

In this document, a step-by-step and easily understandable tutorial for generating new ciphers from our proposed model is provided. For improved comprehension, each BCDGM output is displayed in distinct colors.

BCDGM OUTPUT	Represented Color
BCDGM Menu / BCDGM Commands	Purple
User Entered Choice	Green
Generated S-boxes	Blue
Generated P-boxes	Red
User Entered Key(32 bytes)	Teal
Generated Derived Keyes	Orange
Generated Block Cipher Structure	Black
Round and Block wise Randomized Primitive’s Assigning	Golden
BCDGM Confirmation Message	Gray

For The Encryption

```
run:

Press '0' to input the Quantum Random Bits file(minimum 10 MB)

Press '1' to input the plain text file path

Press '2' to generate required number S-Boxes and P-Boxes (it will take some time)

Press '3' to Input a single key (32 bytes) for the Generation of required Derived Keys

Press '4' to Generate Block Cipher Structure Diagram

Press '4.1' to show round wise details of the Step-4

Press '5' to encrypt the plain text by applying above generated block cipher)

Press '5.1' to generate another block cipher

Press '6' for exit

Enter your choice

0

Please input the Quantum Random Bits file name:

TRNGBinaryFile.txt
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Size of Quantum Random Bits file is : 10,002,432 bytes

Size of Quantum Random Bits file is : 9,768 kilobytes

Enter your choice

1

Please input the plaintext file name:

Plaintext.txt

Size of plaintext file is : 6,343 bytes

Size of plaintextfile is : 6 kilobytes

Number of blocks in plain text file: 25

Enter your choice

2

Pbox 1: [35, 241, 111, 246, 46, 156, 160, 60, 175, 208, 21, 153, 66, 204, 131, 10, 17, 216, 235, 18, 232, 163, 59, 0, 193, 89, 77, 63, 138, 205, 51, 155, 20, 224, 244, 221, 154, 190, 120, 187, 179, 56, 177, 102, 69, 147, 87, 150, 72, 172, 19, 4, 25, 105, 183, 85, 248, 125, 50, 141, 1, 182, 90, 16, 148, 103, 133, 121, 67, 26, 215, 168, 242, 27, 206, 44, 43, 176, 158, 201, 178, 86, 233, 214, 194, 252, 231, 28, 12, 6, 40, 140, 162, 230, 217, 95, 247, 5, 31, 151, 61, 80, 96, 106, 82, 198, 197, 62, 109, 54, 223, 146, 100, 116, 250, 34, 32, 157, 165, 11, 75, 135, 48, 236, 132, 55, 7, 142, 251, 76, 213, 134, 199, 219, 144, 186, 70, 37, 254, 117, 139, 99, 222, 110, 93, 78, 159, 220, 237, 42, 209, 92, 130, 122, 249, 240, 167, 9, 128, 14, 228, 65, 127, 8, 203, 181, 161, 200, 68, 234, 169, 143, 107, 226, 253, 79, 136, 195, 212, 91, 49, 97, 210, 188, 58, 173, 185, 104, 166, 243, 189, 114, 229, 192, 36, 207, 191, 218, 38, 57, 171, 129, 184, 88, 149, 238, 255, 94, 112, 227, 174, 101, 202, 53, 98, 71, 29, 211, 113, 108, 239, 123, 152, 30, 137, 22, 13, 15, 196, 47, 84, 119, 24, 83, 124, 180, 45, 64, 52, 33, 81, 74, 39, 145, 41, 126, 170, 245, 225, 2, 115, 3, 164, 23, 73, 118]

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Derived Key: 20

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Derived Key: 21

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Derived Key: 22

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Derived Key: 23

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Derived Key: 24

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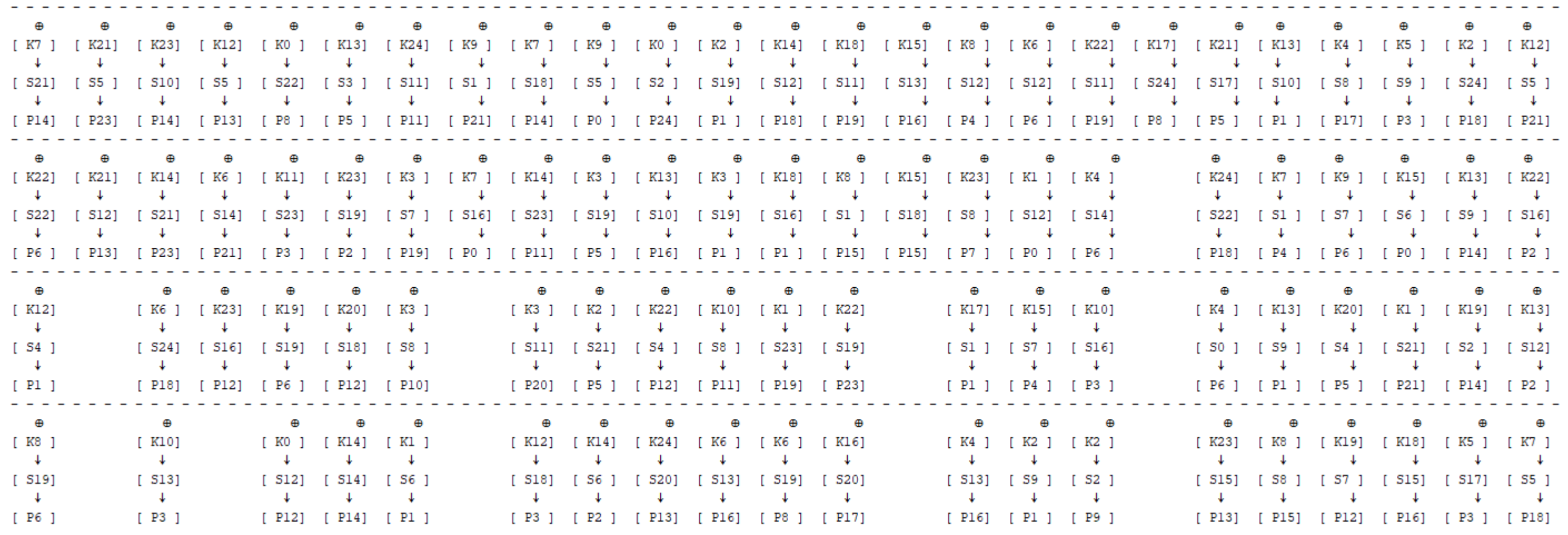
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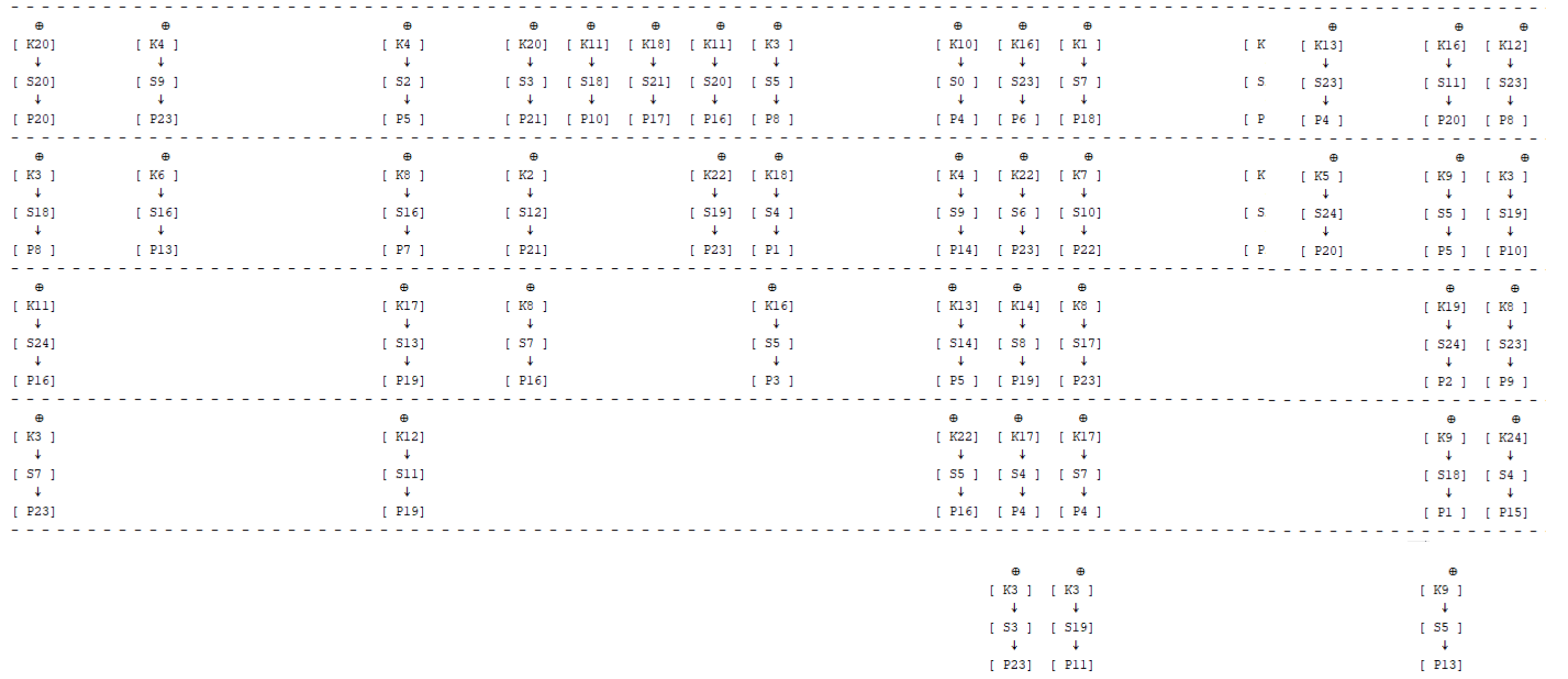
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[ K3 ]	[ K20 ]	[ K22 ]	[ K18 ]	[ K2 ]	[ K1 ]	[ K5 ]	[ K16 ]	[ K11 ]	[ K1 ]	[ K5 ]	[ K2 ]	[ K14 ]	[ K13 ]	[ K1 ]	[ K20 ]	[ K6 ]	[ K17 ]	[ K8 ]	[ K3 ]	[ K12 ]	[ K16 ]	[ K11 ]	[ K3 ]	[ K2 ]
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[ S1 ]	[ S14 ]	[ S18 ]	[ S9 ]	[ S12 ]	[ S7 ]	[ S17 ]	[ S4 ]	[ S22 ]	[ S18 ]	[ S24 ]	[ S10 ]	[ S12 ]	[ S14 ]	[ S2 ]	[ S0 ]	[ S4 ]	[ S8 ]	[ S3 ]	[ S17 ]	[ S18 ]	[ S11 ]	[ S10 ]	[ S8 ]	[ S13 ]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ P22 ]	[ P7 ]	[ P8 ]	[ P12 ]	[ P9 ]	[ P16 ]	[ P7 ]	[ P11 ]	[ P6 ]	[ P15 ]	[ P23 ]	[ P14 ]	[ P7 ]	[ P12 ]	[ P5 ]	[ P10 ]	[ P8 ]	[ P2 ]	[ P24 ]	[ P3 ]	[ P19 ]	[ P8 ]	[ P4 ]	[ P13 ]	[ P10 ]
⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
[ K6 ]	[ K5 ]	[ K1 ]	[ K13 ]	[ K0 ]	[ K1 ]	[ K23 ]	[ K15 ]	[ K10 ]	[ K21 ]	[ K9 ]	[ K14 ]	[ K11 ]	[ K21 ]	[ K11 ]	[ K19 ]	[ K17 ]	[ K6 ]	[ K3 ]	[ K12 ]	[ K19 ]	[ K9 ]	[ K21 ]	[ K0 ]	[ K22 ]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ S24 ]	[ S24 ]	[ S2 ]	[ S9 ]	[ S13 ]	[ S3 ]	[ S9 ]	[ S6 ]	[ S8 ]	[ S23 ]	[ S2 ]	[ S0 ]	[ S8 ]	[ S6 ]	[ S22 ]	[ S5 ]	[ S4 ]	[ S10 ]	[ S24 ]	[ S0 ]	[ S11 ]	[ S11 ]	[ S17 ]	[ S16 ]	[ S12 ]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ P19 ]	[ P5 ]	[ P20 ]	[ P8 ]	[ P6 ]	[ P22 ]	[ P15 ]	[ P20 ]	[ P21 ]	[ P3 ]	[ P15 ]	[ P6 ]	[ P22 ]	[ P23 ]	[ P2 ]	[ P18 ]	[ P11 ]	[ P12 ]	[ P10 ]	[ P8 ]	[ P18 ]	[ P8 ]	[ P8 ]	[ P18 ]	[ P22 ]



$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	
[ K4 ]	[ K5 ]	[ K0 ]	[ K7 ]	[ K16]	[ K7 ]	[ K24]	[ K11]	[ K14]	[ K17]	[ K19]	[ K8 ]	[ K9 ]	[ K1 ]	[ K17]	[ K1 ]	[ K6 ]	[ K11]	[ K17]	[ K5 ]	[ K6 ]	[ K21]	[ K15]	[ K17]	[ K13]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ S15]	[ S7 ]	[ S4 ]	[ S22]	[ S3 ]	[ S14]	[ S14]	[ S19]	[ S21]	[ S5 ]	[ S4 ]	[ S18]	[ S3 ]	[ S15]	[ S18]	[ S14]	[ S5 ]	[ S4 ]	[ S21]	[ S7 ]	[ S0 ]	[ S13]	[ S8 ]	[ S0 ]	[ S13]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ P24]	[ P21]	[ P5 ]	[ P21]	[ P9 ]	[ P7 ]	[ P18]	[ P5 ]	[ P21]	[ P6 ]	[ P12]	[ P8 ]	[ P18]	[ P17]	[ P1 ]	[ P16]	[ P11]	[ P7 ]	[ P17]	[ P12]	[ P7 ]	[ P1 ]	[ P21]	[ P14]	[ P11]
$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	
[ K20]	[ K6 ]	[ K16]	[ K4 ]	[ K6 ]	[ K4 ]	[ K1 ]	[ K8 ]	[ K0 ]	[ K3 ]	[ K19]	[ K4 ]	[ K9 ]	[ K19]	[ K19]	[ K13]	[ K10]	[ K19]	[ K3 ]	[ K4 ]	[ K21]	[ K5 ]	[ K2 ]	[ K21]	[ K14]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ S2 ]	[ S1 ]	[ S8 ]	[ S11]	[ S16]	[ S15]	[ S11]	[ S3 ]	[ S1 ]	[ S18]	[ S8 ]	[ S15]	[ S7 ]	[ S24]	[ S6 ]	[ S2 ]	[ S5 ]	[ S11]	[ S6 ]	[ S12]	[ S9 ]	[ S24]	[ S4 ]	[ S23]	[ S0 ]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ P12]	[ P11]	[ P3 ]	[ P10]	[ P2 ]	[ P20]	[ P24]	[ P4 ]	[ P3 ]	[ P22]	[ P11]	[ P24]	[ P10]	[ P12]	[ P12]	[ P4 ]	[ P11]	[ P15]	[ P12]	[ P22]	[ P24]	[ P14]	[ P18]	[ P24]	[ P9 ]
$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	
[ K2 ]	[ K18]	[ K18]	[ K18]	[ K3 ]	[ K11]	[ K7 ]	[ K24]	[ K16]	[ K14]	[ K16]	[ K21]	[ K23]	[ K20]	[ K4 ]	[ K13]	[ K2 ]	[ K3 ]	[ K11]	[ K3 ]	[ K9 ]	[ K4 ]	[ K21]	[ K24]	[ K21]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ S9 ]	[ S5 ]	[ S2 ]	[ S22]	[ S10]	[ S23]	[ S9 ]	[ S4 ]	[ S16]	[ S0 ]	[ S8 ]	[ S24]	[ S4 ]	[ S12]	[ S1 ]	[ S14]	[ S24]	[ S19]	[ S3 ]	[ S3 ]	[ S6 ]	[ S17]	[ S22]	[ S5 ]	[ S11]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ P15]	[ P15]	[ P12]	[ P0 ]	[ P10]	[ P17]	[ P11]	[ P18]	[ P20]	[ P9 ]	[ P1 ]	[ P7 ]	[ P16]	[ P14]	[ P2 ]	[ P7 ]	[ P10]	[ P8 ]	[ P0 ]	[ P2 ]	[ P13]	[ P2 ]	[ P5 ]	[ P8 ]	[ P13]
$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	$\oplus$	
[ K8 ]	[ K22]	[ K22]	[ K16]	[ K5 ]	[ K16]	[ K6 ]	[ K3 ]	[ K10]	[ K22]	[ K21]	[ K8 ]	[ K6 ]	[ K22]	[ K17]	[ K17]	[ K0 ]	[ K19]	[ K21]	[ K7 ]	[ K23]	[ K9 ]	[ K9 ]	[ K17]	[ K22]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ S21]	[ S8 ]	[ S10]	[ S4 ]	[ S19]	[ S24]	[ S4 ]	[ S16]	[ S10]	[ S23]	[ S14]	[ S6 ]	[ S21]	[ S5 ]	[ S11]	[ S4 ]	[ S23]	[ S4 ]	[ S4 ]	[ S19]	[ S13]	[ S13]	[ S18]	[ S8 ]	[ S3 ]
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
[ P1 ]	[ P9 ]	[ P18]	[ P22]	[ P0 ]	[ P8 ]	[ P14]	[ P13]	[ P1 ]	[ P4 ]	[ P22]	[ P14]	[ P5 ]	[ P0 ]	[ P11]	[ P6 ]	[ P13]	[ P15]	[ P11]	[ P4 ]	[ P18]	[ P2 ]	[ P18]	[ P16]	[ P6 ]



$\oplus$ [ K16 ] ↓ [ S9 ] ↓ [ P17 ]	$\oplus$ [ K17 ] ↓ [ S16 ] ↓ [ P2 ]	$\oplus$ [ K5 ] ↓ [ S4 ] ↓ [ P19 ]	$\oplus$ [ K14 ] ↓ [ S14 ] ↓ [ P7 ]	$\oplus$ [ K24 ] ↓ [ S5 ] ↓ [ P6 ]	$\oplus$ [ K8 ] ↓ [ S10 ] ↓ [ P9 ]	$\oplus$ [ K21 ] ↓ [ S11 ] ↓ [ P10 ]	$\oplus$ [ K12 ] ↓ [ S0 ] ↓ [ P10 ]	$\oplus$ [ K6 ] ↓ [ S20 ] ↓ [ P2 ]	$\oplus$ [ K19 ] ↓ [ S16 ] ↓ [ P1 ]	$\oplus$ [ K13 ] ↓ [ S16 ] ↓ [ P8 ]	$\oplus$ [ K15 ] ↓ [ S11 ] ↓ [ P7 ]	$\oplus$ [ K10 ] ↓ [ S14 ] ↓ [ P5 ]	$\oplus$ [ K19 ] ↓ [ S22 ] ↓ [ P20 ]	$\oplus$ [ K7 ] ↓ [ S13 ] ↓ [ P10 ]	$\oplus$ [ K8 ] ↓ [ S16 ] ↓ [ P24 ]	$\oplus$ [ K21 ] ↓ [ S6 ] ↓ [ P4 ]	$\oplus$ [ K18 ] ↓ [ S4 ] ↓ [ P22 ]	$\oplus$ [ K3 ] ↓ [ S21 ] ↓ [ P23 ]
$\oplus$ [ K3 ] ↓ [ S19 ] ↓ [ P0 ]	$\oplus$ [ K3 ] ↓ [ S2 ] ↓ [ P3 ]	$\oplus$ [ K16 ] ↓ [ S17 ] ↓ [ P5 ]	$\oplus$ [ K15 ] ↓ [ S20 ] ↓ [ P14 ]	$\oplus$ [ K15 ] ↓ [ S12 ] ↓ [ P11 ]	$\oplus$ [ K22 ] ↓ [ S17 ] ↓ [ P0 ]	$\oplus$ [ K19 ] ↓ [ S1 ] ↓ [ P11 ]	$\oplus$ [ K2 ] ↓ [ S18 ] ↓ [ P4 ]	$\oplus$ [ K17 ] ↓ [ S2 ] ↓ [ P13 ]	$\oplus$ [ K11 ] ↓ [ S17 ] ↓ [ P19 ]	$\oplus$ [ K8 ] ↓ [ S10 ] ↓ [ P1 ]	$\oplus$ [ K15 ] ↓ [ S11 ] ↓ [ P23 ]	$\oplus$ [ K3 ] ↓ [ S10 ] ↓ [ P6 ]	$\oplus$ [ K6 ] ↓ [ S19 ] ↓ [ P22 ]	$\oplus$ [ K3 ] ↓ [ S24 ] ↓ [ P19 ]	$\oplus$ [ K22 ] ↓ [ S11 ] ↓ [ P15 ]	$\oplus$ [ K23 ] ↓ [ S15 ] ↓ [ P23 ]	$\oplus$ [ K22 ] ↓ [ S4 ] ↓ [ P8 ]	$\oplus$ [ K21 ] ↓ [ S11 ] ↓ [ P22 ]
$\oplus$ [ K16 ] ↓ [ S0 ] ↓ [ P18 ]	$\oplus$ [ K1 ] ↓ [ S5 ] ↓ [ P23 ]	$\oplus$ [ K2 ] ↓ [ S14 ] ↓ [ P3 ]	$\oplus$ [ K3 ] ↓ [ S18 ] ↓ [ P1 ]	$\oplus$ [ K11 ] ↓ [ S20 ] ↓ [ P5 ]	$\oplus$ [ K11 ] ↓ [ S16 ] ↓ [ P19 ]	$\oplus$ [ K1 ] ↓ [ S11 ] ↓ [ P1 ]	$\oplus$ [ K10 ] ↓ [ S19 ] ↓ [ P19 ]	$\oplus$ [ K9 ] ↓ [ S24 ] ↓ [ P15 ]	$\oplus$ [ K0 ] ↓ [ S22 ] ↓ [ P3 ]	$\oplus$ [ K22 ] ↓ [ S21 ] ↓ [ P8 ]	$\oplus$ [ K9 ] ↓ [ S4 ] ↓ [ P13 ]	$\oplus$ [ K21 ] ↓ [ S2 ] ↓ [ P20 ]	$\oplus$ [ K9 ] ↓ [ S11 ] ↓ [ P18 ]	$\oplus$ [ K14 ] ↓ [ S19 ] ↓ [ P5 ]	$\oplus$ [ K1 ] ↓ [ S7 ] ↓ [ P1 ]	$\oplus$ [ K16 ] ↓ [ S20 ] ↓ [ P13 ]		
$\oplus$ [ K10 ] ↓ [ S0 ] ↓ [ P12 ]	$\oplus$ [ K1 ] ↓ [ S9 ] ↓ [ P16 ]	$\oplus$ [ K2 ] ↓ [ S24 ] ↓ [ P12 ]	$\oplus$ [ K10 ] ↓ [ S9 ] ↓ [ P15 ]	$\oplus$ [ K23 ] ↓ [ S3 ] ↓ [ P13 ]	$\oplus$ [ K16 ] ↓ [ S7 ] ↓ [ P5 ]	$\oplus$ [ K0 ] ↓ [ S5 ] ↓ [ P24 ]	$\oplus$ [ K12 ] ↓ [ S17 ] ↓ [ P13 ]	$\oplus$ [ K14 ] ↓ [ S21 ] ↓ [ P11 ]	$\oplus$ [ K19 ] ↓ [ S18 ] ↓ [ P10 ]	$\oplus$ [ K3 ] ↓ [ S23 ] ↓ [ P19 ]	$\oplus$ [ K20 ] ↓ [ S4 ] ↓ [ P22 ]	$\oplus$ [ K8 ] ↓ [ S15 ] ↓ [ P1 ]	$\oplus$ [ K8 ] ↓ [ S3 ] ↓ [ P20 ]	$\oplus$ [ K8 ] ↓ [ S13 ] ↓ [ P23 ]				



Cipher Text

Enter your choice

4.1

Block Cipher Round-by-Round Details

Number of rounds selected for Block 1 are 24

BCDGM Round 1

Selected Derived Key No. --> 23

Selected Sbox No. -->17

Selected Pbox No. --> 14

BCDGM Round 2

Selected Derived Key No. --> 22

Selected Sbox No. -->17

Selected Pbox No. --> 7

BCDGM Round 3

Selected Derived Key No. --> 14

Selected Sbox No. -->24

Selected Pbox No. --> 5

BCDGM Round 4

Selected Derived Key No. --> 10

Selected Sbox No. -->20

Selected Pbox No. --> 1

BCDGM Round 5

Selected Derived Key No. --> 16

Selected Sbox No. -->24

Selected Pbox No. --> 10

BCDGM Round 6

Selected Derived Key No. --> 14

Selected Sbox No. -->0

Selected Pbox No. --> 1

BCDGM Round 7

Selected Derived Key No. --> 3



Selected Sbox No. -->1

Selected Pbox No. --> 22

BCDGM Round 8

Selected Derived Key No. --> 6

Selected Sbox No. -->24

Selected Pbox No. --> 19

BCDGM Round 9

Selected Derived Key No. --> 4

Selected Sbox No. -->15

Selected Pbox No. --> 24

BCDGM Round 10

Selected Derived Key No. --> 20

Selected Sbox No. -->2

Selected Pbox No. --> 12

BCDGM Round 11

Selected Derived Key No. --> 2

Selected Sbox No. -->9

Selected Pbox No. --> 15

BCDGM Round 12

Selected Derived Key No. --> 8

Selected Sbox No. -->21

Selected Pbox No. --> 1

BCDGM Round 13

Selected Derived Key No. --> 7

Selected Sbox No. -->21

Selected Pbox No. --> 14

BCDGM Round 14

Selected Derived Key No. --> 22

Selected Sbox No. -->22

Selected Pbox No. --> 6

BCDGM Round 15

Selected Derived Key No. --> 12

Selected Sbox No. -->4

Selected Pbox No. --> 1

BCDGM Round 16

Selected Derived Key No. --> 8

Selected Sbox No. -->19

Selected Pbox No. --> 6

BCDGM Round 17

Selected Derived Key No. --> 16

Selected Sbox No. -->9

Selected Pbox No. --> 17

BCDGM Round 18

Selected Derived Key No. --> 3

Selected Sbox No. -->19

Selected Pbox No. --> 0

BCDGM Round 19

Selected Derived Key No. --> 16

Selected Sbox No. -->0

Selected Pbox No. --> 18

BCDGM Round 20

Selected Derived Key No. --> 10

Selected Sbox No. -->0

Selected Pbox No. --> 12

BCDGM Round 21

Selected Derived Key No. --> 20

Selected Sbox No. -->20

Selected Pbox No. --> 20

BCDGM Round 22

Selected Derived Key No. --> 3

Selected Sbox No. -->18

Selected Pbox No. --> 8

BCDGM Round 23

Selected Derived Key No. --> 11

Selected Sbox No. -->24

Selected Pbox No. --> 16

BCDGM Round 24

Selected Derived Key No. --> 3

Selected Sbox No. -->7

Selected Pbox No. --> 23

Number of rounds selected for Block 2 are 14

BCDGM Round 1

Selected Derived Key No. --> 0

Selected Sbox No. -->17

Selected Pbox No. --> 18

BCDGM Round 2

Selected Derived Key No. --> 5

Selected Sbox No. -->14

Selected Pbox No. --> 8

BCDGM Round 3

Selected Derived Key No. --> 24

Selected Sbox No. -->24

Selected Pbox No. --> 18

BCDGM Round 4

Selected Derived Key No. --> 11

Selected Sbox No. -->23

Selected Pbox No. --> 7

BCDGM Round 5

Selected Derived Key No. --> 11

Selected Sbox No. -->2

Selected Pbox No. --> 20

BCDGM Round 6

Selected Derived Key No. --> 18

Selected Sbox No. -->13

Selected Pbox No. --> 24

BCDGM Round 7

Selected Derived Key No. --> 20

Selected Sbox No. -->14

Selected Pbox No. --> 7

BCDGM Round 8

Selected Derived Key No. --> 5

Selected Sbox No. -->24

Selected Pbox No. --> 5

BCDGM Round 9

Selected Derived Key No. --> 5

Selected Sbox No. -->7

Selected Pbox No. --> 21

BCDGM Round 10

Selected Derived Key No. --> 6

Selected Sbox No. -->1

Selected Pbox No. --> 11

BCDGM Round 11

Selected Derived Key No. --> 18

Selected Sbox No. -->5

Selected Pbox No. --> 15

BCDGM Round 12

Selected Derived Key No. --> 22

Selected Sbox No. -->8

Selected Pbox No. --> 9

BCDGM Round 13

Selected Derived Key No. --> 21

Selected Sbox No. -->5

Selected Pbox No. --> 23

BCDGM Round 14

Selected Derived Key No. --> 21

Selected Sbox No. -->12

Selected Pbox No. --> 13

Number of rounds selected for Block 3 are 22

BCDGM Round 1

Selected Derived Key No. --> 14

Selected Sbox No. -->6

Selected Pbox No. --> 20

BCDGM Round 2

Selected Derived Key No. --> 6

Selected Sbox No. -->4

Selected Pbox No. --> 24

BCDGM Round 3

Selected Derived Key No. --> 1

Selected Sbox No. -->0

Selected Pbox No. --> 4

BCDGM Round 4

Selected Derived Key No. --> 17

Selected Sbox No. -->9

Selected Pbox No. --> 3

BCDGM Round 5

Selected Derived Key No. --> 12

Selected Sbox No. -->16

Selected Pbox No. --> 0

BCDGM Round 6

Selected Derived Key No. --> 24

Selected Sbox No. -->11

Selected Pbox No. --> 23

BCDGM Round 7

Selected Derived Key No. --> 22

Selected Sbox No. -->18



Selected Pbox No. --> 8

BCDGM Round 8

Selected Derived Key No. --> 1

Selected Sbox No. -->2

Selected Pbox No. --> 20

BCDGM Round 9

Selected Derived Key No. --> 0

Selected Sbox No. -->4

Selected Pbox No. --> 5

BCDGM Round 10

Selected Derived Key No. --> 16

Selected Sbox No. -->8

