	1	2	2	3	4	4	1
110101101000	2	2	2	1	2	0	5	0	0	2	0	1	3	5	1	2
110101101001	2	0	0	2	1	2	1	2	1	0	1	5	1	1	1	5
110101101010	1	1	2	3	0	0	4	5	3	0	1	0	2	1	3	0
110101101011	0	2	1	0	2	0	2	2	7	2	2	6	1	1	3	0
110101101100	1	1	2	0	2	4	1	1	2	1	0	1	1	2	1	1
110101101101	3	2	4	1	0	3	1	1	0	3	0	0	3	0	3	4
110101101110	0	2	1	3	0	2	1	0	1	3	0	2	0	0	0	0
110101101111	4	2	0	2	2	0	1	1	0	4	0	1	2	1	0	2
110101110000	1	1	1	1	0	2	1	3	3	3	0	4	0	0	2	5
110101110001	2	0	0	1	0	0	0	0	0	2	4	0	0	3	2	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110101110010	0	3	2	0	2	1	2	0	1	2	0	0	1	0	2	2
110101110011	3	0	1	0	3	0	0	6	3	0	0	2	2	0	0	3
110101110100	1	0	0	2	2	3	1	2	3	2	1	1	1	0	1	2
110101110101	1	1	0	1	1	2	1	3	1	2	2	0	3	1	1	1
110101110110	0	0	3	5	3	1	0	1	1	1	3	0	1	0	2	1
110101110111	3	0	1	0	4	1	0	0	0	3	1	2	1	0	0	1
110101111000	1	0	0	4	0	1	2	4	2	4	4	1	2	2	2	0
110101111001	1	1	3	0	4	7	2	0	3	3	3	4	2	0	4	0
110101111010	5	2	0	3	0	3	2	0	5	1	1	2	0	1	1	1
110101111011	2	0	4	1	2	0	2	2	4	0	2	0	2	2	0	2
110101111100	2	1	4	2	0	0	2	3	1	0	3	1	3	3	0	1
110101111101	0	0	5	1	2	7	3	4	3	0	1	2	5	0	3	0
110101111110	0	4	1	2	2	2	2	2	1	0	3	4	0	5	2	2
110101111111	0	1	1	1	0	3	0	2	1	4	0	0	3	1	1	2
110110000000	0	4	1	0	3	0	1	2	1	2	1	0	2	1	1	2
110110000001	4	2	4	0	1	0	0	0	3	4	0	1	0	1	1	1
110110000010	3	2	2	1	1	0	1	4	1	3	3	0	1	2	1	3
110110000011	1	5	1	4	5	4	2	3	1	0	1	3	1	1	0	0
110110000100	4	0	0	1	0	3	0	2	0	6	2	3	1	1	0	2
110110000101	1	3	1	3	4	5	0	2	2	0	0	0	1	0	1	1
110110000110	0	0	1	2	2	1	0	2	4	2	5	1	1	0	0	2
110110000111	0	0	1	2	3	3	0	1	0	0	0	1	1	1	4	2
110110001000	0	0	1	0	0	3	2	1	0	2	2	2	3	5	2	1
110110001001	1	4	1	0	4	0	4	4	3	3	3	4	1	4	2	2
110110001010	0	3	3	1	3	1	4	3	0	1	4	0	0	1	3	0
110110001011	0	1	0	3	1	1	1	2	4	0	4	6	1	1	0	2
110110001100	1	4	2	2	1	0	2	0	2	1	1	0	1	1	1	1
110110001101	3	2	2	0	0	2	3	2	1	2	0	1	2	1	0	5
110110001110	1	6	0	2	1	0	0	3	1	0	0	1	1	5	2	1
110110001111	2	0	0	2	0	2	3	2	2	0	2	0	0	1	0	1
110110010000	0	0	1	4	1	2	0	1	1	0	4	3	2	0	1	0
110110010001	2	0	1	0	4	2	1	0	0	0	0	4	1	0	1	2
110110010010	2	2	2	7	1	2	4	1	0	2	2	3	2	2	2	3
110110010011	2	0	2	1	2	1	2	1	1	1	4	4	4	1	0	1
110110010100	5	1	3	1	1	3	1	0	2	1	0	1	3	0	0	1
110110010101	1	3	1	1	2	0	6	1	0	4	4	1	0	2	2	3
110110010110	0	0	2	1	2	1	2	1	1	0	4	3	1	2	3	1
110110010111	0	0	5	5	1	1	3	0	0	1	5	5	7	1	0	1
110110011000	3	1	0	1	1	2	2	2	1	0	0	2	1	1	0	0
110110011001	0	0	0	4	0	1	3	4	3	1	0	2	1	3	2	5
110110011010	0	0	1	0	0	2	1	0	3	0	1	1	1	0	1	6
110110011011	2	2	1	0	0	0	2	3	2	0	2	2	1	3	0	3
110110011100	3	1	0	1	2	0	4	1	2	0	0	1	2	4	0	0
110110011101	0	3	1	1	2	2	1	2	4	2	0	3	0	1	0	0
110110011110	1	1	1	4	1	2	2	2	1	0	1	2	1	1	2	0
110110011111	4	1	1	2	4	0	3	5	1	4	6	4	1	5	1	1
110110100000	2	2	1	0	2	3	2	1	6	1	2	0	3	0	0	1
110110100001	2	0	0	2	2	2	2	2	2	2	1	2	2	2	0	5
110110100010	0	0	1	3	2	3	1	1	5	3	3	5	6	4	6	2
110110100011	0	0	1	2	2	1	2	0	3	0	2	1	1	2	2	0
110110100100	4	2	2	0	5	1	1	1	3	1	2	2	1	4	3	4
110110100101	0	0	2	1	3	2	1	1	1	1	3	0	0	1	0	0
110110100110	0	0	2	1	4	2	2	1	0	3	1	1	2	1	2	2
110110100111	1	0	2	1	1	0	2	1	1	0	0	1	1	2	1	1
110110101000	0	0	0	6	7	0	1	0	1	0	3	0	0	2	0	1
110110101001	2	3	2	0	1	2	4	1	0	1	3	2	4	3	1	1
110110101010	4	0	0	1	1	1	0	1	1	3	5	3	2	1	2	0
110110101011	4	3	2	3	3	3	2	1	4	1	1	3	3	0	1	1
110110101100	1	2	0	0	0	1	0	2	2	3	6	1	1	5	0	0
110110101101	1	2	6	4	4	2	2	0	1	3	0	1	2	0	0	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110110101110	0	2	4	1	0	1	0	4	1	0	0	3	0	0	0	0
110110101111	1	3	0	1	1	0	0	0	2	1	1	0	3	0	0	0
110110110000	1	5	0	1	5	0	2	2	2	0	2	1	0	0	1	3
110110110001	0	1	0	1	0	0	0	0	0	2	0	2	2	4	0	2
110110110010	0	1	1	2	0	1	5	2	3	1	2	2	5	2	2	2
110110110011	0	5	1	2	0	1	0	1	1	2	1	2	3	0	1	2
110110110100	3	0	0	0	1	1	1	1	2	2	1	4	2	2	1	1
110110110101	0	0	4	1	0	1	1	2	2	1	3	2	0	0	3	2
110110110110	0	0	2	2	1	1	1	0	2	0	0	0	2	2	0	3
110110110111	4	0	6	2	3	0	0	1	0	0	1	0	1	1	3	2
110110111000	1	0	3	2	5	3	1	0	0	2	0	1	3	0	3	2
110110111001	1	3	0	3	1	2	1	3	1	2	1	1	1	0	4	1
110110111010	0	1	1	0	4	1	2	3	4	0	1	0	2	0	2	2
110110111011	0	2	1	0	0	1	4	1	2	0	3	0	4	1	2	4
110110111100	2	0	1	1	1	3	3	2	2	1	1	1	1	0	0	1
110110111101	4	2	1	1	2	1	0	1	1	0	3	4	0	2	6	2
110110111110	1	2	1	0	2	0	1	0	3	1	2	0	3	2	1	4
110110111111	1	4	1	0	0	0	0	2	1	3	1	3	4	0	1	0
110111000000	2	0	0	2	0	0	0	2	1	3	3	1	3	3	3	4
110111000001	0	2	3	2	2	1	2	0	2	1	3	0	2	1	2	1
110111000010	0	0	2	2	2	1	4	0	0	1	1	2	2	0	0	3
110111000011	1	5	0	2	0	0	1	2	1	2	0	3	1	1	2	2
110111000100	5	2	0	0	0	0	3	2	4	2	2	1	3	1	1	1
110111000101	1	1	1	0	4	0	4	2	0	2	5	2	5	1	1	2
110111000110	1	1	0	0	0	2	3	3	1	2	3	2	0	2	0	2
110111000111	3	3	2	1	1	0	0	3	2	2	0	0	0	0	0	0
110111001000	1	0	5	2	0	3	1	1	1	0	0	0	0	3	0	0
110111001001	0	0	0	2	1	2	2	1	0	2	2	4	1	3	1	0
110111001010	1	2	1	5	0	2	2	1	1	4	0	1	0	2	2	0
110111001011	0	1	1	1	1	3	2	1	1	3	3	4	0	0	5	0
110111001100	0	2	2	0	5	0	2	3	0	1	1	5	0	1	4	0
110111001101	1	5	0	1	3	5	1	2	2	1	3	2	1	6	1	0
110111001110	2	2	4	1	3	2	1	0	0	0	3	2	2	0	5	0
110111001111	0	1	1	2	0	1	0	2	0	0	2	1	0	0	1	0
110111010000	0	4	2	2	1	4	1	2	1	0	2	3	2	1	2	2
110111010001	2	2	3	1	1	4	0	3	1	4	1	1	0	0	0	2
110111010010	3	3	0	2	0	4	2	0	1	0	3	0	1	1	1	3
110111010011	0	3	1	0	1	1	4	1	1	2	0	1	0	1	0	0
110111010100	1	4	0	5	2	1	6	3	1	0	2	1	1	0	1	3
110111010101	3	0	3	0	2	2	3	3	1	0	2	0	2	4	1	2
110111010110	1	0	2	2	1	1	0	1	5	0	3	0	2	0	0	0
110111010111	0	3	1	3	0	4	0	2	1	1	2	1	1	1	1	0
110111011000	1	2	3	0	0	2	1	1	9	0	1	1	3	2	1	1
110111011001	3	3	3	5	2	4	0	3	1	1	1	3	3	1	1	1
110111011010	1	0	3	1	3	4	1	2	2	1	5	4	0	0	0	2
110111011011	0	0	0	2	0	1	1	4	0	0	0	1	1	3	3	6
110111011100	0	0	0	1	0	1	0	6	1	1	1	1	2	3	2	2
110111011101	5	0	1	3	5	0	5	0	3	1	2	1	0	1	0	2
110111011110	1	1	0	3	2	0	3	1	2	3	1	2	3	2	2	1
110111011111	1	0	0	1	2	2	0	0	0	2	1	1	0	1	1	1
110111100000	2	4	4	2	0	2	5	0	0	2	1	0	0	3	0	1
110111100001	2	3	1	0	0	2	1	0	3	0	1	4	2	0	0	0
110111100010	0	3	0	3	0	1	1	2	2	0	0	0	0	1	2	1
110111100011	0	1	0	3	1	0	2	0	2	7	1	1	1	0	4	2
110111100100	3	4	1	1	1	0	1	2	1	2	0	1	2	1	5	4
110111100101	1	2	0	5	1	1	4	0	6	1	2	5	0	1	1	2
110111100110	0	1	3	3	0	0	4	0	1	3	2	0	3	0	2	3
110111100111	1	1	0	2	0	2	2	0	0	2	2	4	3	4	0	1
110111101000	0	1	3	0	1	2	3	3	2	0	0	2	0	2	0	2
110111101001	5	0	0	3	1	3	2	4	2	1	0	2	1	3	0	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
110111101010	0	0	4	2	2	1	0	0	0	5	2	1	0	1	2	0
110111101011	0	1	3	0	1	4	3	2	2	0	2	1	1	0	0	0
110111101100	1	3	0	1	0	3	1	3	1	1	0	1	5	0	4	2
110111101101	1	2	5	2	1	0	1	4	3	4	1	3	0	0	0	2
110111101110	1	3	2	0	0	2	0	1	0	2	1	3	1	3	2	0
110111101111	0	0	0	0	5	0	1	3	0	1	0	1	3	3	0	4
110111110000	1	0	2	0	1	1	0	1	0	1	3	1	4	3	3	0
110111110001	1	1	2	0	0	3	0	3	0	2	4	1	0	2	2	0
110111110010	8	2	0	3	0	2	3	0	0	0	0	0	0	2	2	1
110111110011	2	1	2	2	2	2	4	2	2	4	0	1	3	0	1	0
110111110100	0	1	0	0	2	2	0	1	1	1	3	0	1	2	1	1
110111110101	1	3	1	3	2	2	1	0	4	3	2	3	1	0	3	2
110111110110	2	2	0	0	2	0	2	2	1	2	0	0	2	0	2	0
110111110111	4	1	5	0	1	1	1	2	3	3	0	0	1	2	1	1
110111111000	1	1	1	0	0	1	3	1	6	0	2	1	0	0	0	0
110111111001	3	0	0	2	2	2	2	2	2	2	1	1	6	2	0	2
110111111010	2	3	0	0	3	0	1	2	0	5	2	0	3	2	0	2
110111111011	1	2	3	1	1	0	2	4	5	2	3	2	0	0	0	1
110111111100	1	2	2	3	2	2	0	1	4	1	1	2	3	0	0	2
110111111101	1	1	0	3	3	2	4	3	2	0	1	1	1	0	2	0
110111111110	0	4	2	3	1	0	3	2	0	0	1	3	0	0	1	1
110111111111	1	0	1	1	3	2	0	0	1	0	0	0	2	1	3	0
111000000000	3	4	1	2	2	0	4	1	2	1	4	1	2	2	1	1
111000000001	3	0	0	3	5	1	1	2	0	1	3	1	1	1	1	0
111000000010	5	4	7	0	2	0	0	1	1	2	0	3	2	0	2	0
111000000011	1	1	1	0	1	1	0	1	1	1	0	2	0	2	0	1
111000000100	2	1	1	0	0	3	0	0	0	1	1	1	1	0	0	1
111000000101	0	3	0	2	0	1	3	0	0	1	2	0	3	1	3	0
111000000110	3	3	2	2	4	2	1	0	1	1	0	1	3	0	1	0
111000000111	2	0	2	0	3	1	2	2	1	0	0	3	2	2	1	2
111000001000	3	2	1	1	3	0	0	3	1	3	0	3	2	2	2	0
111000001001	1	4	0	6	0	1	1	1	0	0	0	2	1	2	1	0
111000001010	2	2	0	1	1	1	0	1	0	1	0	0	3	4	4	4
111000001011	1	2	3	0	1	1	2	0	1	0	3	1	2	3	3	0
111000001100	2	3	3	1	1	2	4	3	1	3	1	0	0	0	0	3
111000001101	0	2	1	0	0	0	2	2	2	1	3	0	2	1	1	0
111000001110	0	2	1	2	3	3	1	2	0	2	0	4	3	0	2	1
111000001111	2	0	3	0	0	0	2	2	4	0	5	1	0	0	5	0
111000010000	0	0	4	1	3	1	0	0	0	4	1	1	2	1	0	1
111000010001	1	0	0	2	1	2	2	0	1	0	0	1	3	1	2	2
111000010010	1	1	2	1	1	0	1	0	3	0	0	0	6	2	1	1
111000010011	1	0	0	0	1	3	1	1	3	5	0	6	2	3	1	1
111000010100	0	3	3	0	2	1	1	2	0	1	1	0	1	0	2	2
111000010101	2	0	1	4	1	1	2	3	1	0	3	1	0	1	0	2