Selected Pbox No. --> 3

BCDGM Round 11

Selected Derived Key No. --> 18

Selected Sbox No. -->2

Selected Pbox No. --> 12

BCDGM Round 12

Selected Derived Key No. --> 22

Selected Sbox No. -->10

Selected Pbox No. --> 18

BCDGM Round 13

Selected Derived Key No. --> 23

Selected Sbox No. -->10

Selected Pbox No. --> 14

BCDGM Round 14

Selected Derived Key No. --> 14

Selected Sbox No. -->21

Selected Pbox No. --> 23

BCDGM Round 15

Selected Derived Key No. --> 6

Selected Sbox No. -->24

Selected Pbox No. --> 18

BCDGM Round 16

Selected Derived Key No. --> 10

Selected Sbox No. -->13

Selected Pbox No. --> 3

BCDGM Round 17

Selected Derived Key No. --> 17

Selected Sbox No. -->16

Selected Pbox No. --> 2

BCDGM Round 18

Selected Derived Key No. --> 3

Selected Sbox No. -->2

Selected Pbox No. --> 3

BCDGM Round 19

Selected Derived Key No. --> 1

Selected Sbox No. -->5

Selected Pbox No. --> 23

BCDGM Round 20

Selected Derived Key No. --> 1

Selected Sbox No. -->9

Selected Pbox No. --> 16

BCDGM Round 21

Selected Derived Key No. --> 4

Selected Sbox No. -->9

Selected Pbox No. --> 23

BCDGM Round 22

Selected Derived Key No. --> 6

Selected Sbox No. -->16

Selected Pbox No. --> 13

Number of rounds selected for Block 4 are 15

BCDGM Round 1

Selected Derived Key No. --> 19

Selected Sbox No. -->18

Selected Pbox No. --> 0

BCDGM Round 2

Selected Derived Key No. --> 14

Selected Sbox No. -->7

Selected Pbox No. --> 4

BCDGM Round 3

Selected Derived Key No. --> 11

Selected Sbox No. -->19

Selected Pbox No. --> 19

BCDGM Round 4

Selected Derived Key No. --> 5

Selected Sbox No. -->16

Selected Pbox No. --> 16

BCDGM Round 5

Selected Derived Key No. --> 5

Selected Sbox No. -->20

Selected Pbox No. --> 11

BCDGM Round 6

Selected Derived Key No. --> 16

Selected Sbox No. -->5

Selected Pbox No. --> 19

BCDGM Round 7

Selected Derived Key No. --> 18

Selected Sbox No. -->9

Selected Pbox No. --> 12

BCDGM Round 8

Selected Derived Key No. --> 13

Selected Sbox No. -->9

Selected Pbox No. --> 8

BCDGM Round 9

Selected Derived Key No. --> 7

Selected Sbox No. -->22

Selected Pbox No. --> 21

BCDGM Round 10

Selected Derived Key No. --> 4

Selected Sbox No. -->11

Selected Pbox No. --> 10

BCDGM Round 11

Selected Derived Key No. --> 18

Selected Sbox No. -->22

Selected Pbox No. --> 0

BCDGM Round 12

Selected Derived Key No. --> 16

Selected Sbox No. -->4

Selected Pbox No. --> 22

BCDGM Round 13

Selected Derived Key No. --> 12

Selected Sbox No. -->5

Selected Pbox No. --> 13

BCDGM Round 14

Selected Derived Key No. --> 6

Selected Sbox No. -->14

Selected Pbox No. --> 21

BCDGM Round 15

Selected Derived Key No. --> 23

Selected Sbox No. -->16

Selected Pbox No. --> 12

Number of rounds selected for Block 5 are 19

BCDGM Round 1

Selected Derived Key No. --> 11

Selected Sbox No. -->16

Selected Pbox No. --> 20

BCDGM Round 2

Selected Derived Key No. --> 11

Selected Sbox No. -->13

Selected Pbox No. --> 21

BCDGM Round 3

Selected Derived Key No. --> 16

Selected Sbox No. -->17

Selected Pbox No. --> 7

BCDGM Round 4

Selected Derived Key No. --> 4

Selected Sbox No. -->0

Selected Pbox No. --> 13

BCDGM Round 5

Selected Derived Key No. --> 14

Selected Sbox No. -->14

Selected Pbox No. --> 18

BCDGM Round 6

Selected Derived Key No. --> 20

Selected Sbox No. -->20

Selected Pbox No. --> 11

BCDGM Round 7

Selected Derived Key No. --> 2

Selected Sbox No. -->12

Selected Pbox No. --> 9

BCDGM Round 8

Selected Derived Key No. --> 0

Selected Sbox No. -->13

Selected Pbox No. --> 6



BCDGM Round 9

Selected Derived Key No. --> 16

Selected Sbox No. -->3

Selected Pbox No. --> 9

BCDGM Round 10

Selected Derived Key No. --> 6

Selected Sbox No. -->16

Selected Pbox No. --> 2

BCDGM Round 11

Selected Derived Key No. --> 3

Selected Sbox No. -->10

Selected Pbox No. --> 10

BCDGM Round 12

Selected Derived Key No. --> 5

Selected Sbox No. -->19

Selected Pbox No. --> 0

BCDGM Round 13

Selected Derived Key No. --> 0

Selected Sbox No. -->22

Selected Pbox No. --> 8

BCDGM Round 14

Selected Derived Key No. --> 11

Selected Sbox No. -->23

Selected Pbox No. --> 3

BCDGM Round 15

Selected Derived Key No. --> 19

Selected Sbox No. -->19

Selected Pbox No. --> 6

BCDGM Round 16

Selected Derived Key No. --> 0

Selected Sbox No. -->12

Selected Pbox No. --> 12

BCDGM Round 17

Selected Derived Key No. --> 5

Selected Sbox No. -->4

Selected Pbox No. --> 19

BCDGM Round 18

Selected Derived Key No. --> 16

Selected Sbox No. -->17

Selected Pbox No. --> 5

BCDGM Round 19

Selected Derived Key No. --> 2

Selected Sbox No. -->14

Selected Pbox No. --> 3

Number of rounds selected for Block 6 are 20

BCDGM Round 1

Selected Derived Key No. --> 16

Selected Sbox No. -->9

Selected Pbox No. --> 24

BCDGM Round 2

Selected Derived Key No. --> 22

Selected Sbox No. -->24

Selected Pbox No. --> 8

BCDGM Round 3

Selected Derived Key No. --> 8

Selected Sbox No. -->15

Selected Pbox No. --> 13

BCDGM Round 4

Selected Derived Key No. --> 16

Selected Sbox No. -->13

Selected Pbox No. --> 11

BCDGM Round 5

Selected Derived Key No. --> 1

Selected Sbox No. -->5

Selected Pbox No. --> 15

BCDGM Round 6

Selected Derived Key No. --> 13

Selected Sbox No. -->1

Selected Pbox No. --> 21

BCDGM Round 7

Selected Derived Key No. --> 1

Selected Sbox No. -->7

Selected Pbox No. --> 16

BCDGM Round 8

Selected Derived Key No. --> 1

Selected Sbox No. -->3

Selected Pbox No. --> 22

BCDGM Round 9

Selected Derived Key No. --> 7

Selected Sbox No. -->14

Selected Pbox No. --> 7

BCDGM Round 10

Selected Derived Key No. --> 4

Selected Sbox No. -->15

Selected Pbox No. --> 20

BCDGM Round 11

Selected Derived Key No. --> 11

Selected Sbox No. -->23

Selected Pbox No. --> 17

BCDGM Round 12

Selected Derived Key No. --> 16

Selected Sbox No. -->24

Selected Pbox No. --> 8

BCDGM Round 13

Selected Derived Key No. --> 13

Selected Sbox No. -->3

Selected Pbox No. --> 5

BCDGM Round 14

Selected Derived Key No. --> 23

Selected Sbox No. -->19

Selected Pbox No. --> 2

BCDGM Round 15

Selected Derived Key No. --> 20

Selected Sbox No. -->18

Selected Pbox No. --> 12

BCDGM Round 16

Selected Derived Key No. --> 14

Selected Sbox No. -->14

Selected Pbox No. --> 14

BCDGM Round 17

Selected Derived Key No. --> 14

Selected Sbox No. -->14

Selected Pbox No. --> 7

BCDGM Round 18

Selected Derived Key No. --> 15

Selected Sbox No. -->20

Selected Pbox No. --> 14

BCDGM Round 19

Selected Derived Key No. --> 3

Selected Sbox No. -->18

Selected Pbox No. --> 1

BCDGM Round 20

Selected Derived Key No. --> 2

Selected Sbox No. -->24

Selected Pbox No. --> 12

Number of rounds selected for Block 7 are 24

BCDGM Round 1

Selected Derived Key No. --> 5

Selected Sbox No. -->16

Selected Pbox No. --> 4

BCDGM Round 2

Selected Derived Key No. --> 1

Selected Sbox No. -->22

Selected Pbox No. --> 22

BCDGM Round 3

Selected Derived Key No. --> 8

Selected Sbox No. -->8

Selected Pbox No. --> 11

BCDGM Round 4

Selected Derived Key No. --> 0

Selected Sbox No. -->13

Selected Pbox No. --> 5

BCDGM Round 5

Selected Derived Key No. --> 1

Selected Sbox No. -->5

Selected Pbox No. --> 17

BCDGM Round 6

Selected Derived Key No. --> 15

Selected Sbox No. -->12

Selected Pbox No. --> 22

BCDGM Round 7

Selected Derived Key No. --> 5

Selected Sbox No. -->17

Selected Pbox No. --> 7

BCDGM Round 8

Selected Derived Key No. --> 23

Selected Sbox No. -->9

Selected Pbox No. --> 15

BCDGM Round 9

Selected Derived Key No. --> 24

Selected Sbox No. -->14

Selected Pbox No. --> 18

BCDGM Round 10

Selected Derived Key No. --> 1

Selected Sbox No. -->11

Selected Pbox No. --> 24

BCDGM Round 11

Selected Derived Key No. --> 7

Selected Sbox No. -->9

Selected Pbox No. --> 11

BCDGM Round 12

Selected Derived Key No. --> 6

Selected Sbox No. -->4

Selected Pbox No. --> 14

BCDGM Round 13

Selected Derived Key No. --> 24

Selected Sbox No. -->11

Selected Pbox No. --> 11

BCDGM Round 14

Selected Derived Key No. --> 3

Selected Sbox No. -->7

Selected Pbox No. --> 19

BCDGM Round 15

Selected Derived Key No. --> 3

Selected Sbox No. -->8

Selected Pbox No. --> 10

BCDGM Round 16

Selected Derived Key No. --> 1

Selected Sbox No. -->6

Selected Pbox No. --> 1

BCDGM Round 17

Selected Derived Key No. --> 24

Selected Sbox No. -->5

Selected Pbox No. --> 6

BCDGM Round 18

Selected Derived Key No. --> 15

Selected Sbox No. -->12

Selected Pbox No. --> 11

BCDGM Round 19

Selected Derived Key No. --> 11

Selected Sbox No. -->20

Selected Pbox No. --> 5

BCDGM Round 20

Selected Derived Key No. --> 10

Selected Sbox No. -->9

Selected Pbox No. --> 15

BCDGM Round 21

Selected Derived Key No. --> 4

Selected Sbox No. -->2

Selected Pbox No. --> 5

BCDGM Round 22

Selected Derived Key No. --> 8

Selected Sbox No. -->16

Selected Pbox No. --> 7

BCDGM Round 23

Selected Derived Key No. --> 17

Selected Sbox No. -->13



Selected Pbox No. --> 19

BCDGM Round 24

Selected Derived Key No. --> 12

Selected Sbox No. -->11

Selected Pbox No. --> 19

Number of rounds selected for Block 8 are 14

BCDGM Round 1

Selected Derived Key No. --> 17

Selected Sbox No. -->15

Selected Pbox No. --> 22

BCDGM Round 2

Selected Derived Key No. --> 20

Selected Sbox No. -->20

Selected Pbox No. --> 13

BCDGM Round 3

Selected Derived Key No. --> 2

Selected Sbox No. -->12

Selected Pbox No. --> 14

BCDGM Round 4

Selected Derived Key No. --> 23

Selected Sbox No. -->10

Selected Pbox No. --> 4

BCDGM Round 5

Selected Derived Key No. --> 16

Selected Sbox No. -->21

Selected Pbox No. --> 5

BCDGM Round 6

Selected Derived Key No. --> 6

Selected Sbox No. -->14

Selected Pbox No. --> 8

BCDGM Round 7

Selected Derived Key No. --> 16

Selected Sbox No. -->4

Selected Pbox No. --> 11

BCDGM Round 8

Selected Derived Key No. --> 15

Selected Sbox No. -->6

Selected Pbox No. --> 20

BCDGM Round 9

Selected Derived Key No. --> 11

Selected Sbox No. -->19

Selected Pbox No. --> 5

BCDGM Round 10

Selected Derived Key No. --> 8

Selected Sbox No. -->3

Selected Pbox No. --> 4

BCDGM Round 11

Selected Derived Key No. --> 24

Selected Sbox No. -->4

Selected Pbox No. --> 18

BCDGM Round 12

Selected Derived Key No. --> 3

Selected Sbox No. -->16

Selected Pbox No. --> 13

BCDGM Round 13

Selected Derived Key No. --> 9

Selected Sbox No. -->1

Selected Pbox No. --> 21

BCDGM Round 14

Selected Derived Key No. --> 7

Selected Sbox No. -->16

Selected Pbox No. --> 0

Number of rounds selected for Block 9 are 23

BCDGM Round 1

Selected Derived Key No. --> 6

Selected Sbox No. -->5

Selected Pbox No. --> 9

BCDGM Round 2

Selected Derived Key No. --> 8

Selected Sbox No. -->6

Selected Pbox No. --> 21

BCDGM Round 3

Selected Derived Key No. --> 0

Selected Sbox No. -->8

Selected Pbox No. --> 12

BCDGM Round 4

Selected Derived Key No. --> 12

Selected Sbox No. -->2

Selected Pbox No. --> 9

BCDGM Round 5

Selected Derived Key No. --> 7

Selected Sbox No. -->20

Selected Pbox No. --> 4

BCDGM Round 6

Selected Derived Key No. --> 4

Selected Sbox No. -->2

Selected Pbox No. --> 9

BCDGM Round 7

Selected Derived Key No. --> 11

Selected Sbox No. -->22

Selected Pbox No. --> 6

BCDGM Round 8

Selected Derived Key No. --> 10

Selected Sbox No. -->8

Selected Pbox No. --> 21

BCDGM Round 9

Selected Derived Key No. --> 14

Selected Sbox No. -->21

Selected Pbox No. --> 21

BCDGM Round 10

Selected Derived Key No. --> 0

Selected Sbox No. -->1

Selected Pbox No. --> 3

BCDGM Round 11

Selected Derived Key No. --> 16

Selected Sbox No. -->16

Selected Pbox No. --> 20

BCDGM Round 12

Selected Derived Key No. --> 10

Selected Sbox No. -->10

Selected Pbox No. --> 1

BCDGM Round 13

Selected Derived Key No. --> 7

Selected Sbox No. -->18

Selected Pbox No. --> 14

BCDGM Round 14

Selected Derived Key No. --> 14

Selected Sbox No. -->23

Selected Pbox No. --> 11

BCDGM Round 15

Selected Derived Key No. --> 3

Selected Sbox No. -->11

Selected Pbox No. --> 20

BCDGM Round 16

Selected Derived Key No. --> 12

Selected Sbox No. -->18

Selected Pbox No. --> 3

BCDGM Round 17

Selected Derived Key No. --> 8

Selected Sbox No. -->10

Selected Pbox No. --> 9

BCDGM Round 18

Selected Derived Key No. --> 22

Selected Sbox No. -->17

Selected Pbox No. --> 0

BCDGM Round 19

Selected Derived Key No. --> 11

Selected Sbox No. -->16

Selected Pbox No. --> 19

BCDGM Round 20

Selected Derived Key No. --> 23

Selected Sbox No. -->3

Selected Pbox No. --> 13

BCDGM Round 21

Selected Derived Key No. --> 20

Selected Sbox No. -->3

Selected Pbox No. --> 21

BCDGM Round 22

Selected Derived Key No. --> 2

Selected Sbox No. -->12

Selected Pbox No. --> 21

BCDGM Round 23

Selected Derived Key No. --> 8

Selected Sbox No. -->7

Selected Pbox No. --> 16

Number of rounds selected for Block 10 are 21

BCDGM Round 1

Selected Derived Key No. --> 18

Selected Sbox No. -->20

Selected Pbox No. --> 9

BCDGM Round 2

Selected Derived Key No. --> 6

Selected Sbox No. -->22

Selected Pbox No. --> 20

BCDGM Round 3

Selected Derived Key No. --> 15

Selected Sbox No. -->10

Selected Pbox No. --> 22

BCDGM Round 4

Selected Derived Key No. --> 10

Selected Sbox No. -->18

Selected Pbox No. --> 0

BCDGM Round 5

Selected Derived Key No. --> 7

Selected Sbox No. -->12

Selected Pbox No. --> 6

BCDGM Round 6

Selected Derived Key No. --> 0

Selected Sbox No. -->8

Selected Pbox No. --> 9

BCDGM Round 7

Selected Derived Key No. --> 1

Selected Sbox No. -->18

Selected Pbox No. --> 15

BCDGM Round 8

Selected Derived Key No. --> 21

Selected Sbox No. -->23

Selected Pbox No. --> 3

BCDGM Round 9

Selected Derived Key No. --> 17

Selected Sbox No. -->5

Selected Pbox No. --> 6

BCDGM Round 10

Selected Derived Key No. --> 3

Selected Sbox No. -->18

Selected Pbox No. --> 22

BCDGM Round 11

Selected Derived Key No. --> 14

Selected Sbox No. -->0

Selected Pbox No. --> 9

BCDGM Round 12

Selected Derived Key No. --> 22

Selected Sbox No. -->23

Selected Pbox No. --> 4

BCDGM Round 13

Selected Derived Key No. --> 9

Selected Sbox No. -->5

Selected Pbox No. --> 0

BCDGM Round 14

Selected Derived Key No. --> 3

Selected Sbox No. -->19

Selected Pbox No. --> 5

BCDGM Round 15

Selected Derived Key No. --> 2

Selected Sbox No. -->21

Selected Pbox No. --> 5

BCDGM Round 16



Selected Derived Key No. --> 14

Selected Sbox No. -->6

Selected Pbox No. --> 2

BCDGM Round 17

Selected Derived Key No. --> 21

Selected Sbox No. -->11

Selected Pbox No. --> 10

BCDGM Round 18

Selected Derived Key No. --> 19

Selected Sbox No. -->1

Selected Pbox No. --> 11

BCDGM Round 19

Selected Derived Key No. --> 1

Selected Sbox No. -->11

Selected Pbox No. --> 1

BCDGM Round 20

Selected Derived Key No. --> 16

Selected Sbox No. -->7

Selected Pbox No. --> 5

BCDGM Round 21

Selected Derived Key No. --> 11

Selected Sbox No. -->18

Selected Pbox No. --> 10