111000010110	0	2	1	4	0	5	0	4	2	2	2	0	1	5	4	0
111000010111	0	4	1	2	0	1	4	0	2	5	3	7	2	1	7	2
111000011000	4	3	3	5	4	3	3	5	2	1	2	0	0	1	2	2
111000011001	4	4	0	1	1	2	2	1	0	2	2	0	0	3	1	3
111000011010	0	2	2	2	4	2	1	2	2	2	0	1	1	1	0	4
111000011011	3	0	1	2	5	1	0	3	2	0	1	0	0	0	1	6
111000011100	0	0	0	1	0	0	0	2	1	1	3	2	1	0	3	3
111000011101	1	2	0	0	1	1	0	0	1	1	3	0	1	1	2	0
111000011110	1	1	2	4	2	1	1	1	2	4	0	1	0	1	1	3
111000011111	1	4	0	0	4	3	3	0	0	2	0	1	3	2	0	0
111000100000	0	3	2	2	0	0	1	0	1	0	2	3	3	1	0	1
111000100001	4	0	3	4	2	0	0	1	1	2	3	2	5	1	4	1
111000100010	0	3	4	1	2	1	2	3	0	0	2	1	4	0	3	4
111000100011	2	1	4	0	0	0	0	2	1	2	2	0	0	0	1	0
111000100100	1	2	1	1	0	2	4	2	5	2	0	1	2	5	3	1
111000100101	2	2	0	1	0	3	1	2	0	4	2	1	0	0	0	6

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
111000100110	1	0	0	3	2	2	0	2	0	1	3	1	3	2	0	1
111000100111	1	4	3	1	0	1	1	1	2	2	1	2	4	1	0	2
111000101000	3	3	0	1	1	1	0	4	0	1	1	3	0	3	1	5
111000101001	3	3	0	2	3	0	0	0	2	0	1	2	4	0	2	1
111000101010	1	2	1	2	0	3	3	2	0	0	0	1	4	0	2	1
111000101011	0	1	0	0	1	2	1	1	0	1	1	0	0	4	3	0
111000101100	1	3	1	2	7	1	3	1	1	0	0	2	4	4	1	0
111000101101	1	0	4	1	2	0	1	0	2	2	3	1	2	0	0	2
111000101110	0	2	0	1	0	0	0	1	3	3	1	6	1	0	0	2
111000101111	2	2	0	4	3	2	2	2	3	5	0	2	5	1	1	3
111000110000	2	1	2	0	0	0	2	3	1	1	2	1	0	0	1	1
111000110001	1	5	1	0	0	1	0	1	3	0	0	3	0	3	2	2
111000110010	0	1	2	2	1	0	1	0	1	3	2	3	4	2	2	0
111000110011	3	0	2	1	1	0	0	0	3	0	2	0	1	2	0	1
111000110100	2	6	1	0	4	2	3	2	0	0	2	0	0	1	0	1
111000110101	3	4	0	1	4	0	2	2	3	1	5	2	5	0	3	3
111000110110	0	1	1	0	4	2	0	1	0	5	3	1	3	5	1	2
111000110111	0	2	0	1	1	3	3	0	0	1	0	2	0	3	1	3
111000111000	2	2	4	1	0	3	3	1	0	0	0	0	0	1	3	1
111000111001	2	5	4	3	4	0	1	3	2	0	1	0	2	0	0	1
111000111010	4	0	0	5	0	1	0	1	4	3	0	3	4	4	1	6
111000111011	4	2	3	1	2	1	2	4	2	3	2	0	1	1	0	3
111000111100	3	1	1	0	6	4	2	3	0	3	0	0	0	3	0	1
111000111101	1	4	2	2	2	3	3	3	0	0	1	4	2	6	1	0
111000111110	2	3	1	0	0	1	4	5	3	1	2	0	3	0	4	2
111000111111	1	1	1	2	1	6	3	1	0	1	2	0	1	3	1	2
111001000000	3	2	3	0	1	2	2	2	0	1	1	3	1	1	1	3
111001000001	2	2	2	1	0	0	1	0	2	3	1	2	0	6	0	1
111001000010	2	1	2	1	1	2	4	1	0	3	2	1	1	3	2	2
111001000011	1	1	4	1	2	2	1	0	1	4	1	1	1	0	1	0
111001000100	2	5	1	6	3	0	1	0	2	1	0	2	1	2	3	1
111001000101	1	0	0	4	4	3	0	0	0	0	3	5	3	0	1	0
111001000110	3	1	1	0	3	1	0	2	3	1	1	1	1	4	1	2
111001000111	4	1	1	1	2	2	1	1	7	0	1	0	4	0	1	0
111001001000	3	1	4	0	0	0	2	2	0	0	2	2	0	0	4	0
111001001001	1	2	1	0	2	0	2	0	0	0	2	0	1	1	5	4
111001001010	2	2	3	1	2	1	1	2	2	0	0	3	2	2	0	1
111001001011	0	3	1	1	3	2	0	0	0	2	1	0	3	1	1	2
111001001100	1	0	3	1	3	1	1	0	1	1	3	1	2	6	3	2
111001001101	2	2	0	5	1	0	1	0	0	3	1	0	2	1	4	0
111001001110	3	1	0	2	0	1	1	2	2	0	2	0	1	0	2	0
111001001111	1	0	4	0	2	2	0	4	2	1	3	0	2	1	3	5
111001010000	4	2	5	1	0	0	1	3	4	1	1	1	0	2	0	1
111001010001	6	3	1	1	1	0	0	2	2	2	0	3	1	2	3	0
111001010010	3	3	0	4	2	1	1	4	0	1	1	1	3	3	3	1
111001010011	0	2	0	0	3	1	2	1	6	0	0	3	3	2	4	0
111001010100	0	0	4	1	6	0	0	0	0	1	0	0	0	0	0	0
111001010101	1	0	1	2	0	1	0	3	1	4	2	0	0	4	6	2
111001010110	0	0	1	2	4	3	5	2	0	0	2	1	0	3	0	0
111001010111	0	1	4	3	2	1	2	1	3	2	2	1	2	3	0	5
111001011000	0	1	0	1	2	0	3	1	0	1	0	2	0	0	2	1
111001011001	1	0	3	3	2	2	1	2	0	0	1	3	3	0	2	2
111001011010	0	0	2	1	2	3	4	1	2	0	4	2	2	0	0	4
111001011011	2	1	1	0	3	3	1	2	2	1	0	4	3	2	0	0
111001011100	0	1	0	2	0	2	0	0	0	1	1	0	0	1	0	0
111001011101	1	0	1	3	2	2	4	1	3	0	0	0	3	0	2	2
111001011110	1	0	3	0	0	3	3	0	1	1	0	1	0	2	0	0
111001011111	2	0	3	0	1	2	0	2	4	0	5	5	1	1	1	1
111001100000	2	2	3	0	3	1	1	0	1	0	0	1	2	3	2	2
111001100001	2	1	4	1	3	3	0	2	0	4	3	1	3	2	1	1



			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
111001100010	1	2	0	2	0	2	0	0	4	2	0	1	3	0	2	2
111001100011	1	0	3	1	2	2	2	0	0	2	5	2	1	1	2	2
111001100100	2	2	1	1	3	1	0	0	4	2	5	2	3	0	1	1
111001100101	2	0	0	4	2	1	2	3	0	4	0	0	0	3	0	2
111001100110	1	1	1	2	1	3	4	4	1	4	2	1	2	0	2	3
111001100111	0	1	0	2	1	0	0	2	0	1	1	1	1	0	1	3
111001101000	3	0	2	0	0	0	0	2	1	3	0	1	0	2	2	0
111001101001	2	3	0	1	4	2	0	1	1	5	4	3	0	7	1	0
111001101010	1	4	0	1	1	5	7	1	1	3	2	0	0	3	1	2
111001101011	2	3	1	0	3	0	4	2	2	0	2	0	2	1	0	2