Number of rounds selected for Block 11 are 21

BCDGM Round 1

Selected Derived Key No. --> 24

Selected Sbox No. -->16

Selected Pbox No. --> 18

BCDGM Round 2

Selected Derived Key No. --> 3

Selected Sbox No. -->6

Selected Pbox No. --> 2

BCDGM Round 3

Selected Derived Key No. --> 4

Selected Sbox No. -->3

Selected Pbox No. --> 18

BCDGM Round 4

Selected Derived Key No. --> 10

Selected Sbox No. -->12

Selected Pbox No. --> 4

BCDGM Round 5

Selected Derived Key No. --> 8

Selected Sbox No. -->22

Selected Pbox No. --> 16

BCDGM Round 6

Selected Derived Key No. --> 8

Selected Sbox No. -->7

Selected Pbox No. --> 4

BCDGM Round 7

Selected Derived Key No. --> 5

Selected Sbox No. -->24

Selected Pbox No. --> 23

BCDGM Round 8

Selected Derived Key No. --> 9

Selected Sbox No. -->2

Selected Pbox No. --> 15

BCDGM Round 9

Selected Derived Key No. --> 19

Selected Sbox No. -->4

Selected Pbox No. --> 12

BCDGM Round 10

Selected Derived Key No. --> 19

Selected Sbox No. -->8

Selected Pbox No. --> 11

BCDGM Round 11

Selected Derived Key No. --> 16

Selected Sbox No. -->8

Selected Pbox No. --> 1

BCDGM Round 12

Selected Derived Key No. --> 21

Selected Sbox No. -->14

Selected Pbox No. --> 22

BCDGM Round 13

Selected Derived Key No. --> 0

Selected Sbox No. -->2

Selected Pbox No. --> 24

BCDGM Round 14

Selected Derived Key No. --> 13

Selected Sbox No. -->10

Selected Pbox No. --> 16

BCDGM Round 15

Selected Derived Key No. --> 22

Selected Sbox No. -->4

Selected Pbox No. --> 12

BCDGM Round 16

Selected Derived Key No. --> 24

Selected Sbox No. -->20

Selected Pbox No. --> 13

BCDGM Round 17

Selected Derived Key No. --> 12

Selected Sbox No. -->0

Selected Pbox No. --> 10

BCDGM Round 18

Selected Derived Key No. --> 2

Selected Sbox No. -->18

Selected Pbox No. --> 4

BCDGM Round 19

Selected Derived Key No. --> 10

Selected Sbox No. -->19

Selected Pbox No. --> 19

BCDGM Round 20

Selected Derived Key No. --> 0

Selected Sbox No. -->5

Selected Pbox No. --> 24

BCDGM Round 21

Selected Derived Key No. --> 18

Selected Sbox No. -->21

Selected Pbox No. --> 17

Number of rounds selected for Block 12 are 22

BCDGM Round 1

Selected Derived Key No. --> 7

Selected Sbox No. -->9

Selected Pbox No. --> 0

BCDGM Round 2

Selected Derived Key No. --> 3

Selected Sbox No. -->6

Selected Pbox No. --> 13

BCDGM Round 3

Selected Derived Key No. --> 0

Selected Sbox No. -->3

Selected Pbox No. --> 19

BCDGM Round 4

Selected Derived Key No. --> 4

Selected Sbox No. -->21

Selected Pbox No. --> 17

BCDGM Round 5

Selected Derived Key No. --> 11

Selected Sbox No. -->5

Selected Pbox No. --> 13

BCDGM Round 6

Selected Derived Key No. --> 16

Selected Sbox No. -->19

Selected Pbox No. --> 20

BCDGM Round 7

Selected Derived Key No. --> 2

Selected Sbox No. -->10

Selected Pbox No. --> 14

BCDGM Round 8

Selected Derived Key No. --> 14

Selected Sbox No. -->0

Selected Pbox No. --> 6

BCDGM Round 9

Selected Derived Key No. --> 8

Selected Sbox No. -->18

Selected Pbox No. --> 8

BCDGM Round 10

Selected Derived Key No. --> 4

Selected Sbox No. -->15

Selected Pbox No. --> 24

BCDGM Round 11

Selected Derived Key No. --> 21

Selected Sbox No. -->24

Selected Pbox No. --> 7

BCDGM Round 12

Selected Derived Key No. --> 8

Selected Sbox No. -->6

Selected Pbox No. --> 14

BCDGM Round 13

Selected Derived Key No. --> 2

Selected Sbox No. -->19

Selected Pbox No. --> 1

BCDGM Round 14

Selected Derived Key No. --> 3

Selected Sbox No. -->19

Selected Pbox No. --> 1

BCDGM Round 15

Selected Derived Key No. --> 10

Selected Sbox No. -->8

Selected Pbox No. --> 11

BCDGM Round 16

Selected Derived Key No. --> 6

Selected Sbox No. -->13

Selected Pbox No. --> 16

BCDGM Round 17

Selected Derived Key No. --> 6

Selected Sbox No. -->20

Selected Pbox No. --> 2

BCDGM Round 18

Selected Derived Key No. --> 17

Selected Sbox No. -->2

Selected Pbox No. --> 13

BCDGM Round 19

Selected Derived Key No. --> 9

Selected Sbox No. -->24

Selected Pbox No. --> 15

BCDGM Round 20

Selected Derived Key No. --> 12

Selected Sbox No. -->17

Selected Pbox No. --> 13

BCDGM Round 21

Selected Derived Key No. --> 11

Selected Sbox No. -->20

Selected Pbox No. --> 16

BCDGM Round 22

Selected Derived Key No. --> 22

Selected Sbox No. -->19

Selected Pbox No. --> 23

Number of rounds selected for Block 13 are 23

BCDGM Round 1

Selected Derived Key No. --> 4

Selected Sbox No. -->17

Selected Pbox No. --> 4

BCDGM Round 2

Selected Derived Key No. --> 9

Selected Sbox No. -->22

Selected Pbox No. --> 21

BCDGM Round 3

Selected Derived Key No. --> 2

Selected Sbox No. -->7

Selected Pbox No. --> 11

BCDGM Round 4

Selected Derived Key No. --> 2

Selected Sbox No. -->16

Selected Pbox No. --> 11

BCDGM Round 5

Selected Derived Key No. --> 3

Selected Sbox No. -->0



Selected Pbox No. --> 8

BCDGM Round 6

Selected Derived Key No. --> 17

Selected Sbox No. -->23

Selected Pbox No. --> 18

BCDGM Round 7

Selected Derived Key No. --> 14

Selected Sbox No. -->12

Selected Pbox No. --> 7

BCDGM Round 8

Selected Derived Key No. --> 11

Selected Sbox No. -->8

Selected Pbox No. --> 22

BCDGM Round 9

Selected Derived Key No. --> 9

Selected Sbox No. -->3

Selected Pbox No. --> 18

BCDGM Round 10

Selected Derived Key No. --> 9

Selected Sbox No. -->7

Selected Pbox No. --> 10

BCDGM Round 11

Selected Derived Key No. --> 23

Selected Sbox No. -->4

Selected Pbox No. --> 16

BCDGM Round 12

Selected Derived Key No. --> 6

Selected Sbox No. -->21

Selected Pbox No. --> 5

BCDGM Round 13

Selected Derived Key No. --> 14

Selected Sbox No. -->12

Selected Pbox No. --> 18

BCDGM Round 14

Selected Derived Key No. --> 18

Selected Sbox No. -->16

Selected Pbox No. --> 1

BCDGM Round 15

Selected Derived Key No. --> 1

Selected Sbox No. -->23

Selected Pbox No. --> 19

BCDGM Round 16

Selected Derived Key No. --> 6

Selected Sbox No. -->19

Selected Pbox No. --> 8

BCDGM Round 17

Selected Derived Key No. --> 19

Selected Sbox No. -->16

Selected Pbox No. --> 1

BCDGM Round 18

Selected Derived Key No. --> 11

Selected Sbox No. -->17

Selected Pbox No. --> 19

BCDGM Round 19

Selected Derived Key No. --> 0

Selected Sbox No. -->22

Selected Pbox No. --> 3

BCDGM Round 20

Selected Derived Key No. --> 14

Selected Sbox No. -->21

Selected Pbox No. --> 11

BCDGM Round 21

Selected Derived Key No. --> 3

Selected Sbox No. -->5

Selected Pbox No. --> 8

BCDGM Round 22

Selected Derived Key No. --> 18

Selected Sbox No. -->4

Selected Pbox No. --> 1

BCDGM Round 23

Selected Derived Key No. --> 16

Selected Sbox No. -->5

Selected Pbox No. --> 3

Number of rounds selected for Block 14 are 19

BCDGM Round 1

Selected Derived Key No. --> 4

Selected Sbox No. -->13

Selected Pbox No. --> 18

BCDGM Round 2

Selected Derived Key No. --> 16

Selected Sbox No. -->22

Selected Pbox No. --> 23

BCDGM Round 3

Selected Derived Key No. --> 11

Selected Sbox No. -->3

Selected Pbox No. --> 19

BCDGM Round 4

Selected Derived Key No. --> 0

Selected Sbox No. -->19

Selected Pbox No. --> 14

BCDGM Round 5

Selected Derived Key No. --> 7

Selected Sbox No. -->11

Selected Pbox No. --> 4

BCDGM Round 6

Selected Derived Key No. --> 13

Selected Sbox No. -->4

Selected Pbox No. --> 9

BCDGM Round 7

Selected Derived Key No. --> 13

Selected Sbox No. -->14

Selected Pbox No. --> 12

BCDGM Round 8

Selected Derived Key No. --> 21

Selected Sbox No. -->6

Selected Pbox No. --> 23

BCDGM Round 9

Selected Derived Key No. --> 1

Selected Sbox No. -->15

Selected Pbox No. --> 17

BCDGM Round 10

Selected Derived Key No. --> 19

Selected Sbox No. -->24

Selected Pbox No. --> 12

BCDGM Round 11

Selected Derived Key No. --> 20

Selected Sbox No. -->12

Selected Pbox No. --> 14

BCDGM Round 12

Selected Derived Key No. --> 22

Selected Sbox No. -->5

Selected Pbox No. --> 0

BCDGM Round 13

Selected Derived Key No. --> 18

Selected Sbox No. -->11

Selected Pbox No. --> 19

BCDGM Round 14

Selected Derived Key No. --> 8

Selected Sbox No. -->1

Selected Pbox No. --> 15

BCDGM Round 15

Selected Derived Key No. --> 22

Selected Sbox No. -->19

Selected Pbox No. --> 23

BCDGM Round 16

Selected Derived Key No. --> 16

Selected Sbox No. -->20

Selected Pbox No. --> 17

BCDGM Round 17

Selected Derived Key No. --> 13

Selected Sbox No. -->16

Selected Pbox No. --> 8

BCDGM Round 18

Selected Derived Key No. --> 8

Selected Sbox No. -->10

Selected Pbox No. --> 1

BCDGM Round 19

Selected Derived Key No. --> 22

Selected Sbox No. -->21

Selected Pbox No. --> 8

Number of rounds selected for Block 15 are 14

BCDGM Round 1

Selected Derived Key No. --> 22

Selected Sbox No. -->12

Selected Pbox No. --> 22

BCDGM Round 2

Selected Derived Key No. --> 16

Selected Sbox No. -->8

Selected Pbox No. --> 14

BCDGM Round 3

Selected Derived Key No. --> 11

Selected Sbox No. -->6

Selected Pbox No. --> 19

BCDGM Round 4

Selected Derived Key No. --> 9

Selected Sbox No. -->18

Selected Pbox No. --> 18

BCDGM Round 5

Selected Derived Key No. --> 1

Selected Sbox No. -->10

Selected Pbox No. --> 11

BCDGM Round 6

Selected Derived Key No. --> 10

Selected Sbox No. -->4

Selected Pbox No. --> 22

BCDGM Round 7

Selected Derived Key No. --> 1

Selected Sbox No. -->2

Selected Pbox No. --> 5

BCDGM Round 8

Selected Derived Key No. --> 11

Selected Sbox No. -->22

Selected Pbox No. --> 2

BCDGM Round 9

Selected Derived Key No. --> 17

Selected Sbox No. -->18

Selected Pbox No. --> 1

BCDGM Round 10

Selected Derived Key No. --> 19

Selected Sbox No. -->6

Selected Pbox No. --> 12

BCDGM Round 11

Selected Derived Key No. --> 4

Selected Sbox No. -->1

Selected Pbox No. --> 2

BCDGM Round 12

Selected Derived Key No. --> 17

Selected Sbox No. -->11

Selected Pbox No. --> 11

BCDGM Round 13

Selected Derived Key No. --> 15

Selected Sbox No. -->13

Selected Pbox No. --> 16

BCDGM Round 14

Selected Derived Key No. --> 15

Selected Sbox No. -->18

Selected Pbox No. --> 15

Number of rounds selected for Block 16 are 24

BCDGM Round 1

Selected Derived Key No. --> 4

Selected Sbox No. -->18

Selected Pbox No. --> 17

BCDGM Round 2

Selected Derived Key No. --> 16

Selected Sbox No. -->11

Selected Pbox No. --> 8

BCDGM Round 3



Selected Derived Key No. --> 23

Selected Sbox No. -->1

Selected Pbox No. --> 4

BCDGM Round 4

Selected Derived Key No. --> 13

Selected Sbox No. -->16

Selected Pbox No. --> 19

BCDGM Round 5

Selected Derived Key No. --> 0

Selected Sbox No. -->4

Selected Pbox No. --> 14

BCDGM Round 6

Selected Derived Key No. --> 5

Selected Sbox No. -->8

Selected Pbox No. --> 20

BCDGM Round 7

Selected Derived Key No. --> 20

Selected Sbox No. -->0

Selected Pbox No. --> 10

BCDGM Round 8

Selected Derived Key No. --> 19

Selected Sbox No. -->5

Selected Pbox No. --> 18

BCDGM Round 9

Selected Derived Key No. --> 1

Selected Sbox No. -->14

Selected Pbox No. --> 16

BCDGM Round 10

Selected Derived Key No. --> 13

Selected Sbox No. -->2

Selected Pbox No. --> 4

BCDGM Round 11

Selected Derived Key No. --> 13

Selected Sbox No. -->14

Selected Pbox No. --> 7

BCDGM Round 12

Selected Derived Key No. --> 17

Selected Sbox No. -->4

Selected Pbox No. --> 6

BCDGM Round 13

Selected Derived Key No. --> 8

Selected Sbox No. -->12

Selected Pbox No. --> 4

BCDGM Round 14

Selected Derived Key No. --> 23

Selected Sbox No. -->8

Selected Pbox No. --> 7

BCDGM Round 15

Selected Derived Key No. --> 17

Selected Sbox No. -->1

Selected Pbox No. --> 1

BCDGM Round 16

Selected Derived Key No. --> 4

Selected Sbox No. -->13

Selected Pbox No. --> 16

BCDGM Round 17

Selected Derived Key No. --> 15

Selected Sbox No. -->11

Selected Pbox No. --> 7

BCDGM Round 18

Selected Derived Key No. --> 15

Selected Sbox No. -->11

Selected Pbox No. --> 23

BCDGM Round 19

Selected Derived Key No. --> 9

Selected Sbox No. -->4

Selected Pbox No. --> 13

BCDGM Round 20

Selected Derived Key No. --> 19

Selected Sbox No. -->18

Selected Pbox No. --> 10

BCDGM Round 21

Selected Derived Key No. --> 10

Selected Sbox No. -->0

Selected Pbox No. --> 4

BCDGM Round 22

Selected Derived Key No. --> 4

Selected Sbox No. -->9

Selected Pbox No. --> 14

BCDGM Round 23

Selected Derived Key No. --> 13

Selected Sbox No. -->14

Selected Pbox No. --> 5

BCDGM Round 24

Selected Derived Key No. --> 22

Selected Sbox No. -->5

Selected Pbox No. --> 16

Number of rounds selected for Block 17 are 25

BCDGM Round 1

Selected Derived Key No. --> 10

Selected Sbox No. -->2

Selected Pbox No. --> 23

BCDGM Round 2

Selected Derived Key No. --> 24

Selected Sbox No. -->6

Selected Pbox No. --> 9

BCDGM Round 3

Selected Derived Key No. --> 3

Selected Sbox No. -->21

Selected Pbox No. --> 5

BCDGM Round 4

Selected Derived Key No. --> 18

Selected Sbox No. -->4

Selected Pbox No. --> 17

BCDGM Round 5

Selected Derived Key No. --> 11

Selected Sbox No. -->16

Selected Pbox No. --> 17

BCDGM Round 6

Selected Derived Key No. --> 20

Selected Sbox No. -->15

Selected Pbox No. --> 10

BCDGM Round 7

Selected Derived Key No. --> 6

Selected Sbox No. -->4

Selected Pbox No. --> 8

BCDGM Round 8

Selected Derived Key No. --> 17

Selected Sbox No. -->4

Selected Pbox No. --> 11

BCDGM Round 9

Selected Derived Key No. --> 6

Selected Sbox No. -->5

Selected Pbox No. --> 11

BCDGM Round 10

Selected Derived Key No. --> 10

Selected Sbox No. -->5

Selected Pbox No. --> 11

BCDGM Round 11

Selected Derived Key No. --> 2

Selected Sbox No. -->24

Selected Pbox No. --> 10

BCDGM Round 12

Selected Derived Key No. --> 0

Selected Sbox No. -->23

Selected Pbox No. --> 13

BCDGM Round 13

Selected Derived Key No. --> 6

Selected Sbox No. -->12

Selected Pbox No. --> 6

BCDGM Round 14

Selected Derived Key No. --> 1

Selected Sbox No. -->12

Selected Pbox No. --> 0

BCDGM Round 15

Selected Derived Key No. --> 15

Selected Sbox No. -->7

Selected Pbox No. --> 4

BCDGM Round 16

Selected Derived Key No. --> 2

Selected Sbox No. -->9

Selected Pbox No. --> 1

BCDGM Round 17

Selected Derived Key No. --> 10

Selected Sbox No. -->14

Selected Pbox No. --> 5

BCDGM Round 18

Selected Derived Key No. --> 3

Selected Sbox No. -->10

Selected Pbox No. --> 6

BCDGM Round 19

Selected Derived Key No. --> 21

Selected Sbox No. -->2

Selected Pbox No. --> 20

BCDGM Round 20

Selected Derived Key No. --> 3

Selected Sbox No. -->23

Selected Pbox No. --> 19

BCDGM Round 21

Selected Derived Key No. --> 16

Selected Sbox No. -->23

Selected Pbox No. --> 6

BCDGM Round 22

Selected Derived Key No. --> 22

Selected Sbox No. -->6

Selected Pbox No. --> 23

BCDGM Round 23

Selected Derived Key No. --> 14

Selected Sbox No. -->8

Selected Pbox No. --> 19

BCDGM Round 24

Selected Derived Key No. --> 17

Selected Sbox No. -->4

Selected Pbox No. --> 4

BCDGM Round 25

Selected Derived Key No. --> 3

Selected Sbox No. -->3

Selected Pbox No. --> 23

Number of rounds selected for Block 18 are 25

BCDGM Round 1

Selected Derived Key No. --> 13

Selected Sbox No. -->1

Selected Pbox No. --> 15

BCDGM Round 2

Selected Derived Key No. --> 19

Selected Sbox No. -->10

Selected Pbox No. --> 21

BCDGM Round 3

Selected Derived Key No. --> 24

Selected Sbox No. -->10

Selected Pbox No. --> 18

BCDGM Round 4

Selected Derived Key No. --> 20

Selected Sbox No. -->21

Selected Pbox No. --> 10

BCDGM Round 5

Selected Derived Key No. --> 1

Selected Sbox No. -->21

Selected Pbox No. --> 17

BCDGM Round 6

Selected Derived Key No. --> 18

Selected Sbox No. -->0

Selected Pbox No. --> 12

BCDGM Round 7

Selected Derived Key No. --> 17

Selected Sbox No. -->8

Selected Pbox No. --> 2

BCDGM Round 8

Selected Derived Key No. --> 6

Selected Sbox No. -->10

Selected Pbox No. --> 12

BCDGM Round 9

Selected Derived Key No. --> 11

Selected Sbox No. -->4

Selected Pbox No. --> 7

BCDGM Round 10

Selected Derived Key No. --> 19

Selected Sbox No. -->11

Selected Pbox No. --> 15

BCDGM Round 11

Selected Derived Key No. --> 3

Selected Sbox No. -->19

Selected Pbox No. --> 8

BCDGM Round 12

Selected Derived Key No. --> 19

Selected Sbox No. -->4

Selected Pbox No. --> 15

BCDGM Round 13

Selected Derived Key No. --> 22

Selected Sbox No. -->11

Selected Pbox No. --> 19

BCDGM Round 14

Selected Derived Key No. --> 4

Selected Sbox No. -->14

Selected Pbox No. --> 6

BCDGM Round 15

Selected Derived Key No. --> 10

Selected Sbox No. -->16



Selected Pbox No. --> 3

BCDGM Round 16

Selected Derived Key No. --> 2

Selected Sbox No. -->2

Selected Pbox No. --> 9

BCDGM Round 17

Selected Derived Key No. --> 19

Selected Sbox No. -->22

Selected Pbox No. --> 20

BCDGM Round 18

Selected Derived Key No. --> 6

Selected Sbox No. -->19

Selected Pbox No. --> 22

BCDGM Round 19

Selected Derived Key No. --> 9

Selected Sbox No. -->11

Selected Pbox No. --> 18

BCDGM Round 20

Selected Derived Key No. --> 20

Selected Sbox No. -->4

Selected Pbox No. --> 22

BCDGM Round 21

Selected Derived Key No. --> 1

Selected Sbox No. -->7

Selected Pbox No. --> 18

BCDGM Round 22

Selected Derived Key No. --> 7

Selected Sbox No. -->10

Selected Pbox No. --> 22

BCDGM Round 23

Selected Derived Key No. --> 8

Selected Sbox No. -->17

Selected Pbox No. --> 23

BCDGM Round 24

Selected Derived Key No. --> 17

Selected Sbox No. -->7

Selected Pbox No. --> 4

BCDGM Round 25

Selected Derived Key No. --> 3

Selected Sbox No. -->19

Selected Pbox No. --> 11

Number of rounds selected for Block 19 are 13

BCDGM Round 1

Selected Derived Key No. --> 16

Selected Sbox No. -->20

Selected Pbox No. --> 1

BCDGM Round 2

Selected Derived Key No. --> 1

Selected Sbox No. -->11

Selected Pbox No. --> 6

BCDGM Round 3

Selected Derived Key No. --> 16

Selected Sbox No. -->20

Selected Pbox No. --> 16

BCDGM Round 4

Selected Derived Key No. --> 22

Selected Sbox No. -->6

Selected Pbox No. --> 9

BCDGM Round 5

Selected Derived Key No. --> 9

Selected Sbox No. -->7

Selected Pbox No. --> 6

BCDGM Round 6

Selected Derived Key No. --> 15

Selected Sbox No. -->16

Selected Pbox No. --> 18

BCDGM Round 7

Selected Derived Key No. --> 8

Selected Sbox No. -->3

Selected Pbox No. --> 24

BCDGM Round 8

Selected Derived Key No. --> 3

Selected Sbox No. -->24

Selected Pbox No. --> 10

BCDGM Round 9

Selected Derived Key No. --> 17

Selected Sbox No. -->21

Selected Pbox No. --> 17

BCDGM Round 10

Selected Derived Key No. --> 3

Selected Sbox No. -->6

Selected Pbox No. --> 12

BCDGM Round 11

Selected Derived Key No. --> 11

Selected Sbox No. -->3

Selected Pbox No. --> 0

BCDGM Round 12

Selected Derived Key No. --> 21

Selected Sbox No. -->4

Selected Pbox No. --> 11

BCDGM Round 13

Selected Derived Key No. --> 17

Selected Sbox No. -->24

Selected Pbox No. --> 8

Number of rounds selected for Block 20 are 18

BCDGM Round 1

Selected Derived Key No. --> 5

Selected Sbox No. -->21

Selected Pbox No. --> 3

BCDGM Round 2

Selected Derived Key No. --> 14

Selected Sbox No. -->23

Selected Pbox No. --> 22

BCDGM Round 3

Selected Derived Key No. --> 17

Selected Sbox No. -->3

Selected Pbox No. --> 12

BCDGM Round 4

Selected Derived Key No. --> 2

Selected Sbox No. -->6

Selected Pbox No. --> 20

BCDGM Round 5

Selected Derived Key No. --> 14

Selected Sbox No. -->7

Selected Pbox No. --> 17

BCDGM Round 6

Selected Derived Key No. --> 15

Selected Sbox No. -->23

Selected Pbox No. --> 23

BCDGM Round 7

Selected Derived Key No. --> 3

Selected Sbox No. -->17

Selected Pbox No. --> 3

BCDGM Round 8

Selected Derived Key No. --> 12

Selected Sbox No. -->0

Selected Pbox No. --> 8

BCDGM Round 9

Selected Derived Key No. --> 5

Selected Sbox No. -->7

Selected Pbox No. --> 12

BCDGM Round 10

Selected Derived Key No. --> 4

Selected Sbox No. -->12

Selected Pbox No. --> 22

BCDGM Round 11

Selected Derived Key No. --> 3

Selected Sbox No. -->3

Selected Pbox No. --> 2

BCDGM Round 12

Selected Derived Key No. --> 7

Selected Sbox No. -->19

Selected Pbox No. --> 4

BCDGM Round 13

Selected Derived Key No. --> 21

Selected Sbox No. -->17

Selected Pbox No. --> 5

BCDGM Round 14

Selected Derived Key No. --> 24

Selected Sbox No. -->22

Selected Pbox No. --> 18

BCDGM Round 15

Selected Derived Key No. --> 4

Selected Sbox No. -->0

Selected Pbox No. --> 6

BCDGM Round 16

Selected Derived Key No. --> 23

Selected Sbox No. -->15

Selected Pbox No. --> 13

BCDGM Round 17

Selected Derived Key No. --> 7

Selected Sbox No. -->13

Selected Pbox No. --> 10

BCDGM Round 18

Selected Derived Key No. --> 3

Selected Sbox No. -->24

Selected Pbox No. --> 19

Number of rounds selected for Block 21 are 22

BCDGM Round 1

Selected Derived Key No. --> 22

Selected Sbox No. -->22

Selected Pbox No. --> 7

BCDGM Round 2

Selected Derived Key No. --> 9

Selected Sbox No. -->7

Selected Pbox No. --> 6

BCDGM Round 3

Selected Derived Key No. --> 17

Selected Sbox No. -->20

Selected Pbox No. --> 17

BCDGM Round 4

Selected Derived Key No. --> 19

Selected Sbox No. -->17

Selected Pbox No. --> 16

BCDGM Round 5

Selected Derived Key No. --> 16

Selected Sbox No. -->17

Selected Pbox No. --> 16

BCDGM Round 6

Selected Derived Key No. --> 4

Selected Sbox No. -->1

Selected Pbox No. --> 24

BCDGM Round 7

Selected Derived Key No. --> 12

Selected Sbox No. -->18

Selected Pbox No. --> 19

BCDGM Round 8

Selected Derived Key No. --> 19

Selected Sbox No. -->11

Selected Pbox No. --> 18

BCDGM Round 9

Selected Derived Key No. --> 6

Selected Sbox No. -->0

Selected Pbox No. --> 7

BCDGM Round 10

Selected Derived Key No. --> 21

Selected Sbox No. -->9

Selected Pbox No. --> 24

BCDGM Round 11

Selected Derived Key No. --> 9

Selected Sbox No. -->6

Selected Pbox No. --> 13

BCDGM Round 12

Selected Derived Key No. --> 23

Selected Sbox No. -->13

Selected Pbox No. --> 18

BCDGM Round 13

Selected Derived Key No. --> 13

Selected Sbox No. -->10

Selected Pbox No. --> 1

BCDGM Round 14

Selected Derived Key No. --> 7

Selected Sbox No. -->1

Selected Pbox No. --> 4

BCDGM Round 15

Selected Derived Key No. --> 13

Selected Sbox No. -->9

Selected Pbox No. --> 1

BCDGM Round 16

Selected Derived Key No. --> 8

Selected Sbox No. -->8

Selected Pbox No. --> 15

BCDGM Round 17

Selected Derived Key No. --> 8

Selected Sbox No. -->16

Selected Pbox No. --> 24

BCDGM Round 18

Selected Derived Key No. --> 22

Selected Sbox No. -->11

Selected Pbox No. --> 15

BCDGM Round 19

Selected Derived Key No. --> 14

Selected Sbox No. -->19

Selected Pbox No. --> 5

BCDGM Round 20

Selected Derived Key No. --> 8

Selected Sbox No. -->15

Selected Pbox No. --> 1



BCDGM Round 21

Selected Derived Key No. --> 13

Selected Sbox No. -->23

Selected Pbox No. --> 4

BCDGM Round 22

Selected Derived Key No. --> 5

Selected Sbox No. -->24

Selected Pbox No. --> 20

Number of rounds selected for Block 22 are 16

BCDGM Round 1

Selected Derived Key No. --> 15

Selected Sbox No. -->15

Selected Pbox No. --> 11

BCDGM Round 2

Selected Derived Key No. --> 24

Selected Sbox No. -->7

Selected Pbox No. --> 1

BCDGM Round 3

Selected Derived Key No. --> 9

Selected Sbox No. -->10

Selected Pbox No. --> 18

BCDGM Round 4

Selected Derived Key No. --> 17

Selected Sbox No. -->4

Selected Pbox No. --> 18

BCDGM Round 5

Selected Derived Key No. --> 24

Selected Sbox No. -->14

Selected Pbox No. --> 20

BCDGM Round 6

Selected Derived Key No. --> 24

Selected Sbox No. -->10

Selected Pbox No. --> 19

BCDGM Round 7

Selected Derived Key No. --> 16

Selected Sbox No. -->11

Selected Pbox No. --> 8

BCDGM Round 8

Selected Derived Key No. --> 9

Selected Sbox No. -->11

Selected Pbox No. --> 8

BCDGM Round 9

Selected Derived Key No. --> 21

Selected Sbox No. -->13

Selected Pbox No. --> 1

BCDGM Round 10

Selected Derived Key No. --> 5

Selected Sbox No. -->24

Selected Pbox No. --> 14

BCDGM Round 11

Selected Derived Key No. --> 4

Selected Sbox No. -->17

Selected Pbox No. --> 2

BCDGM Round 12

Selected Derived Key No. --> 9

Selected Sbox No. -->13

Selected Pbox No. --> 2

BCDGM Round 13

Selected Derived Key No. --> 4

Selected Sbox No. -->8

Selected Pbox No. --> 17

BCDGM Round 14

Selected Derived Key No. --> 9

Selected Sbox No. -->7

Selected Pbox No. --> 6

BCDGM Round 15

Selected Derived Key No. --> 20

Selected Sbox No. -->4

Selected Pbox No. --> 5

BCDGM Round 16

Selected Derived Key No. --> 19

Selected Sbox No. -->7

Selected Pbox No. --> 12

Number of rounds selected for Block 23 are 25

BCDGM Round 1

Selected Derived Key No. --> 20

Selected Sbox No. -->23

Selected Pbox No. --> 1

BCDGM Round 2

Selected Derived Key No. --> 0

Selected Sbox No. -->20

Selected Pbox No. --> 21

BCDGM Round 3

Selected Derived Key No. --> 3

Selected Sbox No. -->11

Selected Pbox No. --> 7

BCDGM Round 4

Selected Derived Key No. --> 2

Selected Sbox No. -->21

Selected Pbox No. --> 21

BCDGM Round 5

Selected Derived Key No. --> 18

Selected Sbox No. -->12

Selected Pbox No. --> 7

BCDGM Round 6

Selected Derived Key No. --> 11

Selected Sbox No. -->11

Selected Pbox No. --> 9

BCDGM Round 7

Selected Derived Key No. --> 11

Selected Sbox No. -->10

Selected Pbox No. --> 4

BCDGM Round 8

Selected Derived Key No. --> 21

Selected Sbox No. -->17

Selected Pbox No. --> 8

BCDGM Round 9

Selected Derived Key No. --> 15

Selected Sbox No. -->8

Selected Pbox No. --> 21

BCDGM Round 10

Selected Derived Key No. --> 2

Selected Sbox No. -->4

Selected Pbox No. --> 18

BCDGM Round 11

Selected Derived Key No. --> 21

Selected Sbox No. -->22

Selected Pbox No. --> 5

BCDGM Round 12

Selected Derived Key No. --> 9

Selected Sbox No. -->18

Selected Pbox No. --> 18

BCDGM Round 13

Selected Derived Key No. --> 5

Selected Sbox No. -->9

Selected Pbox No. --> 3

BCDGM Round 14

Selected Derived Key No. --> 15

Selected Sbox No. -->6

Selected Pbox No. --> 0

BCDGM Round 15

Selected Derived Key No. --> 1

Selected Sbox No. -->21

Selected Pbox No. --> 21

BCDGM Round 16

Selected Derived Key No. --> 18

Selected Sbox No. -->15

Selected Pbox No. --> 16

BCDGM Round 17

Selected Derived Key No. --> 21

Selected Sbox No. -->6

Selected Pbox No. --> 4

BCDGM Round 18

Selected Derived Key No. --> 23

Selected Sbox No. -->15

Selected Pbox No. --> 23

BCDGM Round 19

Selected Derived Key No. --> 1

Selected Sbox No. -->7

Selected Pbox No. --> 1

BCDGM Round 20

Selected Derived Key No. --> 8

Selected Sbox No. -->3

Selected Pbox No. --> 20

BCDGM Round 21

Selected Derived Key No. --> 16

Selected Sbox No. -->11

Selected Pbox No. --> 20

BCDGM Round 22

Selected Derived Key No. --> 9

Selected Sbox No. -->5

Selected Pbox No. --> 5

BCDGM Round 23

Selected Derived Key No. --> 19

Selected Sbox No. -->24

Selected Pbox No. --> 2

BCDGM Round 24

Selected Derived Key No. --> 9

Selected Sbox No. -->18

Selected Pbox No. --> 1

BCDGM Round 25

Selected Derived Key No. --> 9

Selected Sbox No. -->5

Selected Pbox No. --> 13

Number of rounds selected for Block 24 are 24

BCDGM Round 1

Selected Derived Key No. --> 7

Selected Sbox No. -->6

Selected Pbox No. --> 13

BCDGM Round 2

Selected Derived Key No. --> 20

Selected Sbox No. -->21

Selected Pbox No. --> 16

BCDGM Round 3

Selected Derived Key No. --> 18

Selected Sbox No. -->17

Selected Pbox No. --> 24

BCDGM Round 4

Selected Derived Key No. --> 20

Selected Sbox No. -->12

Selected Pbox No. --> 9

BCDGM Round 5

Selected Derived Key No. --> 4

Selected Sbox No. -->9

Selected Pbox No. --> 2

BCDGM Round 6

Selected Derived Key No. --> 1

Selected Sbox No. -->24

Selected Pbox No. --> 10

BCDGM Round 7

Selected Derived Key No. --> 3

Selected Sbox No. -->8

Selected Pbox No. --> 13

BCDGM Round 8

Selected Derived Key No. --> 0

Selected Sbox No. -->16

Selected Pbox No. --> 18

BCDGM Round 9

Selected Derived Key No. --> 17

Selected Sbox No. -->0

Selected Pbox No. --> 14

BCDGM Round 10

Selected Derived Key No. --> 21

Selected Sbox No. -->23

Selected Pbox No. --> 24

BCDGM Round 11

Selected Derived Key No. --> 24

Selected Sbox No. -->5

Selected Pbox No. --> 8

BCDGM Round 12

Selected Derived Key No. --> 17

Selected Sbox No. -->8

Selected Pbox No. --> 16

BCDGM Round 13

Selected Derived Key No. --> 2

Selected Sbox No. -->24

Selected Pbox No. --> 18

BCDGM Round 14

Selected Derived Key No. --> 13

Selected Sbox No. -->9

Selected Pbox No. --> 14

BCDGM Round 15

Selected Derived Key No. --> 19

Selected Sbox No. -->2

Selected Pbox No. --> 14

BCDGM Round 16

Selected Derived Key No. --> 5

Selected Sbox No. -->17

Selected Pbox No. --> 3

BCDGM Round 17

Selected Derived Key No. --> 18

Selected Sbox No. -->4

Selected Pbox No. --> 22

BCDGM Round 18

Selected Derived Key No. --> 22

Selected Sbox No. -->4

Selected Pbox No. --> 8

BCDGM Round 19



Selected Derived Key No. --> 16

Selected Sbox No. -->20

Selected Pbox No. --> 13

BCDGM Round 20

Selected Derived Key No. --> 8

Selected Sbox No. -->13

Selected Pbox No. --> 23

BCDGM Round 21

Selected Derived Key No. --> 12

Selected Sbox No. -->23

Selected Pbox No. --> 8

BCDGM Round 22

Selected Derived Key No. --> 3

Selected Sbox No. -->19

Selected Pbox No. --> 10

BCDGM Round 23

Selected Derived Key No. --> 8

Selected Sbox No. -->23

Selected Pbox No. --> 9

BCDGM Round 24

Selected Derived Key No. --> 24

Selected Sbox No. -->4

Selected Pbox No. --> 15

Number of rounds selected for Block 25 are 18

BCDGM Round 1

Selected Derived Key No. --> 8

Selected Sbox No. -->1

Selected Pbox No. --> 12

BCDGM Round 2

Selected Derived Key No. --> 11

Selected Sbox No. -->0

Selected Pbox No. --> 6

BCDGM Round 3

Selected Derived Key No. --> 12

Selected Sbox No. -->14

Selected Pbox No. --> 19

BCDGM Round 4

Selected Derived Key No. --> 4

Selected Sbox No. -->11

Selected Pbox No. --> 20

BCDGM Round 5

Selected Derived Key No. --> 23

Selected Sbox No. -->14

Selected Pbox No. --> 23