111001101100	0	0	5	2	1	2	0	1	0	0	0	3	0	1	1	0
111001101101	0	1	1	0	3	0	2	0	1	1	0	0	0	0	0	2
111001101110	1	1	2	2	3	1	0	3	0	0	3	1	0	1	3	1
111001101111	1	4	1	1	0	0	1	0	1	0	3	2	2	1	6	1
111001110000	1	3	1	0	0	1	0	0	1	3	0	1	3	1	1	2
111001110001	0	1	1	1	2	2	3	2	3	0	0	1	1	1	0	2
111001110010	2	0	5	1	2	0	3	1	3	2	1	1	4	2	2	2
111001110011	0	2	1	1	1	1	2	1	1	1	0	3	1	0	2	1
111001110100	2	6	5	1	0	0	1	0	0	1	0	3	0	3	0	5
111001110101	0	1	1	2	0	2	2	3	0	1	1	4	2	1	3	1
111001110110	0	1	0	3	3	1	1	3	1	1	1	2	1	4	4	2
111001110111	1	1	2	0	1	2	4	1	1	1	0	0	2	3	3	1
111001111000	2	4	2	3	2	2	1	3	0	0	3	1	2	1	3	2
111001111001	5	0	0	2	0	1	0	1	0	0	1	0	4	0	1	0
111001111010	0	0	0	0	2	0	0	4	0	2	6	0	1	3	2	3
111001111011	0	2	0	1	5	2	6	3	0	1	2	1	0	6	0	2
111001111100	1	2	1	0	2	0	4	1	3	2	1	2	4	2	4	0
111001111101	1	0	0	0	3	2	1	2	0	2	1	5	0	0	2	2
111001111110	1	1	0	0	0	3	0	2	1	1	1	2	3	3	0	2
111001111111	3	0	2	3	4	5	1	4	0	3	1	2	2	1	0	0
111010000000	1	0	3	2	6	1	5	4	2	2	0	0	2	2	0	0
111010000001	2	0	2	1	2	1	3	4	2	3	3	0	3	0	1	0
111010000010	0	4	2	0	1	1	2	3	1	0	0	0	1	0	4	2
111010000011	3	1	2	0	1	1	2	0	1	0	1	2	3	5	2	1
111010000100	2	2	0	3	4	0	1	0	2	1	2	2	4	0	1	0
111010000101	1	0	1	3	2	3	1	5	5	2	2	4	0	0	0	1
111010000110	2	0	1	3	0	0	0	0	0	3	2	0	1	4	2	1
111010000111	3	4	2	2	6	0	0	0	1	1	0	0	4	3	0	2
111010001000	1	1	1	0	2	2	2	0	6	1	0	1	2	1	4	0
111010001001	1	1	0	0	0	2	0	1	2	2	0	5	1	5	0	0
111010001010	1	0	1	0	1	4	0	1	2	0	1	0	1	1	1	4
111010001011	7	2	0	0	3	3	0	0	0	1	0	0	5	3	1	3
111010001100	0	4	1	3	2	2	4	3	2	0	0	0	0	0	0	1
111010001101	1	1	1	3	1	1	0	3	3	1	2	2	0	0	2	0
111010001110	1	3	2	4	1	1	1	0	2	0	3	1	2	0	2	3
111010001111	0	1	3	3	0	3	0	0	2	0	0	1	1	0	1	3
111010010000	2	3	0	2	0	3	1	1	1	4	2	0	1	0	1	2
111010010001	1	0	1	0	2	3	4	1	4	2	2	4	1	2	0	2
111010010010	3	1	1	1	2	3	4	2	0	0	3	1	2	4	2	2
111010010011	4	2	2	1	2	0	4	0	0	2	1	1	2	2	3	0
111010010100	1	0	0	5	0	2	1	2	0	0	1	1	0	1	0	2
111010010101	0	0	1	1	4	0	4	1	5	1	0	1	0	1	0	2
111010010110	2	1	3	2	5	0	3	0	0	3	4	1	2	1	5	1
111010010111	0	2	0	2	3	0	0	1	0	3	2	1	0	0	0	0
111010011000	0	0	3	1	0	0	2	4	0	1	0	1	0	2	0	1
111010011001	1	1	2	2	0	1	0	1	1	1	2	1	0	0	2	2
111010011010	0	1	0	0	4	2	4	4	2	0	1	1	1	3	0	0
111010011011	1	6	4	2	1	1	4	5	2	3	0	1	0	4	3	0
111010011100	0	6	0	3	1	6	2	4	4	0	1	1	0	1	2	4
111010011101	1	3	2	0	1	0	0	1	0	3	0	2	0	1	2	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
111010011110	2	0	0	6	0	0	0	3	0	4	0	0	4	0	2	0
111010011111	0	0	1	4	1	1	0	2	0	2	1	0	1	1	4	1
111010100000	4	1	0	1	0	1	0	1	4	1	0	1	1	1	1	0
111010100001	3	1	0	0	0	0	0	0	2	2	1	1	2	0	0	4
111010100010	3	1	0	0	3	1	0	4	3	0	0	1	2	1	0	0
111010100011	1	1	0	3	3	2	3	1	0	2	2	1	0	2	2	2
111010100100	3	4	1	2	0	2	2	1	3	4	2	0	0	0	0	3
111010100101	2	4	2	2	1	2	3	1	1	1	3	0	0	2	1	0
111010100110	0	6	1	0	3	4	0	3	1	1	2	2	2	3	2	2
111010100111	1	1	3	2	1	0	4	1	0	0	1	4	4	0	3	0
111010101000	2	1	2	1	2	1	2	2	3	4	1	0	1	4	0	1
111010101001	0	1	0	0	1	1	1	4	2	0	0	0	0	3	2	3
111010101010	3	1	1	0	0	7	3	3	0	1	2	0	0	1	2	9
111010101011	1	0	0	0	1	1	2	0	4	0	1	1	1	5	2	0
111010101100	1	2	1	0	2	2	0	1	0	3	5	0	0	3	0	1
111010101101	0	1	4	0	0	0	2	3	0	1	2	0	0	2	0	2
111010101110	2	4	1	1	0	4	3	4	2	3	0	0	1	1	1	0
111010101111	2	3	0	1	3	1	1	0	0	3	2	1	1	1	2	3
111010110000	2	2	2	2	1	1	2	2	2	0	1	3	0	2	1	1
111010110001	3	2	1	1	2	0	0	0	0	1	1	3	2	0	2	1
111010110010	2	1	0	2	0	0	2	0	0	0	1	0	3	3	6	0
111010110011	4	4	0	0	0	2	1	0	0	2	0	2	3	1	0	0
111010110100	3	1	3	1	3	2	1	1	1	0	0	2	4	1	3	0
111010110101	6	3	3	4	0	0	2	0	0	0	1	0	0	3	2	1
111010110110	2	0	1	3	2	6	6	3	5	0	1	2	0	3	1	1
111010110111	0	0	1	0	6	0	0	2	4	4	0	1	3	5	0	3
111010111000	1	1	2	3	1	1	0	1	0	0	1	2	2	1	1	0
111010111001	3	2	0	1	4	2	2	1	2	1	3	3	6	3	1	3
111010111010	0	3	2	2	2	2	1	3	2	4	3	2	2	1	1	4
111010111011	0	3	1	1	2	1	1	4	1	2	3	0	0	2	1	3
111010111100	3	1	2	4	2	2	0	6	0	2	0	4	1	2	1	0
111010111101	0	3	1	3	0	3	1	1	2	1	1	1	4	2	2	1
111010111110	2	2	0	1	3	2	3	3	2	0	2	0	3	1	1	1
111010111111	4	4	4	0	0	0	0	2	1	0	4	1	1	3	5	1
111011000000	2	4	1	4	2	2	3	0	0	3	4	0	1	1	0	0
111011000001	2	1	3	1	1	1	1	4	0	5	3	0	0	0	3	2
111011000010	1	1	0	0	1	0	3	3	1	0	0	2	2	2	3	0