BCDGM Round 6

Selected Derived Key No. --> 6

Selected Sbox No. -->7

Selected Pbox No. --> 21

BCDGM Round 7

Selected Derived Key No. --> 2

Selected Sbox No. -->13

Selected Pbox No. --> 10

BCDGM Round 8

Selected Derived Key No. --> 22

Selected Sbox No. -->12

Selected Pbox No. --> 22

BCDGM Round 9

Selected Derived Key No. --> 13

Selected Sbox No. -->13

Selected Pbox No. --> 11

BCDGM Round 10

Selected Derived Key No. --> 14

Selected Sbox No. -->0

Selected Pbox No. --> 9

BCDGM Round 11

Selected Derived Key No. --> 21

Selected Sbox No. -->11

Selected Pbox No. --> 13

BCDGM Round 12

Selected Derived Key No. --> 22

Selected Sbox No. -->3

Selected Pbox No. --> 6

BCDGM Round 13

Selected Derived Key No. --> 12

Selected Sbox No. -->5

Selected Pbox No. --> 21

BCDGM Round 14

Selected Derived Key No. --> 22

Selected Sbox No. -->16

Selected Pbox No. --> 2

BCDGM Round 15

Selected Derived Key No. --> 13

Selected Sbox No. -->12

Selected Pbox No. --> 2

BCDGM Round 16

Selected Derived Key No. --> 7

Selected Sbox No. -->5

Selected Pbox No. --> 18

BCDGM Round 17

Selected Derived Key No. --> 3

Selected Sbox No. -->21

Selected Pbox No. --> 23

BCDGM Round 18

Selected Derived Key No. --> 21

Selected Sbox No. -->11

Selected Pbox No. --> 22

Enter your choice

5

Encrypted Text Generated

For The Decryption

BCDGM OUTPUT	Represented Colors
BCDGM Menu / BCDGM Commands	Purple
User Entered Choice	Green
Generated Reverse S-boxes	Blue
Generated P-boxes	Red
User Entered Key(32 bytes)	Teal
Generated Derived Keyes	Orange
Round and Block wise Reverse Primitive’s Assigning	Golden
BCDGM Confirmation Message	Gray

run:

Press '1' to input the encrypted text file

Press '2' to build P-Boxes and reverse S-boxes

Press '3' to input a single key(32 bytes) for the generation of the required derived keys

Press '4' to Generate Reverse Block Cipher Structure Diagram

Press '4.1' to Show round wise details of the Step-4 (Reverse Block Cipher Structure Diagram)

Press '5' to decrypt the ciphertext by applying the above generated cipher

Press '5.1' for view the menu again.

Press '6' for exit

Enter your choice

1

Please enter the encrypted text file:

EncryptedFile.txt

size of the file is : 28,917 bytes

size of the file is : 28 kilobytes

Enter your choice

## Reverse Sbox 17:

179,4,175,0,195,63,87,99,158,196,100,84,85,224,16,130,144,143,251,59,185,23,227,79,96,123,229,193,11,181,210,173,118,106,116,225,5,39,198,8,21,70,250,236,98,206,121,43,101,167,211,49,113,78,12,76,60,219,221,127,157,22,155,184,194,26,147,154,235,67,19,182,97,178,31,115,80,187,88,214,134,197,249,117,200,137,163,156,93,213,65,50,37,82,120,107,57,58,34,38,51,68,216,231,32,128,177,109,28,126,77,247,215,30,170,25,81,6,135,47,131,64,208,232,136,204,95,10,56,189,40,188,112,140,152,239,13,205,151,105,160,132,246,71,202,217,242,153,254,90,114,52,48,222,238,110,42,191,240,223,201,91,218,241,234,166,138,159,124,162,62,245,9,33,255,142,103,237,29,233,69,148,133,145,35,168,111,207,150,7,172,253,176,46,164,243,161,73,18,72,199,125,66,36,54,220,75,252,171,53,122,139,174,228,41,190,141,180,192,248,92,20,169,3,74,89,26,55,212,17,230,149,203,146,104,86,83,27,108,14,24,119,45,94,183,102,186,1,209,129,244,165,15,61,44,2,

## Reverse Sbox 24:

97,142,173,4,251,244,194,135,122,210,132,86,33,36,127,24,180,183,195,50,203,199,83,105,119,182,61,165,114,126,154,77,73,66,205,242,190,92,41,168,151,58,240,111,103,211,134,243,62,48,15,23,78,130,186,166,220,223,125,31,188,120,252,239,200,255,235,218,161,163,101,52,246,34,82,247,91,13,189,70,8,226,32,208,85,141,40,42,137,39,63,49,96,98,124,225,204,250,147,65,2,109,67,152,184,245,232,88,241,238,25,16,248,138,10,64,68,197,1,230,227,27,133,198,213,43,177,74,71,153,148,59,234,53,129,22,21,94,7,131,231,93,237,181,136,19,118,76,253,115,162,12,5,172,233,187,84,69,171,18,145,202,170,249,17,20,60,222,81,149,89,229,99,185,26,56,72,28,95,207,143,112,90,116,9,209,206,215,3,123,178,158,164,140,38,175,192,196,44,117,160,110,14,139,191,113,106,87,107,214,37,221,57,144,128,236,167,201,179,169,79,55,228,176,121,80,146,219,30,157,100,102,29,45,174,156,193,224,155,217,6,212,47,11,35,104,216,108,46,254,75,51,159,0,54,150,

## Reverse Sbox 20:

86,150,13,15,188,175,17,54,133,147,96,208,20,64,121,224,205,138,44,160,74,10,39,213,173,88,80,40,57,223,234,98,143,170,66,106,119,249,63,2,235,186,220,255,197,11,181,180,37,126,241,254,78,179,158,110,128,105,71,149,134,108,90,211,225,12,139,148,18,115,93,216,77,157,1,212,151,192,184,116,33,195,214,201,231,76,3,89,25,221,237,242,174,35,41,49,222,45,163,22,4,27,125,9,84,129,182,144,19,226,176,137,253,132,152,111,159,101,124,240,236,229,164,131,85,169,232,246,189,162,140,166,141,87,122,145,81,56,210,73,252,206,127,233,146,191,102,135,178,7,94,79,24,91,5,104,30,243,168,31,114,42,32,248,245,6,60,107,207,62,55,8,120,200,29,95,230,117,48,99,183,47,36,155,193,21,130,185,92,58,203,190,26,153,154,68,227,51,34,103,97,239,196,247,61,238,142,167,118,161,38,209,202,100,219,172,69,228,215,250,156,244,65,198,113,28,72,177,109,171,204,251,59,83,70,187,218,53,136,75,50,16,112,46,194,43,14,217,165,67,0,199,82,123,52,23,

## Reverse Sbox 0:

216,254,56,88,229,8,52,102,201,13,24,183,177,55,85,71,31,23,153,73,141,200,6,43,227,123,253,190,98,59,233,235,68,228,163,30,131,115,224,223,217,144,164,174,126,209,10,167,165,122,247,189,246,158,12,205,213,252,7,76,63,250,198,120,42,4,147,46,226,193,89,37,218,91,172,215,157,45,15,251,179,16,18,156,181,48,149,195,77,9,21,87,105,210,234,100,101,112,58,39,241,50,152,232,159,11,142,54,20,242,206,0,41,244,121,255,27,119,34,70,194,171,132,69,186,3,127,28,196,192,143,237,133,113,33,136,83,231,230,96,97,169,151,202,180,32,14,72,62,219,129,249,95,86,130,74,185,92,36,22,53,99,197,161,176,60,125,150,187,155,140,243,146,109,236,104,114,65,25,203,64,214,116,44,47,111,26,166,1,57,162,135,78,79,170,40,188,93,2,191,61,238,184,106,221,51,5,208,145,118,49,211,80,148,175,137,245,207,182,19,239,173,107,248,128,35,154,81,17,38,82,94,134,84,222,240,29,225,117,199,67,139,124,138,90,75,66,103,178,212,110,108,220,168,160,204,

## Reverse Sbox 1:

98,201,224,244,171,43,24,173,10,85,181,64,207,137,226,179,52,234,35,187,225,122,102,20,141,192,232,152,91,186,118,133,209,120,6,238,8,74,71,228,144,128,106,60,46,121,248,199,114,86,110,11,95,0,156,149,162,189,241,153,203,169,49,142,104,97,41,166,246,16,54,23,2,78,105,66,124,155,81,176,223,215,123,205,218,178,208,84,177,239,94,107,56,70,245,135,65,184,202,146,100,29,150,191,80,87,12,59,39,183,197,151,27,131,190,164,40,116,21,53,73,92,113,198,17,134,88,76,165,158,221,13,237,240,36,50,90,148,160,9,1,204,103,72,170,188,143,196,69,154,217,112,19,68,253,129,145,236,136,126,119,37,58,38,45,3,216,89,77,220,147,48,242,83,185,32,25,108,235,109,200,62,251,193,51,96,28,125,79,219,15,31,93,159,22,249,167,182,247,229,174,132,140,214,252,14,57,55,82,243,195,172,222,101,99,255,157,44,194,161,34,168,175,206,230,115,47,33,254,18,180,26,127,63,233,42,213,67,30,5,61,111,4,130,139,75,227,210,212,250,163,7,231,138,117,211,

## Reverse Sbox 15:

46,187,169,134,54,15,243,227,131,233,103,61,53,57,1,34,225,27,209,98,249,33,166,223,67,62,48,25,136,7,198,121,147,234,40,178,97,158,68,221,241,87,2,75,100,195,151,28,226,5,193,35,59,60,69,80,37,102,36,20,155,29,171,119,144,133,201,24,104,31,175,237,181,111,229,177,130,230,251,200,242,157,89,74,120,239,174,22,210,11,86,19,191,160,205,63,118,192,43,188,108,231,116,167,39,94,71,8,10,219,238,85,240,206,23,132,140,32,21,110,145,79,76,125,154,146,163,186,106,228,55,246,26,194,254,141,156,236,50,164,109,196,172,126,17,207,135,44,170,245,105,115,77,208,96,199,202,224,91,179,139,248,47,197,150,184,211,56,129,38,159,9,220,152,235,99,138,13,51,203,212,232,161,165,114,222,45,190,12,66,95,216,82,113,214,14,4,215,189,49,30,176,78,42,6,72,127,93,112,142,81,64,247,123,88,90,84,0,148,143,73,204,213,173,52,180,65,101,153,124,244,70,3,128,107,122,253,182,255,168,217,218,185,252,250,92,149,137,183,16,117,41,83,58,162,18,

## Reverse Sbox 2:

212,19,93,236,240,47,114,54,60,129,223,69,155,149,242,238,156,127,95,103,117,48,53,224,25,128,121,72,0,89,77,8,112,171,170,221,183,76,34,24,181,133,84,36,115,232,162,140,9,135,246,65,124,158,38,255,178,217,179,139,243,32,207,241,182,39,203,195,248,61,74,17,97,92,6,145,213,104,2,90,196,218,228,33,116,166,50,27,194,126,142,245,52,30,51,58,231,199,186,122,208,185,45,244,28,172,250,100,67,71,20,205,1,220,189,43,113,239,44,11,4,146,31,29,175,187,66,78,37,237,144,229,49,164,209,219,130,233,18,154,40,153,55,210,88,79,174,200,251,57,252,108,21,253,168,5,169,165,73,157,80,204,75,193,247,206,46,159,86,118,249,123,184,137,87,106,152,177,134,138,211,63,62,109,64,201,105,68,120,192,70,10,85,136,176,102,202,59,41,91,214,180,215,216,191,26,226,94,132,235,111,234,101,98,107,254,151,163,147,16,190,167,222,110,13,56,230,225,119,131,188,198,3,99,148,125,22,7,160,82,173,150,12,161,23,227,15,35,81,141,197,42,83,96,143,14,

## Reverse Sbox 9:

36,12,225,223,75,195,198,82,240,79,238,44,243,80,76,107,252,2,179,7,51,15,191,30,251,67,0,89,214,163,18,85,196,197,206,249,217,116,95,159,102,149,169,153,174,138,13,250,105,210,57,35,11,235,201,193,130,77,187,183,127,63,185,93,234,242,123,49,6,128,86,14,125,1,53,207,65,74,103,131,61,215,253,112,165,22,119,192,232,160,41,236,199,237,10,212,208,96,177,70,213,45,146,23,200,178,42,211,248,71,209,73,117,134,8,48,4,100,25,227,99,255,141,115,37,228,205,3,34,172,145,218,140,148,204,121,60,124,66,129,168,29,56,58,19,27,69,90,230,144,113,142,17,156,162,239,78,28,246,20,170,21,158,137,47,114,43,31,188,171,184,26,39,87,9,233,16,91,24,122,247,164,72,186,50,136,62,155,83,118,84,161,38,120,167,202,203,226,139,175,97,111,52,59,98,55,135,166,244,194,106,231,151,241,88,108,219,126,224,152,180,154,5,190,157,182,33,189,254,94,133,176,245,64,110,32,54,68,81,92,150,222,220,101,216,221,46,109,132,181,173,143,147,104,229,40,

Reverse Sbox 21:

93,32,253,103,71,178,161,55,33,158,41,189,166,11,96,175,212,180,1,202,78,39,214,188,74,246,234,199,198,122,167,219,142,111,134,223,218,89,24,187,162,133,200,100,169,43,245,164,224,156,236,26,44,57,229,210,80,197,110,247,232,49,70,30,145,157,60,64,81,15,99,171,211,250,220,240,92,90,168,129,192,115,8,52,105,22,50,215,241,153,31,68,87,84,222,152,239,140,231,69,206,35,14,176,34,3,5,194,18,29,116,227,107,109,148,65,207,94,126,123,117,160,28,238,135,40,124,20,25,248,16,58,243,9,102,170,23,75,183,130,193,42,27,85,251,186,82,228,101,244,91,136,106,154,147,255,13,203,150,104,10,209,54,4,118,174,139,114,225,252,131,216,149,242,182,196,249,63,47,159,119,137,108,141,53,143,146,97,45,237,12,88,205,7,233,132,2,181,254,113,38,37,59,112,172,173,61,95,72,138,179,208,217,86,201,226,165,185,127,62,17,190,184,21,177,125,67,213,155,66,73,121,0,6,77,98,221,151,120,51,195,191,36,235,19,230,48,46,76,83,79,144,128,163,56,204,

Reverse Sbox 22:

251,95,201,194,89,78,249,74,76,62,113,11,160,145,125,217,242,255,206,228,140,117,67,97,198,187,219,212,174,245,231,15,35,151,58,135,8,50,182,127,246,159,69,181,16,34,99,165,254,27,81,202,209,110,43,222,70,84,100,109,136,221,61,96,129,216,225,250,241,41,211,65,137,112,0,124,64,91,114,22,166,190,25,247,183,98,173,178,4,66,146,253,123,229,39,184,243,10,83,142,167,161,193,244,164,147,157,120,28,185,31,239,36,133,6,80,60,226,92,195,13,252,17,53,51,24,88,12,186,126,103,189,87,2,108,171,111,134,20,238,42,179,128,192,143,106,149,199,227,7,30,14,105,45,104,150,44,235,115,9,40,232,73,169,116,37,131,154,93,139,21,234,158,248,94,118,233,205,236,72,191,156,148,196,153,48,79,56,203,102,214,130,237,230,1,197,223,176,188,144,71,119,122,38,220,75,85,207,210,33,180,200,5,18,132,26,46,68,155,47,172,57,152,204,101,170,3,23,59,141,162,175,82,213,240,138,29,208,63,224,218,177,168,49,19,55,54,77,86,215,163,32,90,107,121,52,

Reverse Sbox 4:

177,195,132,82,237,10,221,39,16,125,79,65,92,211,137,85,242,224,249,94,21,14,83,139,78,240,20,44,93,189,69,135,218,184,203,160,13,217,126,220,38,181,18,0,54,57,101,254,122,196,192,143,75,6,22,45,157,64,74,246,33,222,180,234,169,158,232,81,141,111,89,49,131,128,159,42,2,15,112,35,117,183,95,235,130,223,176,114,52,66,250,225,60,200,32,118,248,243,73,252,178,190,115,163,154,227,147,107,215,208,50,113,62,87,244,5,40,80,146,100,230,231,27,47,138,124,204,198,70,238,144,170,239,71,201,142,186,58,213,191,153,199,149,172,164,236,216,34,127,11,41,210,3,229,98,129,26,61,104,72,255,171,76,205,188,28,185,96,251,173,103,152,214,194,133,174,116,120,30,53,119,245,25,109,228,12,121,206,187,8,97,219,162,105,148,77,90,166,91,102,168,212,136,24,56,155,37,7,151,161,23,247,150,86,1,167,88,4,84,108,17,179,202,145,165,19,253,241,197,209,182,106,123,193,68,110,51,36,207,226,63,43,140,67,233,31,99,29,156,48,175,59,46,134,55,9,

Reverse Sbox 19:

46,252,127,18,179,231,98,92,21,251,153,13,99,240,60,171,154,78,37,63,234,104,8,29,87,28,134,177,90,248,199,201,208,236,163,198,126,133,161,58,145,108,36,80,205,184,26,187,204,196,38,249,217,235,43,156,106,254,71,95,56,151,5,82,66,85,91,159,181,20,209,100,158,68,75,191,194,44,35,0,138,165,170,62,89,70,118,124,211,206,141,10,152,31,130,42,238,146,230,223,3,178,226,123,185,200,218,195,250,224,122,76,2,17,125,132,79,74,140,110,232,147,113,47,215,114,116,169,237,67,168,59,246,228,214,245,88,166,97,186,210,77,25,148,149,41,4,180,213,136,216,129,229,175,142,174,51,15,155,55,227,84,39,52,162,173,241,48,69,182,197,247,23,172,101,188,120,221,109,12,242,225,49,45,157,50,115,176,57,65,167,32,111,192,7,119,9,222,131,72,202,144,14,11,1,112,81,40,102,128,34,30,73,239,253,105,93,53,220,243,233,22,137,54,189,86,135,255,24,19,83,64,94,150,183,117,103,33,61,96,143,164,193,207,27,244,203,107,139,6,160,121,219,16,190,212,

Reverse Sbox 18:

231,208,37,98,238,217,221,12,199,120,75,33,222,84,233,194,176,135,101,219,82,71,65,186,237,106,31,38,89,19,211,160,102,146,119,155,0,96,247,28,39,30,8,174,2,116,143,239,241,141,92,205,223,66,103,230,41,198,193,27,87,43,123,113,50,229,182,3,90,214,34,200,22,80,24,129,54,109,184,195,235,151,134,72,171,192,244,170,83,77,25,9,78,156,62,121,242,164,136,132,63,172,91,88,14,130,118,21,173,112,157,246,183,137,210,216,35,94,203,26,250,159,108,202,215,79,161,51,124,67,240,11,220,152,232,131,81,253,76,104,228,74,85,181,187,197,46,127,40,147,144,248,196,5,180,29,206,17,49,179,47,55,254,105,68,213,44,154,58,7,255,93,177,69,236,158,139,16,128,150,153,148,140,165,100,191,212,122,162,185,53,218,234,204,249,167,138,95,188,114,20,227,13,110,57,168,142,133,226,252,149,163,59,243,73,18,1,64,97,36,48,189,190,15,201,52,126,86,70,42,45,245,224,32,115,111,251,10,60,56,107,145,6,117,4,125,23,175,99,61,178,169,225,209,207,166,

Reverse Sbox 7:

25,152,46,52,119,55,242,188,237,134,104,220,50,251,34,228,148,151,77,108,185,59,3,81,92,204,116,27,6,68,196,168,224,245,156,98,73,69,209,253,57,180,74,172,97,80,225,186,210,35,111,42,136,45,139,36,227,86,0,49,141,85,48,127,83,199,53,173,163,65,201,88,202,244,167,54,205,164,7,121,194,63,212,197,207,192,1,255,130,109,198,123,174,29,114,4,143,94,124,11,84,142,211,14,125,239,33,247,214,229,60,66,246,72,75,249,106,232,22,105,171,218,47,9,166,43,165,5,26,157,236,145,120,176,190,178,131,140,153,23,217,195,126,58,223,102,56,160,230,96,115,39,233,24,243,103,215,40,93,250,70,18,184,112,183,206,41,162,193,37,12,248,51,161,32,8,100,30,118,181,154,213,144,235,44,31,122,177,82,20,28,150,132,78,240,147,15,38,101,133,62,21,241,10,135,179,146,91,61,155,107,231,169,191,219,158,234,79,254,64,87,113,208,189,159,200,90,71,17,95,203,216,182,137,221,16,252,226,128,89,222,13,2,99,19,129,187,117,149,138,170,238,76,67,175,110,

Reverse Sbox 14:

175,0,11,165,2,17,56,252,206,227,63,169,237,48,86,220,239,1,222,223,18,243,242,125,116,198,167,49,247,248,161,70,213,82,139,105,99,74,10,168,128,236,26,140,119,203,231,211,25,205,184,230,95,104,183,126,66,36,193,255,197,69,62,157,9,158,229,113,14,170,210,191,143,146,31,141,180,87,3,107,129,251,159,16,6,136,7,241,202,12,100,118,123,65,209,57,174,249,33,226,46,245,102,47,156,195,214,254,148,208,199,97,109,68,38,178,15,110,150,79,162,19,171,60,112,78,45,77,29,59,55,117,204,8,238,154,218,225,75,50,144,131,177,130,111,89,221,133,64,163,30,58,81,96,51,98,83,85,179,187,73,39,240,192,160,84,196,34,182,176,215,145,44,67,35,92,186,233,246,235,207,53,103,52,13,88,27,24,5,4,189,164,153,173,142,94,115,151,188,181,149,121,137,71,200,91,132,90,216,72,23,201,124,76,138,20,253,155,172,152,217,212,219,166,127,28,244,108,21,134,41,43,122,101,114,250,42,106,80,234,32,120,228,194,37,93,190,22,147,61,54,224,185,40,232,135,

Reverse Sbox 23:

24,163,110,49,45,10,189,146,237,51,174,169,61,219,157,1,28,210,224,164,158,246,35,76,233,42,34,4,248,87,104,198,96,72,235,63,159,94,92,74,171,93,204,138,21,191,91,187,154,180,17,225,46,108,6,231,173,40,135,161,113,22,170,203,220,65,124,125,98,33,101,57,216,127,114,16,152,252,193,123,25,73,243,209,234,69,36,201,133,166,100,228,60,250,229,118,117,27,15,66,81,43,167,143,8,47,70,254,134,208,84,53,107,230,71,192,41,178,200,30,39,196,26,55,255,139,82,181,249,12,165,194,214,5,78,13,232,86,14,244,95,103,131,7,227,190,50,199,122,106,149,226,145,212,151,9,38,54,29,197,0,221,211,77,245,182,52,136,31,130,48,218,241,109,184,119,18,176,121,205,2,90,89,116,44,150,213,59,215,153,126,239,162,105,23,251,238,185,85,67,32,111,129,83,168,120,3,156,236,207,11,206,115,179,56,58,64,183,102,188,132,240,97,147,112,223,62,222,186,19,177,217,140,20,79,160,202,142,37,155,141,128,175,80,68,137,144,242,253,195,88,99,247,172,148,75,

Reverse Sbox 13:

210,192,4,96,186,185,233,133,253,241,107,130,60,222,50,83,78,237,69,114,219,39,180,230,166,132,103,91,173,137,195,246,71,247,234,106,23,147,212,6,172,136,144,89,82,105,189,125,90,190,209,242,110,146,93,14,217,134,158,216,178,197,126,122,112,31,220,205,243,54,152,240,227,249,194,29,42,231,68,254,199,154,51,128,204,232,9,7,20,13,214,202,30,118,162,97,64,184,224,248,56,165,238,98,236,121,94,85,77,100,142,119,75,176,28,138,49,191,117,113,244,198,109,80,108,15

0,63,161,143,81,2,41,235,221,19,170,61,120,34,12,70,87,38,35,135,46,86,37,223,228,196,59,76,159,15,72,252,11,213,48,215,33,22,57,208,47,203,188,40,115,55,58,73,177,127,225,43,131,0,168,226,153,211,3,25,200,174,149,24,111,239,181,10,164,175,79,16,179,207,163,124,44,1,21,74,169,52,129,27,123,187,32,250,116,5,95,104,99,201,245,45,18,193,26,167,92,160,84,17,145,65,53,183,62,229,67,157,88,156,255,66,8,141,36,155,182,148,151,102,171,206,139,140,218,101,251,

Reverse Sbox 5:

143,209,122,103,2,46,152,71,175,222,139,116,50,125,206,85,39,93,108,149,48,31,82,140,70,79,28,45,252,164,191,205,15,23,204,189,236,173,10,231,169,86,84,130,128,157,113,8,99,218,234,208,72,193,154,223,68,229,89,166,199,3,90,19,225,63,27,159,59,233,100,18,83,16,73,29,240,96,36,162,138,54,38,111,144,58,55,163,181,196,105,146,44,61,172,24,57,184,26,255,118,131,151,187,94,217,92,249,66,114,4,87,40,49,210,12,194,101,215,186,88,253,141,219,185,77,198,7,6,109,56,132,22,214,120,238,69,80,179,102,207,33,37,124,115,212,25,250,158,1,13,52,190,160,30,153,20,147,251,213,42,106,81,230,91,220,161,107,203,247,243,117,137,74,0,192,62,232,167,180,183,226,17,200,182,239,95,211,174,246,224,129,136,188,51,227,145,104,202,201,254,165,60,75,76,216,148,142,150,171,9,67,11,235,241,121,195,178,14,112,21,156,221,32,5,242,64,47,244,155,177,78,34,43,119,134,123,133,245,176,110,237,248,127,35,135,53,65,170,41,98,126,168,97,197,228,

Reverse Sbox 8:

157,72,191,255,231,113,65,241,122,57,26,50,102,0,234,153,61,98,114,182,24,188,83,187,131,145,140,28,60,12,94,143,23,150,9,193,63,100,183,108,71,134,5,38,229,121,237,124,51,181,166,208,197,235,111,179,137,126,106,167,88,176,151,185,89,97,221,27,200,202,2,147,56,211,253,109,18,158,76,190,252,34,112,216,41,249,25,240,17,214,90,120,254,219,250,238,22,107,8,159,198,80,4,244,251,141,7,236,13,54,99,55,74,68,217,149,210,73,180,164,116,222,205,218,245,16,48,3,103,171,175,199,85,162,133,170,168,96,84,11,239,155,62,144,196,227,226,135,186,212,10,104,95,14,127,156,125,174,224,232,165,33,128,1,43,59,69,119,79,21,129,209,206,31,110,223,207,117,35,46,91,225,58,228,152,53,66,32,169,30,161,173,40,146,142,15,86,75,67,92,178,233,39,77,45,163,118,44,78,29,138,148,215,172,52,37,192,243,230,81,19,101,105,132,42,70,195,242,82,204,136,20,49,64,139,201,203,246,248,115,123,247,213,189,47,36,177,93,154,184,6,87,220,194,160,130,

Reverse Sbox 12:

52,119,223,244,106,128,44,224,194,6,133,138,34,38,241,116,230,250,245,238,212,68,214,165,181,75,101,62,117,220,178,90,20,152,98,10,9,69,232,136,21,19,26,248,70,176,132,153,249,79,18,160,51,96,109,83,65,49,208,63,53,239,173,50,200,14,82,151,240,107,243,57,100,226,114,121,139,29,56,203,148,93,205,108,43,198,97,39,189,193,142,17,13,225,64,94,12,32,55,255,23,164,210,0,187,252,218,1,231,159,87,5,229,145,157,135,58,180,127,155,27,60,131,150,215,112,217,76,126,42,190,247,188,99,11,66,84,192,207,172,7,16,47,89,167,146,216,140,233,197,209,31,40,234,143,168,122,33,2,74,179,175,242,81,199,219,156,191,130,162,185,149,80,125,196,253,102,227,237,246,137,110,118,235,141,103,120,161,25,169,36,202,61,144,182,129,73,35,37,88,46,251,154,115,171,78,204,113,123,163,201,206,86,174,92,30,236,166,8,221,211,134,91,254,195,45,95,67,158,77,213,111,48,22,3,124,4,24,28,54,186,41,177,85,222,104,184,72,15,170,59,71,105,183,147,228,

Reverse Sbox 6:

127,177,62,241,76,171,145,206,82,134,73,212,78,110,195,123,89,179,53,21,22,4,163,48,90,120,19,65,246,247,205,124,109,105,75,152,45,80,169,141,235,147,234,228,140,71,219,25,222,129,34,20,150,204,220,146,87,37,9,183,74,202,17,15,253,218,254,13,217,16,233,167,201,79,118,119,174,132,61,99,121,5,186,128,133,165,0,203,92,231,60,226,215,14,28,113,106,12,70,176,157,240,122,108,6,2,214,117,135,208,57,43,68,238,40,149,207,197,130,49,107,237,178,125,210,164,41,198,170,148,159,172,33,58,185,66,51,151,77,139,27,162,138,69,223,182,221,161,166,236,96,94,213,153,154,114,102,224,115,64,156,23,175,59,131,144,216,97,168,32,91,38,11,46,95,196,187,63,192,8,81,211,26,155,30,184,225,50,72,104,44,188,39,100,252,249,229,181,36,136,227,88,55,112,189,103,143,84,209,158,83,242,85,142,98,31,29,111,199,116,137,245,93,250,47,190,42,3,244,243,18,10,52,24,200,191,101,173,35,54,7,56,86,180,194,248,193,230,251,160,126,67,1,255,232,239,

Reverse Sbox 16:

182,250,31,82,3,221,79,135,240,114,93,154,15,184,223,123,151,60,18,116,199,136,49,213,107,203,130,62,254,91,214,10,166,86,67,188,167,164,252,194,187,102,139,108,159,118,152,110,27,236,121,33,54,131,0,32,178,19,68,181,161,63,197,251,204,129,179,156,50,35,189,208,165,13,41,42,90,248,172,51,101,76,43,217,224,229,112,201,16,57,191,225,2,100,234,74,185,190,83,158,48,245,144,66,113,142,105,71,246,98,104,237,111,115,64,146,198,39,150,192,117,195,173,147,58,205,209,5,177,163,6,140,124,157,227,255,109,145,169,211,21,253,84,69,34,202,25,1,200,30,155,38,72,196,24,241,75,73,4,132,45,70,215,125,153,141,78,14,216,65,137,244,9,168,210,220,238,99,231,232,56,239,149,97,53,61,8,174,180,85,94,28,22,126,96,218,207,20,17,87,80,26,89,7,37,228,106,52,128,249,92,46,171,120,127,235,247,138,243,175,170,160,233,162,230,47,36,122,219,95,103,59,193,222,12,23,186,148,44,143,40,29,176,134,81,206,119,55,11,242,183,133,226,77,88,212,

Reverse Sbox 11:

245,126,136,141,23,49,105,227,69,66,120,30,184,219,163,220,226,201,129,89,248,143,156,174,86,29,39,157,214,218,122,88,189,150,197,186,166,114,14,15,13,79,2,212,68,127,81,25,109,243,210,199,217,162,46,140,200,117,160,92,73,35,246,237,112,128,169,106,19,31,223,102,134,176,175,165,159,232,228,254,98,5,44,123,148,101,253,183,236,222,151,206,208,38,12,179,238,55,75,149,167,137,233,170,11,71,41,99,7,56,207,27,144,125,28,198,70,172,113,60,161,138,24,50,78,180,21,168,235,255,194,8,158,230,74,115,171,132,52,190,195,203,100,192,37,242,91,3,85,95,119,213,118,209,154,231,57,63,53,131,17,225,67,249,164,251,34,205,47,139,155,229,40,193,240,20,182,80,4,177,178,107,104,36,82,54,93,0,152,77,187,72,173,130,97,103,62,32,51,42,153,111,48,185,234,181,96,84,94,202,188,147,64,59,247,224,204,191,133,76,252,61,1,43,146,87,250,110,83,58,244,215,239,124,216,145,16,241,45,10,22,121,211,116,18,221,142,65,26,33,6,196,90,135,108,9,

Reverse Sbox 10:

181,254,123,72,116,69,111,109,153,57,73,28,121,52,220,154,14,139,22,217,235,12,96,241,32,155,76,134,100,233,8,90,142,193,239,104,198,9,20,208,206,186,224,204,232,148,94,126,38,68,156,36,170,66,108,95,78,149,29,2,244,33,70,248,132,42,115,183,43,199,63,91,125,117,19,106,30,4,173,0,174,99,41,218,31,145,25,92,16,56,45,118,65,146,114,85,98,89,215,250,140,172,120,214,101,237,107,192,203,46,191,35,131,165,178,179,236,82,185,53,238,74,243,10,169,39,213,67,223,176,113,164,48,40,112,221,175,249,18,3,5,37,144,17,24,81,194,251,229,83,61,129,210,231,184,102,75,162,84,133,226,252,60,62,209,130,110,219,207,124,87,58,59,1,161,247,64,80,171,103,26,119,212,141,79,222,150,159,182,189,227,188,128,71,246,234,216,167,44,127,201,143,255,190,180,137,242,187,240,152,55,205,54,225,157,197,47,51,88,230,151,27,6,23,200,122,147,245,15,253,177,105,163,202,77,158,7,11,168,138,93,86,97,136,196,21,228,34,166,160,13,50,195,211,135,49,

Reverse Sbox 3:

235,55,172,197,182,61,255,119,183,84,150,247,24,227,69,192,225,129,43,35,168,229,137,199,169,88,45,44,161,171,65,248,148,175,31,230,195,145,226,220,204,153,77,87,79,207,80,12,158,231,91,57,244,72,64,253,254,68,239,103,203,213,130,29,90,21,142,240,82,52,189,245,211,209,222,138,53,13,252,125,76,127,10,49,143,223,157,106,74,201,71,97,170,215,17,4,205,3,23,237,116,6,8,190,221,136,112,107,128,117,200,2,193,96,25,111,214,173,115,154,58,121,22,99,160,63,118,94,34,39,104,212,179,132,228,93,208,224,100,36,216,166,41,102,186,126,18,134,251,92,33,162,181,108,206,50,37,188,250,123,156,167,51,180,7,42,210,81,5,38,0,163,85,152,30,164,147,48,198,109,174,20,27,15,14,19,95,131,62,249,67,176,178,105,196,113,144,242,110,26,185,241,40,202,219,140,56,120,232,66,86,234,124,218,133,159,155,165,246,75,187,83,16,146,114,135,89,73,59,194,60,1,46,177,184,191,47,98,233,236,151,11,238,70,139,217,141,9,122,243,54,101,28,32,78,149,



Pbox 14:

211,233,19,50,247,185,92,106,9,62,229,183,110,190,103,31,83,240,35,118,72,138,142,21,101,249,108,111,162,43,120,11,12,161,61,25,238,202,80,147,26,201,73,34,123,128,10,116,113,213,87,30,64,135,192,130,8,124,0,119,52,193,196,112,126,104,149,244,107,91,44,74,226,245,174,215,236,82,131,253,115,67,150,121,199,14,178,179,224,241,175,171,145,184,212,129,134,154,59,97,122,194,78,255,85,156,252,158,205,246,114,77,198,54,15,132,109,181,254,200,100,157,143,47,41,206,209,243,68,177,37,53,39,164,137,3,38,231,18,191,223,16,5,214,45,76,170,49,248,127,186,56,188,23,65,79,55,182,217,210,94,48,146,227,242,40,17,160,155,57,151,168,225,117,230,32,99,234,163,13,167,51,29,96,81,166,237,189,250,2,86,218,251,69,139,28,20,105,195,140,6,228,203,152,159,141,216,187,176,33,58,7,93,222,1,90,125,36,60,221,63,88,208,180,169,207,27,136,95,42,220,239,4,232,204,102,66,173,46,24,71,98,133,172,84,22,235,75,70,219,89,144,197,165,148,153,

Pbox 7:

236,82,254,75,34,243,108,36,127,2,24,143,114,135,137,86,179,235,195,41,19,190,37,122,65,21,167,187,192,244,102,8,46,55,234,123,140,178,222,226,245,42,188,52,38,248,214,112,101,186,7,182,249,205,206,170,166,150,22,56,209,229,160,191,219,71,124,109,9,35,64,63,253,80,59,51,144,180,202,30,118,44,162,197,83,232,238,53,200,237,57,228,196,199,26,201,183,99,169,62,164,120,155,161,189,173,224,96,31,223,128,126,217,20,250,85,172,185,105,193,239,207,27,77,5,215,210,136,88,125,95,76,50,98,78,141,4,139,203,3,159,66,16,163,154,54,11,175,25,153,33,89,93,121,39,247,213,168,72,151,18,68,111,255,81,133,149,220,6,204,92,48,198,138,69,28,32,211,91,129,117,142,73,103,174,152,241,145,194,116,67,148,134,132,58,177,165,43,233,13,147,79,227,14,251,119,106,10,84,246,240,17,104,0,45,94,231,242,49,1,40,87,90,60,221,100,181,131,230,107,184,47,29,146,15,171,61,252,216,158,12,176,70,115,157,130,225,113,110,218,212,156,23,74,97,208,

Pbox 5:

26,230,55,188,114,141,51,21,139,145,222,152,11,49,170,226,150,77,71,214,154,136,208,231,232,229,57,149,7,116,138,218,197,243,173,159,205,19,142,103,133,165,198,32,224,96,60,147,137,31,196,105,1,46,179,245,110,164,121,6,27,123,168,140,54,56,44,28,177,0,25,191,213,237,104,146,131,193,186,201,98,18,181,112,176,209,155,106,22,87,53,199,13,242,107,153,38,9,203,76,78,85,185,62,66,72,189,239,180,33,81,217,255,64,67,171,99,184,187,223,240,211,219,86,70,41,91,128,79,48,228,36,250,119,182,122,194,160,15,252,65,215,135,84,132,59,94,83,163,73,10,235,206,24,115,100,16,172,216,169,249,97,113,220,8,14,175,2,68,238,190,161,5,102,20,90,227,63,241,157,251,210,174,42,158,93,23,202,30,207,236,109,204,95,43,69,130,156,151,80,124,143,129,75,50,212,148,125,254,225,89,37,58,246,247,40,200,195,35,4,101,92,12,52,61,39,178,244,253,34,234,82,134,144,118,3,248,162,167,108,183,74,47,29,111,192,120,17,126,233,221,117,166,88,127,45,

Pbox 1:

72,9,82,13,98,92,213,124,58,159,194,116,5,216,153,245,112,223,117,180,60,138,44,132,122,217,152,100,238,115,187,52,74,179,73,222,154,218,36,207,91,56,43,114,121,156,34,248,51,95,244,108,190,16,62,234,220,123,226,142,77,31,1,193,38,19,203,83,104,101,57,110,127,14,136,148,249,107,199,130,6,139,63,102,219,93,94,26,197,185,25,129,37,11,173,214,168,240,178,247,147,76,198,166,137,209,177,221,10,157,135,41,103,81,175,49,89,246,79,241,106,54,27,35,140,33,254,162,18,202,236,15,189,134,169,126,71,17,224,8,99,239,55,232,84,184,205,150,66,242,21,2,3,155,158,243,128,61,113,253,172,67,65,170,97,161,30,183,204,251,145,40,131,171,118,141,90,211,86,225,176,230,50,133,119,167,96,160,111,164,24,182,68,120,12,186,206,235,85,80,45,53,215,23,146,144,228,29,201,196,105,20,32,210,75,188,64,163,143,125,195,59,4,70,22,255,46,87,231,227,69,88,109,151,39,48,229,212,237,181,28,233,192,250,149,47,191,42,165,200,0,252,78,7,174,208,

Pbox 10:

142,61,52,171,80,229,211,32,15,148,179,245,85,12,93,43,140,83,91,92,168,218,151,208,56,104,231,20,198,152,228,108,72,144,33,106,4,113,240,118,74,27,45,89,185,117,212,49,158,65,35,247,204,55,73,167,135,169,79,54,189,191,248,159,57,253,53,70,21,133,120,209,110,237,235,69,206,166,213,160,3,220,68,183,242,182,239,101,251,214,60,50,162,163,178,36,201,13,77,66,249,62,155,11,96,177,241,115,30,10,221,123,17,114,173,170,38,222,200,47,126,8,42,122,82,5,225,180,23,51,161,76,6,58,22,132,59,0,219,196,246,243,186,129,87,105,217,250,98,37,153,90,94,195,103,86,216,187,172,234,238,202,109,143,24,29,18,207,9,34,31,224,7,223,116,150,84,121,136,174,236,14,124,19,252,157,75,181,44,28,215,97,141,1,99,112,119,48,81,137,2,147,100,67,39,254,128,138,232,203,88,95,184,127,145,102,131,46,199,154,193,25,125,255,139,64,130,71,40,194,226,176,190,197,192,111,165,233,134,41,26,16,78,63,230,205,210,164,175,146,244,107,227,188,149,156,

Pbox 22:

81,185,31,209,252,35,151,7,87,100,66,244,49,196,61,44,208,174,220,144,0,117,247,227,248,106,184,236,237,28,230,68,150,114,234,167,165,176,251,20,216,38,119,190,195,160,89,46,155,218,249,215,113,197,166,23,181,62,225,53,84,39,159,41,55,146,109,170,25,29,125,107,255,54,9,241,133,143,82,134,198,24,93,60,175,233,210,70,127,239,17,148,103,104,137,111,223,30,124,90,226,86,16,242,51,10,108,158,188,91,131,186,193,73,130,13,254,169,182,15,26,187,171,96,189,32,153,75,204,3,235,191,74,129,123,164,152,58,128,116,141,224,192,240,118,157,33,71,85,200,88,232,22,135,147,136,253,132,219,172,162,48,65,121,59,228,8,156,140,67,205,138,142,246,19,92,115,163,203,4,37,72,238,99,76,213,78,221,95,2,105,56,161,245,183,14,168,207,177,1,206,102,139,57,194,98,145,173,120,217,27,180,126,12,64,202,21,45,79,250,34,11,112,214,47,97,243,201,211,101,36,52,94,50,212,83,122,63,231,5,222,43,77,6,178,42,179,80,229,110,199,40,69,154,18,149,

Pbox 19:

11,234,167,89,141,189,172,63,152,71,138,208,110,209,5,112,102,67,47,82,198,251,4,38,181,20,62,229,21,252,24,7,26,90,65,206,45,92,22,59,8,131,126,201,56,100,240,144,35,166,60,55,157,129,101,32,154,6,148,36,231,130,40,221,109,44,115,50,108,177,118,39,235,2,217,254,97,66,182,210,169,146,161,64,51,95,1,134,53,184,74,180,150,105,79,227,69,230,135,113,121,224,137,46,58,88,12,103,3,165,143,93,203,29,98,128,219,174,183,236,163,171,253,223,175,86,225,178,215,222,243,73,123,94,52,242,9,170,111,132,127,120,188,87,70,119,23,142,124,33,155,214,246,245,30,96,197,91,233,83,48,18,80,216,248,41,34,19,255,147,13,194,162,139,158,25,68,202,15,237,81,122,220,10,149,226,43,160,196,145,78,199,27,249,211,61,218,106,153,72,212,140,156,204,232,186,207,187,99,85,37,17,0,116,164,76,190,28,244,213,114,239,168,228,14,179,191,151,31,193,104,117,136,200,133,159,54,247,205,49,241,238,57,42,125,195,84,250,176,173,16,185,107,77,192,75,

Pbox 24:

114,49,202,146,162,34,208,173,70,7,207,206,24,179,96,130,22,115,230,100,241,165,10,185,210,136,57,55,199,67,214,66,28,14,90,215,102,172,2,153,204,212,56,35,184,42,77,175,50,3,223,91,201,131,69,187,121,168,1,229,129,0,192,224,216,23,36,166,5,209,244,242,238,26,16,211,11,243,112,74,200,80,150,37,84,125,239,164,13,79,109,226,73,81,189,133,89,29,197,250,191,65,68,178,156,72,99,180,59,246,233,44,62,135,52,196,218,30,222,51,104,220,217,111,98,231,154,8,171,188,64,94,170,152,71,140,58,186,19,183,163,253,174,87,63,245,249,105,32,138,139,141,159,122,40,132,97,31,254,169,119,21,228,17,252,232,194,76,18,225,176,158,9,160,25,234,60,181,85,103,157,78,155,48,75,147,15,124,107,43,219,251,54,53,236,93,240,145,167,143,38,148,117,113,83,20,221,101,127,195,88,27,235,151,237,203,247,95,134,45,227,120,190,92,123,193,205,198,46,86,6,110,82,12,41,39,106,248,137,108,255,213,149,118,161,177,142,33,182,128,61,126,47,116,144,4,

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189,152,55,173,19,139,184,253,166,10,221,164,114,199,188,72,160,215,48,223,155,46,74,216,103,205,87,104,88,83,151,109,64,210,234,195,121,237,148,33,125,0,186,245,21,5,39,207,115,129,167,206,123,118,225,143,196,29,236,36,71,198,113,243,24,108,159,22,57,26,177,112,222,31,65,75,182,53,27,241,141,219,42,30,100,126,179,7,96,172,191,144,93,119,181,38,250,92,238,247,192,68,70,190,149,28,97,178,67,56,224,122,128,138,185,95,54,214,98,102,106,212,66,20,101,134,40,11



6,168,249,226,62,180,239,99,145,86,3,218,23,142,89,244,132,176,202,232,193,130,162,235,49,15,169,110,6,194,84,170,47,45,171,41,200,208,153,77,213,140,135,34,94,248,111,90,4,136,2,91,158,12,187,8,43,183,61,35,37,52,137,251,127,197,9,69,231,14,157,154,11,174,201,146,230,131,242,209,124,73,82,161,80,120,220,17,254,51,133,59,165,16,217,246,63,25,81,18,227,13,32,211,229,203,228,1,60,50,240,107,76,117,147,252,150,204,105,44,233,85,58,175,156,255,79,78,163,

Pbox 15:  
44,180,106,219,164,64,193,111,172,142,252,132,91,54,40,36,171,245,159,149,35,174,101,135,69,100,145,42,155,134,254,163,167,65,241,237,97,224,25,37,185,109,26,86,203,112,20,13,94,30,88,169,212,181,226,107,233,248,59,138,182,255,23,95,74,121,188,209,123,3,98,231,196,16,227,186,52,128,213,205,90,14,234,50,8,6,217,190,189,253,198,10,218,19,127,1,92,102,170,41,45,161,146,214,144,78,5,75,71,113,33,51,184,28,200,122,220,31,80,211,29,194,85,18,208,89,157,206,236,160,67,22,195,199,87,228,117,238,34,153,168,240,116,21,62,11,250,125,57,2,83,131,204,139,235,72,183,179,249,104,247,103,147,73,70,202,49,76,177,120,244,223,215,43,126,143,251,178,243,166,115,137,246,242,119,60,93,58,15,105,110,154,191,239,66,175,77,39,156,165,187,192,133,53,46,99,79,225,130,81,162,82,176,124,158,222,56,38,151,0,48,84,24,136,32,141,118,7,148,12,140,207,201,221,4,197,216,229,108,150,114,96,68,129,17,47,55,210,230,27,173,9,232,61,63,152,

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241,204,66,151,148,133,100,140,10,119,109,212,63,132,4,253,58,186,159,77,255,9,51,232,45,31,0,200,15,114,198,228,178,244,46,74,247,251,245,122,57,143,249,252,180,171,124,106,173,110,214,6,94,163,146,117,217,19,41,56,68,23,233,113,7,120,176,196,79,93,177,220,12,13,125,139,181,48,78,179,131,29,227,218,234,82,197,182,130,240,129,184,175,92,183,210,153,38,236,99,172,49,206,112,108,136,149,103,97,164,61,116,235,242,86,43,28,64,215,5,104,62,205,65,237,20,25,24,50,44,147,221,145,161,137,98,138,134,75,201,194,105,239,96,211,123,40,8,76,188,34,95,160,90,250,193,33,169,156,26,60,230,226,216,102,167,87,70,162,52,238,199,174,83,37,157,165,39,88,1,231,166,142,73,219,248,168,53,55,152,36,115,84,150,213,11,32,107,89,126,225,22,16,47,127,21,54,30,80,229,85,222,192,189,223,118,121,3,158,71,141,67,209,254,42,155,17,243,111,101,208,91,187,246,2,203,135,27,195,59,69,14,72,170,144,154,190,18,185,207,224,81,202,128,191,35,

Pbox 17:  
221,222,58,162,210,18,118,49,252,90,122,153,165,72,50,77,93,57,129,71,60,239,135,74,249,134,12,145,172,241,47,8,157,179,183,232,213,190,240,101,141,3,209,144,203,155,154,68,205,81,39,133,21,94,0,164,69,166,253,158,32,113,105,181,173,169,55,46,224,198,176,11,246,127,148,41,131,185,189,199,124,223,139,149,95,19,111,112,143,97,212,5,130,7,163,116,159,227,128,1,197,78,226,206,215,16,108,119,110,96,204,28,84,109,230,62,228,151,184,132,35,138,40,178,73,211,218,125,114,99,121,191,79,25,120,255,167,64,254,13,192,140,187,52,76,156,202,88,24,237,15,48,61,186,201,146,53,98,214,251,36,247,91,59,235,193,229,83,220,51,147,33,63,200,171,244,43,216,150,136,87,103,86,26,123,56,208,30,231,225,152,238,243,37,92,38,2,180,107,102,242,42,89,142,137,17,75,174,100,70,14,207,177,194,29,4,20,27,80,45,115,65,248,85,66,234,182,196,106,195,22,54,236,126,6,117,233,175,168,9,82,31,217,67,219,44,104,34,170,23,160,10,161,245,188,250,

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35,241,111,246,46,156,160,60,175,208,21,153,66,204,131,10,17,216,235,18,232,163,59,0,193,89,77,63,138,205,51,155,20,224,244,221,154,190,120,187,179,56,177,102,69,147,87,150,72,172,19,4,25,105,183,85,248,125,50,141,1,182,90,16,148,103,133,121,67,26,215,168,242,27,206,44,43,176,158,201,178,86,233,214,194,252,231,28,12,6,40,140,162,230,217,95,247,5,31,151,61,80,96,106,82,198,197,62,109,54,223,146,100,116,250,34,32,157,165,11,75,135,48,236,132,55,7,142,251,76,213,134,199,219,144,186,70,37,254,117,139,99,222,110,93,78,159,220,237,42,209,92,130,122,249,240,167,9,128,14,228,65,127,8,203,181,161,200,68,234,169,143,107,226,253,79,136,195,212,91,49,97,210,188,58,173,185,104,166,243,189,114,229,192,36,207,191,218,38,57,171,129,184,88,149,238,255,94,112,227,174,101,202,53,98,71,29,211,113,108,239,123,152,30,137,22,13,15,196,47,84,119,24,83,124,180,45,64,52,33,81,74,39,145,41,126,170,245,225,2,115,3,164,23,73,118,

Pbox 18:  
116,244,205,174,136,199,10,123,134,12,66,99,49,207,138,39,108,45,243,155,88,203,21,33,82,166,213,113,126,81,46,229,144,223,194,228,221,252,25,168,42,246,135,254,96,251,236,183,157,74,114,184,133,59,235,57,122,50,0,193,216,214,120,13,143,68,1,225,31,247,209,5,230,58,218,35,93,103,38,180,117,56,195,237,73,76,24,65,175,250,198,69,154,206,11,32,132,227,153,121,196,151,234,75,191,119,224,28,40,15,100,95,186,127,34,54,115,187,255,67,253,179,63,92,156,239,167,141,222,64,241,231,139,212,118,94,137,102,202,14,217,87,71,219,90,111,107,200,171,61,169,62,79,165,70,110,210,238,86,105,160,53,245,147,197,83,8,106,52,6,97,16,149,9,18,72,30,84,47,20,240,109,44,29,85,140,125,161,48,181,192,131,170,17,146,55,80,124,220,185,178,164,208,104,78,60,37,129,89,150,163,101,26,188,189,190,3,159,145,233,148,91,182,43,201,162,2,77,130,41,7,23,232,177,242,112,4,152,51,204,176,36,215,98,226,248,158,211,172,27,173,249,142,22,128,19,

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80,114,179,4,128,234,215,97,33,104,238,233,73,171,193,247,32,218,68,132,0,48,40,253,164,165,91,244,182,131,239,167,60,90,168,162,3,133,157,89,146,47,10,178,199,237,138,160,39,88,192,245,59,53,137,145,45,158,203,49,93,84,163,22,117,246,120,230,28,113,232,15,6,112,52,236,92,43,134,183,129,254,126,190,205,161,14,57,102,103,79,159,44,206,121,7,135,62,153,166,184,196,111,55,29,125,251,249,12,144,174,21,181,252,242,186,189,116,24,122,95,213,219,20,87,194,110,231,220,224,67,142,223,188,127,66,221,136,8,115,34,154,156,209,30,250,228,225,150,107,202,76,98,1,176,198,9,177,18,26,13,25,217,248,16,100,226,151,96,143,216,54,72,240,70,211,197,207,241,69,255,83,86,37,46,227,170,208,94,214,195,77,200,101,61,118,109,56,124,141,106,172,75,64,38,155,41,71,82,149,175,140,105,235,42,210,51,180,27,173,152,63,119,85,11,185,191,2,31,169,222,58,36,35,50,123,23,5,147,229,201,108,130,78,204,74,148,99,243,19,17,139,212,81,65,187,

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36,109,220,98,172,230,151,40,46,20,99,184,135,147,195,206,150,255,137,247,69,108,231,71,0,129,154,29,133,190,164,200,153,118,67,123,199,117,194,42,126,15,89,41,216,251,187,162,81,48,249,45,37,96,101,175,112,18,52,76,192,130,33,13,32,141,235,185,219,253,166,132,250,238,43,30,115,59,210,217,245,188,243,47,191,50,53,31,75,119,70,165,94,120,214,211,121,105,25,63,55,1,167,198,169,159,74,224,207,233,124,77,5,189,26,136,201,203,93,23,95,110,170,218,177,168,171,61,142,68,155,223,2,173,14,107,104,56,88,204,152,157,205,241,182,122,111,197,97,17,234,62,222,66,92,186,34,139,215,82,38,65,161,125,64,102,106,209,246,252,10,60,160,7,79,57,176,156,229,148,232,100,58,193,11,22,3,83,226,134,103,27,87,4,49,158,128,244,91,242,19,183,8,145,86,113,138,236,21,127,208,227,163,248,239,143,84,174,228,73,72,12,39,140,213,254,144,146,202,35,131,178,54,85,16,196,6,116,237,225,181,179,28,180,114,9,149,90,24,221,78,44,212,240,51,80,

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32,226,185,89,191,68,156,50,236,84,94,253,83,144,193,40,212,184,177,234,77,136,99,58,160,62,69,28,158,172,20,161,104,64,194,196,107,140,49,220,233,24,63,244,178,118,124,127,52,190,211,97,247,192,133,10,25,198,27,215,159,223,179,219,80,167,147,229,188,82,31,213,152,75,200,117,154,169,93,240,47,131,37,91,13,22,34,180,162,228,112,86,238,138,103,221,207,241,9,222,100,153,8,122,16,61,120,115,109,171,106,76,139,201,237,65,88,30,54,249,166,186,3,214,128,137,85,12,119,105,129,36,45,18,170,41,132,90,250,48,143,157,44,96,248,78,202,56,101,51,126,208,111,55,255,6,205,239,79,235,168,199,1,243,164,70,254,39,67,176,182,209,224,189,217,23,218,173,232,72,11,125,231,46,0,113,102,57,174,150,210,29,155,35,43,81,95,2,246,130,14,227,204,17,245,110,53,181,197,145,175,38,92,142,71,146,42,108,165,66,123,7,60,242,141,230,26,251,203,135,116,98,114,195,21,225,216,74,59,15,252,19,121,148,73,33,206,87,149,5,4,151,183,187,163,134,

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120,32,85,115,56,190,178,19,214,96,90,212,216,175,81,219,201,239,243,0,208,173,78,51,57,117,121,69,76,227,228,86,215,34,187,234,28,152,211,123,105,207,149,27,33,140,118,4,107,203,210,179,157,247,162,167,79,24,233,122,184,171,148,237,127,198,84,189,209,23,18,104,224,111,59,217,83,94,35,133,125,2,195,30,135,100,196,242,225,87,235,172,1,170,244,64,132,182,20,16,106,31,25,144,194,7,109,251,73,169,82,223,206,3,70,139,245,150,253,71,97,48,101,36,188,103,145,14,248,181,119,230,77,142,143,124,110,53,66,130,93,191,200,62,91,80,126,6,193,218,10,197,137,220,26,15,72,21,154,58,177,112,146,95,65,202,75,168,8,41,55,5,39,141,47,68,155,221,42,22,158,254,236,240,166,163,13,92,156,54,63,61,17,89,231,98,174,67,183,226,113,129,108,88,160,37,180,249,114,252,138,45,136,185,147,246,250,50,153,44,199,164,131,12,192,52,229,222,40,204,232,29,205,255,116,38,134,161,159,186,238,74,43,165,9,99,128,46,176,49,102,241,151,11,213,60,

Pbox 21:  
157,166,103,33,23,52,155,97,30,206,127,29,198,65,91,107,211,170,114,50,73,20,144,185,124,55,69,255,32,134,180,246,22,250,252,146,78,58,86,215,148,38,98,25,199,230,56,115,225,26,54,222,68,178,75,179,184,18,11,159,194,244,171,136,61,150,181,2,209,204,7,165,133,188,109,182,228,193,169,0,117,132,243,108,191,238,152,210,93,154,112,35,207,36,3,83,153,5,118,105,96,212,45,175,221,27,59,174,64,48,71,76,101,74,12,88,67,1,46,140,62,219,139,145,176,15,94,121,227,147,40,130,247,143,104,167,21,187,24,172,203,141,90,189,135,137,164,156,173,240,123,177,126,80,249,17,84,125,234,53,183,254,235,99,237,87,113,77,205,160,9,226,111,216,217,197,251,245,233,85,138,70,128,224,122,60,19,6,161,236,186,232,120,41,95,16,100,31,241,248,34,239,218,81,208,66,42,201,242,4,116,142,162,163,89,102,72,231,192,110,106,158,28,13,8,37,79,47,82,39,220,223,149,190,43,51,49,63,131,229,200,202,57,195,92,10,151,129,119,253,213,214,14,44,196,168,

Pbox 11:  
52,222,103,85,199,195,72,10,63,87,155,124,159,76,207,107,249,220,227,119,66,139,206,194,37,62,200,57,161,251,28,81,71,40,25,17,78,44,202,5,215,205,201,26,143,70,204,79,126,41,228,36,230,170,162,12,91,253,53,244,8,233,117,46,247,128,104,73,120,100,168,193,7,147,140,240,9,118,210,29,254,178,196,74,248,185,174,59,86,98,109,158,123,50,144,38,18,122,138,82,89,64,192,58,187,20,90,152,131,4,203,19,115,238,189,177,39,234,160,56,136,49,141,23,217,135,198,208,232,132,245,164,183,34,6,225,0,106,218,229,54,13,221,95,68,154,111,237,21,60,31,243,151,213,16,96,190,1,61,150,110,182,11,114,184,169,113,101,3,236,30,121,175,27,186,239,80,191,92,51,77,83,246,157,226,173,214,137,235,65,15,165,24,148,67,149,129,252,112,163,166,45,33,197,241,35,130,105,88,99,180,167,116,188,224,172,181,146,176,156,84,212,153,231,209,14,216,242,22,102,32,179,255,97,94,48,108,55,69,2,211,125,145,250,47,219,127,93,42,142,134,171,133,75,223,43,

Pbox 9:  