111011000011	0	1	2	1	2	5	3	3	4	0	0	3	0	3	2	0
111011000100	1	1	1	1	0	1	1	2	3	1	0	0	2	0	0	3
111011000101	1	2	5	2	1	0	3	2	0	1	1	2	0	4	5	2
111011000110	3	2	2	0	1	2	0	2	1	1	2	3	1	1	4	0
111011000111	0	3	2	0	3	1	2	1	0	2	0	2	0	2	0	5
111011001000	1	1	4	2	1	2	1	1	2	4	5	0	0	3	2	1
111011001001	3	0	0	1	3	6	3	0	3	3	0	0	1	6	2	1
111011001010	0	0	7	1	3	0	4	1	1	4	3	0	1	5	0	5
111011001011	3	0	2	5	2	3	1	0	1	0	1	1	0	1	2	1
111011001100	0	0	5	4	5	2	3	3	0	4	1	5	3	1	2	3
111011001101	1	0	2	0	1	3	0	1	1	0	1	2	1	1	1	1
111011001110	2	3	0	2	2	0	4	2	2	0	3	5	2	0	2	0
111011001111	2	0	3	1	0	2	0	1	2	0	2	1	3	0	1	2
111011010000	2	0	5	0	1	0	2	2	1	0	0	1	3	3	0	1
111011010001	3	1	3	0	0	1	0	0	6	0	3	0	1	0	3	1
111011010010	1	0	2	2	3	1	2	2	1	1	5	2	4	3	1	1
111011010011	3	1	2	0	0	0	0	1	3	1	0	2	0	0	4	4
111011010100	1	0	0	4	1	1	2	0	6	0	1	2	5	0	1	1
111011010101	3	2	2	0	7	4	0	4	1	1	1	0	2	1	3	2
111011010110	0	1	1	2	1	0	1	3	0	0	1	1	4	6	2	3
111011010111	2	2	0	0	1	1	3	1	2	0	3	7	0	0	0	1
111011011000	2	1	2	0	0	2	1	1	2	2	0	1	2	2	2	0
111011011001	0	1	2	1	1	0	1	0	2	0	1	0	3	1	0	3

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
111011011010	0	1	1	4	0	3	4	4	3	0	0	1	0	0	3	2
111011011011	0	1	0	4	3	2	2	0	1	1	0	1	3	3	3	0
111011011100	2	1	0	1	3	1	0	0	2	5	0	1	0	0	1	0
111011011101	1	2	1	1	2	1	1	0	7	1	0	3	1	0	0	4
111011011110	1	1	1	2	5	0	0	0	1	0	1	3	2	0	2	1
111011011111	1	3	1	0	3	1	0	2	3	3	2	1	1	0	2	4
111011100000	0	1	0	0	1	1	1	2	1	1	2	2	0	5	3	0
111011100001	1	1	3	4	2	1	0	2	2	1	1	2	2	3	0	2
111011100010	0	2	3	0	3	2	2	1	0	1	2	3	0	1	2	1
111011100011	0	4	0	4	3	0	5	3	0	2	0	0	1	2	0	1
111011100100	0	2	2	4	1	1	6	0	1	0	1	1	0	1	0	3
111011100101	1	1	3	1	1	2	2	2	1	0	0	1	0	0	1	0
111011100110	0	2	2	0	0	3	0	1	0	0	2	2	0	3	1	2
111011100111	1	2	1	1	0	4	1	1	5	1	1	2	1	3	1	0
111011101000	3	2	1	2	6	1	0	3	1	0	4	0	0	2	5	0
111011101001	3	2	2	5	1	4	2	2	2	2	2	3	1	0	2	2
111011101010	0	4	1	0	5	1	0	2	3	1	1	0	1	1	2	2
111011101011	3	2	1	1	3	0	2	4	4	1	1	0	0	3	1	3
111011101100	2	2	4	1	1	1	5	0	0	0	4	1	0	3	2	0
111011101101	1	0	1	2	3	4	2	0	0	1	2	0	4	5	0	3
111011101110	2	0	2	1	2	0	2	0	2	4	2	2	3	2	2	1
111011101111	1	4	0	0	3	2	3	3	2	0	0	0	1	2	1	1
111011110000	0	1	5	2	3	0	1	1	1	4	0	0	1	0	4	6
111011110001	0	0	2	1	2	4	1	2	0	0	1	2	2	0	3	0
111011110010	0	0	1	3	0	3	0	3	1	1	2	5	2	3	0	4
111011110011	2	3	4	2	2	0	3	1	3	0	3	1	4	1	0	4
111011110100	2	1	6	1	0	0	1	4	4	2	0	3	1	0	2	1
111011110101	1	0	2	5	1	0	1	3	7	3	2	0	0	2	2	1
111011110110	2	0	0	4	3	2	2	2	1	2	1	2	0	1	3	0
111011110111	0	4	3	1	0	3	0	0	3	5	0	0	3	0	2	1
111011111000	0	2	3	0	2	0	2	3	3	3	0	0	2	3	0	0
111011111001	3	3	2	1	0	0	0	3	3	1	1	1	2	0	0	2
111011111010	2	1	2	3	0	3	3	0	0	0	3	0	2	2	0	1
111011111011	0	1	3	1	0	1	1	2	2	0	1	4	2	0	3	0
111011111100	0	1	1	1	2	1	1	0	1	3	2	2	1	2	0	0
111011111101	1	3	3	1	3	0	0	0	4	2	2	3	2	0	2	0
111011111110	2	4	6	2	1	3	0	1	2	0	3	2	2	0	4	1
111011111111	0	2	0	4	3	1	0	1	0	3	0	5	1	0	4	3
111100000000	2	2	3	0	2	0	2	4	1	3	0	2	3	0	0	0
111100000001	0	2	1	1	2	3	1	2	0	1	1	0	1	0	2	1
111100000010	0	1	0	3	5	4	1	2	1	1	2	3	2	0	1	0
111100000011	4	2	2	2	2	0	4	5	0	4	3	0	1	1	2	0
111100000100	1	1	3	2	4	2	0	4	1	6	0	0	4	2	3	1
111100000101	1	4	3	3	0	1	1	1	1	1	4	5	1	2	1	2
111100000110	1	3	1	4	2	0	0	2	3	2	2	2	1	3	3	3
111100000111	3	1	1	2	5	0	1	5	0	0	3	0	1	3	1	1
111100001000	1	4	2	1	0	3	0	0	1	0	2	1	5	1	4	1
111100001001	1	2	3	1	2	4	1	1	0	0	2	1	2	0	0	2
111100001010	3	1	2	3	2	3	1	2	0	2	4	3	1	0	1	3
111100001011	0	1	0	0	0	2	3	1	0	3	3	4	1	1	0	2
111100001100	3	2	2	1	2	0	0	2	4	2	4	2	3	0	2	0
111100001101	1	0	2	3	0	1	0	3	3	0	1	1	0	1	3	4
111100001110	2	2	1	3	0	1	2	1	0	1	2	5	1	6	2	0
111100001111	1	0	0	0	4	0	0	0	0	1	1	1	3	0	0	0
111100010000	0	1	2	0	1	2	3	0	1	1	3	0	2	3	2	2
111100010001	1	1	1	0	0	1	1	2	0	2	0	0	1	1	1	0
111100010010	1	3	0	0	0	0	4	4	1	1	1	1	1	2	0	0
111100010011	0	0	1	0	2	2	3	0	0	0	0	2	2	0	2	1
111100010100	0	0	3	2	1	3	2	4	0	5	0	3	0	1	2	2
111100010101	1	2	1	8	0	0	0	3	2	0	0	4	0	0	3	6

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
111100010110	3	3	0	3	2	1	3	1	3	2	4	0	2	5	2	2
111100010111	2	5	1	0	0	5	1	4	1	3	0	1	0	2	1	0
111100011000	2	0	2	1	1	1	1	2	3	0	4	1	1	1	0	4
111100011001	0	0	0	3	2	0	0	0	1	3	1	2	0	3	3	1
111100011010	1	0	0	2	2	3	4	0	3	3	4	0	2	3	0	3
111100011011	1	3	3	1	0	0	0	4	2	0	1	0	1	0	0	0
111100011100	1	6	0	1	3	2	0	2	1	1	2	2	1	2	1	0
111100011101	3	0	4	0	1	3	1	2	2	2	4	0	1	2	1	0
111100011110	0	1	2	0	1	3	2	1	1	0	4	1	0	2	2	1
111100011111	0	2	1	1	1	0	4	1	1	1	0	2	0	0	1	2
111100100000	1	1	0	3	0	1	1	2	1	1	0	0	1	6	2	2
111100100001	0	2	2	1	2	3	2	3	2	1	1	1	0	2	1	0
111100100010	0	0	1	3	3	2	1	3	0	1	0	0	0	1	3	2
111100100011	0	1	1	0	0	0	2	2	5	2	1	2	3	0	2	2
111100100100	1	0	1	0	1	1	1	3	1	0	0	0	1	3	3	0
111100100101	3	0	3	0	0	0	4	0	2	2	2	2	1	1	3	0
111100100110	0	3	2	1	4	0	1	2	1	2	2	0	0	2	1	2
111100100111	3	0	3	3	0	3	1	2	3	2	3	2	3	0	2	0
111100101000	0	0	0	0	1	0	1	1	3	1	0	3	4	1	6	0
111100101001	1	3	1	0	0	1	1	1	1	1	2	4	2	1	2	2
111100101010	2	2	0	1	0	3	0	0	2	3	2	0	1	0	1	0
111100101011	0	1	0	1	0	1	0	2	1	0	2	3	4	2	1	1
111100101100	2	3	0	1	3	2	3	3	2	3	2	0	5	2	0	0
111100101101	2	1	0	0	4	1	4	2	0	2	3	4	1	1	1	3
111100101110	2	1	0	0	2	2	1	0	0	3	3	2	5	1	3	1
111100101111	1	0	0	0	1	0	0	2	0	1	2	2	0	1	1	1
111100110000	4	5	0	2	2	3	0	2	2	2	0	1	1	2	3	0
111100110001	2	3	1	1	3	1	3	3	0	2	3	2	1	0	2	0
111100110010	1	5	5	0	2	0	2	0	1	1	2	0	2	1	1	1
111100110011	4	0	0	3	1	1	3	3	1	0	4	0	3	1	0	5
111100110100	0	0	0	1	2	2	0	1	2	1	0	2	1	0	0	0
111100110101	4	1	2	1	0	0	1	0	2	3	1	2	2	1	2	2
111100110110	2	2	2	3	3	0	1	1	0	0	0	4	3	2	2	0
111100110111	1	2	2	3	1	2	1	4	1	2	2	0	0	2	0	2
111100111000	1	4	2	3	1	1	1	4	0	0	3	4	0	2	1	5
111100111001	0	2	0	2	3	5	3	0	1	1	1	2	0	0	0	1
111100111010	0	2	3	0	2	2	1	1	5	2	0	0	6	0	1	1
111100111011	0	4	2	5	1	4	0	2	0	2	2	1	0	1	2	4
111100111100	1	0	3	2	2	2	0	3	0	2	2	4	0	1	1	3
111100111101	1	1	1	3	3	4	0	1	0	2	2	2	0	0	0	0
111100111110	0	0	0	1	1	1	0	2	2	5	3	2	3	3	2	1
111100111111	1	1	1	0	1	2	1	4	0	1	4	0	4	1	2	5
111101000000	4	0	2	0	1	0	0	3	0	1	3	3	2	0	3	3
111101000001	1	2	3	0	2	0	5	0	0	5	2	1	2	0	1	2
111101000010	0	0	0	0	2	3	0	3	1	0	0	0	7	1	3	1
111101000011	0	3	0	2	6	2	1	2	0	1	2	0	1	0	0	4
111101000100	0	2	1	2	0	0	3	2	1	1	0	0	0	2	0	0
111101000101	1	2	0	2	2	1	1	0	0	2	4	2	0	0	0	3
111101000110	1	0	1	1	0	1	1	3	0	2	0	0	1	2	4	1
111101000111	1	2	0	2	0	2	0	0	1	2	1	1	2	0	4	1
111101001000	1	0	3	3	0	3	0	0	1	2	1	0	0	2	3	0
111101001001	2	1	1	2	0	0	0	2	4	2	4	1	0	2	1	0
111101001010	2	0	4	1	1	0	0	0	0	0	3	0	2	5	1	3
111101001011	3	1	0	0	2	1	0	2	1	1	2	0	4	2	2	3
111101001100	0	1	0	1	2	1	0	4	0	2	0	3	1	0	2	5
111101001101	0	2	3	0	0	1	3	2	3	1	3	0	0	1	0	1
111101001110	0	0	3	0	1	0	2	2	2	2	0	2	2	2	2	1
111101001111	2	4	2	1	0	3	2	0	2	3	1	0	0	2	0	4
111101010000	0	0	0	0	2	0	1	2	4	1	1	1	2	3	2	1
111101010001	0	0	1	6	0	1	0	1	1	0	0	0	3	0	0	0

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
111101010010	6	1	0	5	4	1	2	1	0	0	2	4	0	0	3	1
111101010011	2	0	0	6	1	4	1	1	2	0	2	1	2	2	2	3
111101010100	2	1	1	0	1	2	1	0	1	3	1	1	0	0	2	0
111101010101	2	1	1	1	1	0	1	0	2	2	1	0	4	0	2	0
111101010110	2	0	2	2	1	1	0	2	1	0	0	1	0	1	0	3
111101010111	5	0	1	1	1	0	1	1	3	2	0	5	3	2	0	0
111101011000	2	1	3	5	2	1	0	0	2	0	0	0	0	1	1	0
111101011001	2	5	1	5	1	1	0	2	1	2	0	3	3	0	2	0
111101011010	2	2	3	1	1	1	2	1	1	0	2	0	0	0	3	0
111101011011	1	0	0	0	0	4	0	0	1	4	3	1	2	2	0	0
111101011100	1	2	1	2	0	0	2	2	3	2	3	1	2	0	1	1
111101011101	0	2	1	2	1	2	1	0	2	4	4	0	3	2	0	0
111101011110	1	2	1	2	2	3	0	1	0	2	0	2	2	4	1	3
111101011111	0	1	3	0	0	1	3	1	1	3	2	5	0	3	2	2
111101100000	0	0	3	2	0	0	3	0	0	3	4	0	1	3	0	3
111101100001	5	1	0	0	0	5	1	0	2	0	3	0	0	0	1	2
111101100010	1	1	0	3	4	3	3	1	0	6	2	2	1	5	2	2
111101100011	2	0	2	1	0	1	1	0	4	0	5	2	0	3	0	0
111101100100	0	1	0	3	1	5	4	2	1	2	1	2	2	1	0	1
111101100101	0	1	2	0	2	1	3	0	0	1	1	4	4	0	3	1
111101100110	4	3	1	0	2	0	1	5	1	4	0	4	3	1	2	3
111101100111	1	2	2	2	1	3	1	2	2	3	1	0	1	0	1	1
111101101000	3	1	3	2	3	3	0	1	1	2	2	0	3	3	0	2
111101101001	0	0	0	2	0	1	1	0	0	5	3	4	0	0	0	0
111101101010	0	3	2	2	3	4	5	2	1	3	0	2	3	1	4	1
111101101011	0	3	0	1	1	2	0	0	2	0	3	0	1	1	0	2
111101101100	2	1	1	0	0	1	2	0	1	3	1	0	0	0	3	3
111101101101	3	2	0	1	0	1	3	4	2	0	0	0	0	0	1	1
111101101110	2	1	3	2	0	2	3	2	2	0	0	1	2	2	3	0
111101101111	0	1	1	0	4	1	0	3	1	3	2	0	5	2	3	4
111101110000	1	2	1	2	2	5	2	0	1	3	0	0	0	0	4	4
111101110001	1	3	2	1	1	1	2	1	0	0	1	2	0	2	0	4
111101110010	2	4	1	2	0	1	2	0	1	1	1	0	0	0	0	0
111101110011	0	1	5	0	0	1	2	5	1	1	1	1	0	1	0	2
111101110100	2	2	0	2	0	0	0	0	1	3	0	3	2	4	2	4
111101110101	0	1	3	3	1	0	0	0	0	3	2	0	1	1	1	2
111101110110	1	1	1	1	1	1	1	0	0	3	3	1	1	1	1	3
111101110111	0	4	4	1	1	2	0	0	0	4	0	3	0	2	5	3
111101111000	1	1	2	1	3	1	3	1	0	2	2	0	4	2	3	2
111101111001	2	0	1	1	0	0	3	0	1	0	0	4	0	0	1	1
111101111010	5	1	0	0	1	4	2	0	2	0	3	2	2	0	4	3
111101111011	5	1	2	1	0	5	0	0	2	0	0	3	3	2	0	2
111101111100	2	3	2	0	2	0	0	2	4	3	0	0	1	0	1	1
111101111101	3	0	0	1	0	0	1	0	0	1	1	1	2	0	2	3
111101111110	1	0	0	2	2	1	0	2	0	0	2	2	2	3	3	3
111101111111	1	4	1	3	1	3	0	0	2	1	2	1	4	6	0	0
111110000000	0	0	6	2	2	2	1	0	2	1	1	0	2	1	3	1
111110000001	0	2	2	5	3	2	0	2	2	0	4	3	0	1	1	0
111110000010	1	1	0	4	2	3	2	1	3	0	0	0	1	0	2	4
111110000011	3	0	4	2	1	1	0	2	0	1	0	4	2	6	0	1
111110000100	3	4	3	1	6	4	1	0	0	3	1	1	1	0	3	0
111110000101	0	4	3	4	6	0	0	3	1	0	1	4	0	2	0	0
111110000110	1	2	0	2	3	2	1	0	1	2	0	5	3	0	4	1
111110000111	3	0	1	2	2	2	0	4	3	3	4	4	0	2	2	0
111110001000	1	2	6	5	1	3	3	3	1	2	0	3	1	1	3	0
111110001001	1	1	0	1	1	0	0	1	2	0	0	0	5	0	0	3
111110001010	1	2	3	0	0	0	2	0	0	1	0	0	0	1	0	3
111110001011	3	0	2	1	3	1	1	2	0	0	2	2	2	1	5	2
111110001100	1	3	0	3	1	0	3	1	1	3	2	0	4	2	1	0
111110001101	0	2	2	0	3	0	2	0	5	1	2	1	3	0	3	5

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
1111100011110	1	4	0	0	1	2	2	0	0	3	0	0	1	0	0	1
1111100011111	3	0	0	0	0	2	4	0	0	0	1	0	3	3	2	0
1111100100000	0	0	2	4	1	0	1	0	4	0	0	0	3	1	1	0
1111100100001	0	0	2	3	0	1	1	1	3	0	1	1	0	4	0	2
1111100100010	0	3	4	3	3	0	1	2	3	4	1	0	2	3	2	0
1111100100011	1	2	2	2	3	0	1	0	0	5	2	2	4	4	1	0
1111100101000	3	3	0	4	1	2	1	4	1	0	0	2	3	2	0	3
1111100101001	1	1	3	2	2	0	2	1	1	0	1	3	1	1	1	2
1111100101010	1	1	1	1	4	3	3	0	4	4	2	0	1	2	4	0
1111100101011	1	1	1	1	0	0	2	1	2	1	2	0	2	3	1	0
1111100110000	2	4	2	0	1	1	2	0	0	2	2	0	0	3	1	2
1111100110001	2	0	0	1	0	1	0	0	3	1	4	1	4	3	0	2
1111100110010	2	0	0	0	0	3	2	1	2	3	1	2	3	5	2	2
1111100110011	3	2	1	2	0	3	0	1	0	0	2	0	1	0	2	3
1111100111000	1	1	4	1	2	2	1	1	1	6	1	3	1	0	1	1
1111100111001	0	0	2	6	0	2	1	3	2	1	0	3	0	2	6	1
1111100111010	3	2	4	7	0	0	3	1	1	1	1	0	0	1	3	0
1111100111011	3	1	0	2	3	2	1	0	5	0	0	3	0	2	4	4
1111101000000	1	2	1	1	4	1	3	0	3	3	1	0	3	0	2	1
1111101000001	0	1	0	1	1	1	0	3	1	0	2	1	4	2	3	3
1111101000010	2	2	1	2	0	1	1	1	3	1	2	2	2	1	0	2
1111101000011	3	0	0	2	0	2	0	1	0	2	0	0	0	0	0	2
1111101000100	0	1	3	0	0	1	2	5	5	2	4	1	2	0	0	1
1111101000101	5	3	2	1	2	3	2	1	0	3	0	1	4	0	1	0
1111101000110	0	1	1	1	2	1	0	1	2	0	2	1	6	0	1	2
1111101000111	0	1	0	1	0	1	3	1	1	4	1	0	2	3	0	2
1111101010000	1	2	1	3	0	1	0	0	2	0	2	0	0	1	5	4
1111101010001	3	0	1	5	1	1	1	2	2	2	4	1	1	4	1	1
1111101010010	2	0	1	2	0	0	0	0	1	0	3	3	2	0	2	2
1111101010011	0	3	5	0	0	2	0	3	0	2	2	0	1	0	1	0
1111101011000	0	0	2	3	1	3	1	0	1	1	6	0	0	4	1	1
1111101011001	2	1	2	3	1	2	1	0	0	0	5	0	2	1	3	1
1111101011010	0	1	2	0	0	2	0	0	1	1	5	1	0	1	0	2
1111101011011	0	0	2	2	0	4	1	1	3	1	3	2	2	0	0	1
1111101100000	4	3	3	2	6	0	1	2	2	0	0	1	4	4	4	2
1111101100001	1	1	0	2	3	1	2	1	1	4	0	1	2	0	0	1
1111101100010	0	3	0	3	1	2	5	2	0	2	3	1	0	2	1	2
1111101100011	2	3	0	3	1	0	1	3	2	1	3	4	0	2	0	1
1111101101000	3	1	5	2	1	0	1	0	1	0	1	0	0	1	1	0
1111101101001	1	0	2	0	1	1	0	0	3	3	0	2	2	3	0	0
1111101101010	3	2	3	4	1	4	1	2	0	2	3	1	1	2	3	1
1111101101011	2	1	3	2	0	1	3	3	4	3	0	6	0	0	1	3
1111101110000	2	1	3	0	4	2	1	5	0	1	2	1	6	1	1	0
1111101110001	5	0	1	1	3	1	2	4	0	3	4	3	3	0	1	0
1111101110010	4	1	2	2	3	0	1	0	0	0	1	4	4	1	2	5
1111101110011	0	0	0	2	0	0	4	2	4	3	4	4	1	2	1	3
1111101111000	0	4	2	0	3	3	0	0	0	0	0	4	1	0	0	0
1111101111001	1	3	3	0	1	1	6	2	3	2	0	2	2	0	1	4
1111101111010	1	2	2	2	1	0	0	0	1	2	3	2	1	1	4	3
1111101111011	1	2	0	4	1	3	0	1	0	0	1	1	3	0	3	2
1111110000000	0	3	3	3	0	0	3	1	1	3	0	0	4	0	3	1
1111110000001	2	1	2	3	1	1	3	2	4	1	0	3	3	1	0	0
1111110000010	2	2	1	2	0	2	4	2	1	1	2	1	1	4	6	1
1111110000011	4	3	2	0	1	3	0	3	2	2	1	1	3	1	2	1
1111110000100	4	0	2	0	3	3	0	0	0	3	4	5	2	0	0	4
1111110000101	0	0	0	1	0	2	0	4	0	1	2	3	1	0	3	0
1111110000110	1	0	1	3	2	1	1	4	2	1	2	4	2	1	4	2
1111110000111	2	2	0	1	6	0	1	1	0	2	3	2	3	0	1	1
1111110010000	2	0	0	0	1	1	1	0	1	0	3	1	1	0	1	5
1111110010001	0	0	0	2	1	2	2	4	1	0	3	0	1	1	4	2

			SHA2				SHA2 512		SHA3				KECCAK			
Hash bits	MD-5	SHA1	224	256	384	512	224	256	224	256	384	512	224	256	384	512
111111001010	0	0	4	1	0	0	0	1	5	0	2	0	1	2	1	2
111111001011	1	0	0	0	2	0	0	3	2	1	1	3	1	0	0	1
111111001100	2	1	2	3	1	2	2	5	1	0	2	0	0	2	3	0
111111001101	0	0	2	4	0	1	2	2	1	2	0	2	5	1	1	1
111111001110	1	2	2	0	2	0	0	0	0	0	5	1	0	5	0	2
111111001111	1	1	3	0	4	2	3	0	4	3	3	1	2	0	1	2
111111010000	1	0	0	0	1	1	1	0	0	0	0	4	6	0	3	0
111111010001	2	1	1	1	0	2	0	0	3	3	1	0	2	0	1	1
111111010010	1	1	1	2	2	1	1	2	1	1	0	5	4	1	3	4
111111010011	2	1	2	0	2	0	0	0	2	3	1	1	4	0	4	2
111111010100	2	3	0	0	2	0	3	2	1	1	1	1	1	0	2	0
111111010101	3	5	1	2	0	2	1	0	1	1	3	2	2	0	0	2
111111010110	1	0	2	3	1	4	0	1	0	1	5	1	3	0	0	4
111111010111	3	2	5	3	2	0	2	3	0	1	2	0	0	1	1	5
111111011000	1	0	0	1	1	2	1	0	0	5	2	1	1	3	5	1
111111011001	0	0	1	0	0	4	0	0	2	0	2	0	1	0	2	2
111111011010	1	2	0	1	0	4	1	0	1	1	1	2	2	1	1	3
111111011011	1	4	3	2	1	3	2	1	4	2	2	4	3	1	0	2
111111011100	1	1	2	1	2	0	1	0	3	0	4	2	1	2	0	1
111111011101	1	0	1	2	2	1	1	5	0	2	3	2	1	3	1	1
111111011110	2	1	1	2	2	1	1	2	1	2	1	0	1	6	0	1
111111011111	0	4	0	1	3	3	1	4	1	0	2	2	2	4	1	3
111111100000	1	1	2	0	1	1	2	1	1	0	1	1	3	1	3	0
111111100001	1	2	2	4	4	0	1	0	1	1	2	0	0	2	2	1
111111100010	0	1	2	1	0	3	3	5	0	1	2	4	1	0	0	1
111111100011	2	0	4	0	1	2	2	1	2	1	1	1	2	1	1	2
111111100100	3	1	4	5	1	1	1	0	3	2	3	0	2	0	1	0
111111100101	3	1	2	4	1	0	2	4	1	0	3	2	3	1	6	0
111111100110	2	2	2	3	4	2	0	0	5	3	2	1	0	0	2	3
111111100111	1	1	0	0	1	2	1	2	1	1	1	1	1	2	0	3
111111101000	0	2	1	3	1	2	1	0	1	1	3	0	0	2	1	1
111111101001	2	0	0	3	2	0	4	2	2	1	0	1	2	0	0	0
111111101010	0	2	1	3	3	1	3	0	2	2	1	1	1	3	0	0
111111101011	5	0	0	2	0	3	0	1	1	0	1	1	1	1	2	2
111111101100	1	3	2	0	1	0	0	0	3	2	2	1	3	1	3	2
111111101101	0	1	2	0	0	2	0	3	0	1	0	2	1	1	4	1
111111101110	1	3	2	0	0	5	0	0	2	0	0	2	0	0	0	3
111111101111	1	1	3	1	1	0	1	1	1	4	6	2	0	1	0	2
111111110000	1	1	1	0	1	2	1	0	0	0	0	3	1	2	2	0
111111110001	0	3	2	0	0	2	2	0	1	1	1	4	4	3	4	2
111111110010	1	2	2	1	0	0	0	3	1	3	2	0	0	1	1	2
111111110011	2	1	3	3	1	1	3	2	6	2	0	1	3	0	1	0
111111110100	2	0	2	0	1	4	1	4	0	3	1	0	0	3	1	2
111111110101	2	4	1	1	0	4	2	2	0	4	3	2	0	0	1	0
111111110110	1	1	0	0	1	3	3	1	1	1	3	2	1	0	1	5
111111110111	2	0	0	0	0	0	3	1	1	0	1	1	2	7	0	2
111111111000	2	1	2	3	1	0	0	1	0	1	0	2	3	2	3	4
111111111001	0	1	2	2	1	1	2	1	2	1	3	2	0	0	1	1
111111111010	3	3	1	1	3	1	1	1	2	6	1	0	3	0	0	0
111111111011	6	1	0	3	3	3	0	3	0	0	1	4	0	2	0	0
111111111100	2	0	2	0	1	3	1	0	2	1	2	2	1	1	0	2
111111111101	0	2	1	1	1	3	2	1	1	3	2	1	2	1	4	2
111111111110	0	0	0	4	2	1	1	2	4	1	2	3	0	3	5	4
111111111111	2	0	2	3	2	0	0	2	0	7	1	1	2	0	1	2

## Appendix B

### Czasy generowania skrótów

Funkcja skrótu	Rozmiar skracanej wiadomości [MB]					
	0.05	0.1	1	10	100	1000
MD-5	74 120	693 540	1 414 880	14 116 180	140 846 870	1 436 341 890
SHA1	34 180	231 650	471 130	4 688 620	46 849 390	480 205 530
SHA2-224	40 910	249 080	504 820	5 007 050	50 107 270	512 102 560
SHA2-256	44 910	252 760	511 680	5 051 750	50 221 430	511 880 560
SHA2-384	139 580	916 090	1 987 450	17 963 640	178 640 470	1 830 637 980
SHA2-512	205 630	985 590	1 899 310	18 065 090	178 760 280	1 832 642 850
SHA2-512-224	102 810	883 900	1 791 000	17 909 320	179 456 230	1 833 244 740
SHA2-512-256	106 400	879 550	1 796 290	17 860 840	178 446 230	1 832 549 520
SHA3-224	137 120	1 232 020	2 515 590	25 129 910	251 916 820	2 575 192 540
SHA3-256	150 890	1 305 440	2 663 900	26 554 340	265 552 520	2 733 799 790
SHA3-384	214 740	1 727 720	3 507 310	34 654 730	346 429 580	3 560 152 370
SHA3-512	359 490	2 559 970	5 170 620	50 045 470	500 127 970	5 123 728 380
KECCAK-224	137 010	1 238 830	2 529 990	25 239 030	252 275 480	2 570 850 040
KECCAK-256	148 670	1 302 580	2 656 940	26 588 570	265 335 950	2 725 960 750
KECCAK-384	217 510	1 746 430	3 538 510	34 939 090	347 100 000	3 552 267 050
KECCAK-512	356 160	2 548 830	5 102 480	50 314 680	501 120 620	5 122 012 340

Table 2: Czasy generowania skrótów [ns]