174,204,89,60,252,87,104,194,47,159,86,125,251,13,236,153,19,147,54,78,197,230,24,175,233,133,121,244,101,199,57,239,238,155,138,15,165,123,25,22,253,141,130,35,166,235,95,102,143,184,43,172,234,48,202,63,191,179,145,21,240,183,205,67,73,34,39,228,93,201,217,162,150,58,94,212,33,208,160,64,229,151,211,231,32,192,129,17,114,242,1,136,18,198,168,176,164,188,49,62,11,81,213,227,200,44,132,14,203,248,163,76,134,71,169,36,103,52,68,46,128,171,250,126,82,249,207,127,51,220,16,85,92,182,61,12,42,190,218,20,156,215,115,8,10,157,90,140,245,106,105,158,223,221,178,185,152,131,59,177,50,29,243,110,232,23,224,193,40,112,180,96,173,27,237,6,30,2,170,26,70,119,187,206,113,74,0,210,241,80,107,247,109,186,53,38,181,148,4,154,195,117,9,246,88,37,98,5,146,216,84,65,75,214,83,100,56,167,28,142,149,161,69,31,45,66,79,55,116,196,226,137,97,41,111,139,254,91,108,77,118,135,72,189,209,124,99,144,120,225,255,3,122,7,219,222,

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195,64,211,120,53,116,57,46,255,148,232,88,190,119,54,181,198,21,3,202,220,234,24,28,248,78,92,252,177,12,224,114,26,197,165,241,161,16,250,221,158,205,52,38,185,179,1,59,96,228,109,70,196,121,79,17,113,34,103,45,139,71,107,200,67,23,236,168,166,76,58,172,146,233,164,132,9,225,143,209,226,27,66,105,33,171,217,142,43,91,188,201,13,246,75,68,180,157,18,223,14,193,189,50,213,216,170,65,154,183,243,102,137,15,141,25,169,117,86,30,212,249,126,203,49,35,32,147,140,231,144,56,247,175,118,151,4,111,94,124,159,85,244,19,130,106,112,55,145,20,36,133,0,97,128,131,254,230,72,129,138,84,115,199,60,219,83,29,192,2,162,8,6,156,61,238,7,227,40,31,253,206,74,155,89,167,194,63,204,81,122,134,186,44,163,207,174,123,214,77,152,11,125,218,215,42,208,191,173,101,99,239,182,135,222,251,93,98,229,87,149,237,90,210,108,184,95,10,104,100,240,62,51,150,48,39,127,37,178,22,136,5,245,47,41,73,160,176,153,187,235,242,80,110,69,82,

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Derived Key values: [4, 136, 246, 171, 191, 11, 139, 111, 181, 182, 241, 216, 5, 208, 68, 119, 58, 146, 222, 95, 199, 78, 60, 33, 223, 183, 183, 0, 93, 73, 240, 95, 91, 95, 202, 162, 139, 107, 114, 217, 139, 250, 35, 211, 117, 239, 215, 34, 12, 234, 125, 236, 204, 228, 62, 168, 142, 103, 183, 208, 58, 252, 52, 41, 106, 249, 170, 82, 68, 30, 49, 60, 161, 200, 33, 239, 239, 133, 85, 226, 20, 59, 249, 222, 152, 252, 209, 122, 41, 194, 176, 51, 134, 153, 151, 14, 224, 188, 33, 169, 147, 26, 240, 69, 245, 207, 78, 13, 110, 10, 0, 70, 12, 212, 6, 60, 238, 31, 93, 203, 201, 185, 133, 166, 1, 150, 134, 155, 150, 60, 250, 46, 76, 196, 54, 63, 217, 15, 113, 194, 217, 86, 93, 216, 229, 202, 234, 232, 177, 29, 63, 20, 56, 15, 135, 48, 232, 255, 109, 1, 234, 120, 55, 61, 98, 65, 213, 172, 64, 126, 237, 3, 6, 108, 247, 51, 24, 252, 127, 230, 225, 236, 78, 180, 241, 75, 141, 101, 166, 52, 175, 178, 17, 8, 186, 142, 102, 253, 153, 247, 208, 204, 211, 92, 78, 75, 218, 34, 44, 233, 129, 33, 154, 42, 45, 124, 60, 38, 79, 53, 206, 148, 152, 8, 54, 129, 51, 234, 104, 184, 99, 77, 208, 122, 55, 106, 249, 68, 168, 210, 147, 142, 254, 225, 99, 73, 100, 108, 37, 83, 239, 50, 194, 15, 10, 228]

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Derived Key No.: 4

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Derived Key No.: 7

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Derived Key No.: 8

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Derived Key No.: 9

Derived Key values: [98, 28, 96, 12, 72, 11, 11, 213, 219, 226, 83, 112, 243, 52, 133, 11, 166, 54, 215, 76, 153, 211, 224, 147, 152, 227, 63, 227, 122, 127, 58, 60, 76, 250, 240, 83, 3, 244, 239, 209, 15, 2, 87, 141, 206, 150, 183, 167, 17, 240, 86, 16, 107, 145, 144, 48, 160, 33, 122, 178, 221, 68, 225, 32, 176, 52, 176, 47, 196, 75, 195, 97, 210, 95, 75, 123, 62, 205, 99, 135, 151, 247, 238, 34, 127, 99, 113, 31, 76, 80, 193, 206, 5, 120, 111, 148, 158, 111, 242, 247, 10, 125, 189, 125, 14, 174, 30, 151, 61, 86, 26, 5, 142, 158, 150, 79, 10, 220, 155, 120, 62, 232, 129, 214, 65, 88, 84, 149, 255, 58, 239, 41, 71, 47, 35, 142, 16, 141, 198, 216, 43, 205, 208, 164, 74, 159, 210, 220, 105, 6, 61, 39, 38, 48, 234, 134, 171, 171, 56, 13, 142, 84, 55, 112, 38, 25, 45, 101, 118, 87, 128, 37, 247, 147, 7, 57, 212, 168, 8, 223, 65, 247, 190, 154, 240, 100, 68, 239, 140, 39, 28, 221, 130, 218, 110, 236, 66, 164, 48, 136, 224, 95, 21, 242, 144, 148, 12, 47, 215, 110, 194, 231, 131, 211, 22, 108, 160, 214, 121, 46, 52, 6, 13, 110, 130, 34, 58, 200, 245, 238, 148, 16, 105, 75, 214, 78, 137, 72, 211, 82, 22, 223, 131, 85, 6, 143, 160, 162, 128, 50, 204, 103, 151, 170, 71, 247]

Derived Key No.: 10

Derived Key values: [157, 231, 165, 33, 94, 21, 240, 192, 230, 179, 164, 182, 53, 196, 34, 21, 220, 181, 73, 228, 169, 252, 84, 22, 155, 203, 158, 215, 22, 132, 222, 202, 203, 223, 71, 196, 193, 109, 133, 108, 41, 251, 38, 0, 226, 213, 33, 204, 183, 112, 71, 76, 89, 213, 89, 25, 7, 42, 221, 198, 71, 10, 25, 150, 48, 242, 37, 206, 226, 90, 239, 215, 36, 6, 209, 96, 29, 157, 216, 71, 102, 162, 35, 230, 223, 8, 123, 147, 125, 56, 198, 226, 231, 112, 247, 90, 17, 171, 72, 157, 104, 76, 129, 40, 133, 100, 145, 93, 242, 160, 79, 250, 236, 162, 176, 88, 139, 14, 73, 249, 193, 133, 201, 73, 87, 79, 238, 97, 117, 168, 65, 70, 68, 8, 34, 118, 223, 111, 186, 44, 190, 46, 75, 190, 91, 169, 177, 94, 251, 62, 104, 12, 232, 157, 180, 204, 194, 138, 180, 201, 33, 218, 250, 54, 206, 243, 240, 88, 106, 178, 71, 110, 131, 161, 118, 102, 72, 197, 2, 148, 26, 249, 23, 181, 61, 126, 101, 216, 193, 219, 248, 119, 78, 207, 131, 61, 216, 22, 76, 40, 202, 100, 130, 52, 64, 211, 159, 244, 35, 245, 86, 31, 4, 185, 147, 179, 149, 98, 188, 128, 118, 212, 140, 124, 184, 15, 107, 221, 150, 199, 147, 185, 54, 218, 88, 184, 195, 173, 143, 50, 246, 11, 131, 133, 122, 71, 51, 85, 241, 23, 71, 182, 164, 254, 169, 92]

Derived Key No.: 11

Derived Key values: [245, 151, 40, 83, 213, 241, 2, 125, 6, 172, 122, 40, 120, 92, 172, 112, 70, 153, 189, 95, 140, 197, 47, 124, 102, 136, 33, 218, 24, 184, 8, 219, 32, 230, 113, 192, 109, 14, 33, 143, 26, 53, 77, 29, 58, 67, 64, 122, 205, 156, 178, 105, 58, 112, 176, 64, 104, 59, 74, 201, 129, 35, 157, 113, 53, 45, 195, 140, 113, 67, 245, 171, 244, 124, 146, 125, 250, 203, 214, 91, 159, 17, 192, 39, 54, 232, 125, 206, 103, 3, 81, 38, 28, 229, 201, 16, 45, 219, 48, 25, 155, 113, 53, 144, 71, 82, 119, 35, 240, 31, 96, 199, 61, 255, 111, 143, 60, 22, 212, 135, 52, 195, 165, 249, 201, 54, 1, 237, 192, 231, 0, 128, 143, 171, 31, 45, 108, 243, 36, 52, 162, 74, 232, 234, 16, 77, 213, 203, 253, 239, 78, 152, 50, 20, 52, 61, 164, 49, 139, 91, 24, 44, 245, 17, 252, 127, 188, 211, 2, 133, 4, 45, 206, 97, 197, 186, 76, 155, 93, 100, 75, 220, 29, 193, 95, 153, 47, 11, 42, 192, 101, 137, 171, 193, 138, 207, 63, 171, 13, 82, 104, 40, 241, 95, 201, 187, 202, 211, 60, 164, 218, 170, 86, 13, 37, 236, 202, 32, 113, 211, 161, 220, 174, 58, 13, 142, 26, 111, 119, 131, 111, 133, 137, 130, 122, 31, 106, 163, 154, 156, 180, 247, 11, 7, 126, 221, 150, 43, 160, 4, 221, 176, 33, 17, 245, 159]

Derived Key No.: 12

Derived Key values: [70, 71, 117, 57, 13, 123, 247, 7, 147, 85, 16, 110, 75, 152, 186, 179, 5, 249, 191, 195, 124, 73, 40, 146, 90, 100, 216, 127, 210, 231, 10, 169, 157, 122, 106, 77, 0, 187, 176, 69, 210, 94, 200, 85, 192, 81, 168, 252, 235, 51, 63, 35, 211, 72, 205, 108, 150, 153, 78, 29, 100, 181, 196, 177, 143, 209, 105, 225, 62, 110, 172, 126, 47, 134, 243, 16, 85, 75, 103, 50, 118, 42, 120, 69, 55, 3, 228, 69, 196, 171, 59, 31, 162, 196, 254, 161, 73, 171, 200, 78, 51, 66, 252, 169, 252, 102, 245, 202, 84, 100, 10, 182, 108, 58, 234, 240, 188, 57, 106, 200, 27, 236, 200, 145, 90, 119, 2, 119, 156, 56, 238, 20, 117, 176, 166, 232, 189, 37, 125, 84, 220, 78, 166, 159, 46, 42, 49, 178, 42, 183, 41, 89, 238, 8, 45, 27, 72, 90, 76, 231, 197, 177, 87, 98, 108, 99, 123, 84, 174, 128, 54, 222, 253, 225, 216, 127, 41, 144, 114, 86, 168, 232, 234, 187, 11, 221, 2, 76, 232, 80, 203, 190, 103, 181, 147, 240, 42, 220, 75, 208, 164, 36, 235, 108, 2, 103, 0, 208, 66, 21, 121, 64, 60, 223, 49, 107, 23, 133, 236, 26, 50, 92, 210, 9, 191, 122, 237, 203, 195, 246, 141, 171, 80, 224, 202, 142, 32, 20, 38, 27, 210, 171, 120, 193, 233, 134, 149, 38, 240, 8, 121, 230, 194, 77, 162, 213]

Derived Key No.: 13

Derived Key values: [189, 171, 84, 95, 227, 223, 255, 61, 251, 207, 87, 241, 31, 150, 224, 181, 154, 99, 104, 4, 21, 177, 101, 115, 135, 1, 204, 54, 222, 180, 46, 93, 171, 33, 100, 20, 116, 110, 25, 180, 119, 152, 183, 233, 241, 54, 23, 248, 203, 53, 140, 83, 46, 24, 74, 96, 35, 194, 169, 47, 207, 127, 169, 99, 220, 77, 16, 217, 143, 14, 255, 241, 93, 158, 4, 56, 75, 194, 168, 238, 110, 186, 233, 237, 88, 248, 243, 114, 73, 93, 82, 160, 43, 69, 74, 209, 81, 230, 37, 85, 247, 46, 87, 176, 141, 170, 75, 145, 124, 172, 134, 152, 208, 214, 66, 128, 220, 227, 69, 5, 214, 182, 115, 110, 44, 124, 204, 6, 126, 172, 116, 0, 246, 236, 206, 255, 27, 172, 121, 130, 208, 186, 169, 31, 144, 192, 152, 171, 220, 53, 38, 133, 212, 211, 172, 3, 229, 6, 194, 208, 251, 56, 25, 145, 6, 38, 150, 253, 178, 253, 253, 85, 185, 51, 20, 106, 134, 93, 84, 138, 81, 160, 25, 114, 81, 45, 255, 96, 104, 241, 220, 22, 135, 134, 70, 147, 39, 19, 98, 56, 254, 208, 227, 79, 24, 2, 68, 124, 17, 217, 0, 20, 16, 171, 34, 26, 56, 4, 110, 45, 0, 156, 102, 180, 128, 205, 151, 204, 1, 208, 254, 10, 155, 32, 149, 151, 26, 230, 231, 129, 212, 235, 167, 248, 234, 118, 231, 135, 160, 7, 207, 134, 186, 80, 2, 188]

Derived Key No.: 14

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Derived Key No.: 15

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Derived Key No.: 16

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Derived Key No.: 17

Derived Key values: [42, 16, 61, 217, 122, 37, 167, 161, 35, 90, 23, 79, 135, 51, 185, 217, 110, 188, 22, 246, 71, 221, 154, 185, 63, 103, 125, 117, 51, 92, 58, 145, 37, 164, 51, 172, 173, 83, 29, 244, 241, 123, 130, 107, 23, 251, 168, 85, 35, 72, 154, 37, 183, 226, 255, 48, 137, 244, 181, 102, 97, 250, 7, 117, 126, 43, 118, 174, 125, 63, 118, 151, 131, 36, 97, 174, 46, 238, 155, 83, 205, 25, 54, 246, 2, 58, 92, 108, 52, 81, 75, 45, 57, 186, 187, 66, 86, 142, 110, 176, 154, 197, 10, 115, 94, 230, 20, 194, 8, 219, 195, 136, 40, 202, 198, 125, 53, 10, 22, 191, 234, 121, 249, 3, 238, 153, 189, 207, 0, 215, 32, 27, 170, 116, 133, 71, 139, 96, 161, 51, 22, 111, 150, 243, 197, 199, 250, 11, 201, 10, 197, 213, 236, 22, 26, 126, 67, 172, 21, 22, 194, 245, 229, 205, 245, 13, 72, 195, 179, 219, 44, 45, 98, 7, 157, 192, 193, 132, 60, 12, 235, 54, 86, 60, 201, 10, 72, 136, 76, 61, 221, 175, 44, 123, 48, 75, 59, 53, 26, 132, 143, 161, 245, 184, 159, 2, 117, 176, 240, 188, 143, 125, 232, 95, 213, 213, 24, 29, 222, 161, 176, 221, 100, 124, 112, 193, 92, 123, 9, 125, 51, 245, 12, 55, 198, 70, 146, 195, 65, 183, 163, 153, 122, 37, 242, 116, 208, 170, 199, 47, 123, 85, 24, 42, 245, 156]

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Derived Key values: [52, 143, 207, 109, 59, 251, 225, 36, 148, 244, 211, 30, 120, 75, 172, 213, 254, 18, 250, 248, 106, 153, 175, 68, 243, 197, 179, 48, 209, 97, 47, 219, 148, 235, 52, 35, 118, 159, 172, 56, 146, 24, 110, 120, 252, 184, 158, 134, 243, 176, 243, 63, 119, 184, 136, 219, 123, 77, 251, 87, 145, 241, 145, 57, 80, 217, 112, 203, 179, 132, 158, 100, 56, 186, 174, 46, 55, 210, 84, 195, 18, 7, 92, 106, 65, 230, 151, 216, 98, 211, 177, 120, 26, 27, 117, 56, 61, 82, 243, 67, 9, 165, 73, 164, 5, 178, 59, 165, 171, 102, 36, 75, 229, 90, 140, 19, 150, 225, 193, 132, 202, 231, 244, 39, 155, 57, 14, 166, 14, 219, 202, 93, 104, 237, 64, 8, 0, 155, 122, 11, 81, 55, 203, 186, 172, 17, 169, 169, 36, 249, 219, 13, 192, 65, 153, 74, 224, 188, 84, 224, 77, 53, 140, 253, 203, 145, 220, 164, 54, 241, 194, 102, 181, 148, 6, 235, 41, 119, 221, 199, 144, 232, 187, 123, 203, 174, 8, 74, 239, 160, 236, 68, 140, 5, 234, 122, 32, 214, 115, 167, 6, 214, 187, 244, 225, 19, 182, 8, 127, 20, 134, 232, 12, 66, 56, 109, 167, 251, 201, 246, 242, 79, 3, 168, 81, 248, 195, 50, 115, 220, 164, 58, 65, 73, 9, 59, 137, 227, 171, 162, 218, 67, 107, 158, 101, 7, 202, 125, 93, 113, 209, 74, 242, 10, 150, 70]

Derived Key No.: 19

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Derived Key No.: 20

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Derived Key No.: 22

Derived Key values: [21, 201, 244, 215, 111, 51, 187, 38, 20, 7, 34, 239, 35, 42, 52, 246, 78, 11, 21, 208, 7, 106, 252, 219, 196, 38, 194, 18, 36, 182, 125, 61, 163, 9, 197, 200, 174, 20, 124, 160, 253, 37, 184, 237, 15, 110, 254, 183, 181, 144, 220, 122, 145, 220, 233, 242, 167, 238, 180, 82, 149, 107, 133, 1, 23, 104, 0, 128, 50, 192, 62, 6, 120, 1, 48, 33, 76, 142, 127, 199, 102, 6, 27, 34, 154, 206, 217, 110, 1, 49, 108, 210, 27, 211, 119, 127, 98, 91, 163, 178, 32, 161, 135, 161, 72, 57, 186, 85, 141, 159, 18, 89, 21, 42, 36, 195, 186, 231, 235, 140, 56, 94, 51, 129, 24, 231, 40, 172, 169, 251, 24, 168, 238, 49, 45, 56, 42, 33, 178, 100, 69, 60, 13, 186, 148, 252, 94, 234, 50, 179, 59, 69, 170, 52, 149, 237, 230, 136, 246, 9, 198, 176, 214, 9, 173, 37, 122, 100, 132, 100, 122, 238, 41, 6, 36, 232, 212, 121, 98, 253, 250, 30, 34, 203, 199, 39, 224, 223, 141, 27, 185, 61, 32, 149, 242, 251, 57, 165, 128, 16, 247, 11, 12, 174, 49, 55, 8, 17, 150, 229, 171, 81, 21, 118, 63, 244, 245, 114, 110, 231, 107, 135, 243, 215, 119, 127, 75, 39, 115, 207, 246, 51, 105, 199, 42, 70, 131, 214, 193, 73, 92, 176, 33, 104, 47, 254, 146, 25, 20, 229, 253, 15, 50, 140, 134, 242]

Derived Key No.: 23

Derived Key values: [94, 164, 182, 184, 56, 238, 180, 232, 254, 182, 71, 30, 102, 244, 163, 81, 125, 154, 225, 39, 9, 188, 24, 101, 190, 150, 243, 126, 49, 92, 87, 186, 33, 175, 85, 159, 216, 45, 113, 156, 108, 109, 106, 98, 113, 38, 62, 175, 80, 162, 120, 173, 94, 198, 172, 210, 100, 220, 6, 8, 238, 61, 43, 197, 160, 243, 232, 104, 242, 125, 9, 110, 175, 107, 205, 251, 27, 112, 176, 91, 250, 46, 233, 96, 113, 125, 223, 6, 246, 104, 229, 153, 162, 153, 228, 255, 105, 198, 132, 162, 33, 152, 107, 47, 123, 246, 224, 110, 96, 16, 29, 138, 28, 153, 101, 2, 69, 130, 39, 139, 114, 62, 85, 67, 142, 116, 214, 56, 110, 188, 107, 176, 149, 34, 111, 246, 100, 144, 226, 33, 104, 47, 204, 103, 196, 190, 245, 67, 129, 78, 212, 226, 164, 28, 117, 119, 164, 252, 24, 245, 200, 3, 164, 113, 161, 243, 104, 154, 202, 145, 141, 224, 132, 247, 178, 183, 251, 146, 94, 205, 233, 55, 5, 165, 122, 185, 108, 179, 212, 131, 135, 105, 26, 49, 46, 157, 160, 227, 251, 166, 8, 46, 91, 48, 83, 82, 168, 239, 50, 185, 166, 145, 166, 224, 192, 226, 69, 160, 233, 51, 117, 204, 40, 173, 84, 178, 176, 251, 28, 154, 49, 32, 225, 72, 30, 175, 87, 238, 29, 195, 187, 212, 227, 56, 1, 32, 147, 112, 146, 114, 246, 28, 84, 0, 54, 109]

Derived Key No.: 24

Derived Key values: [96, 38, 244, 119, 67, 63, 103, 168, 255, 10, 206, 172, 215, 86, 124, 162, 127, 160, 83, 95, 174, 242, 169, 189, 240, 164, 40, 244, 183, 172, 185, 93, 206, 154, 136, 92, 179, 10, 82, 11, 57, 127, 80, 89, 38, 119, 89, 51, 86, 105, 34, 219, 254, 238, 224, 129, 247, 200, 253, 92, 62, 251, 17, 146, 155, 26, 59, 221, 145, 255, 57, 223, 205, 250, 157, 223, 154, 157, 49, 137, 11, 183, 255, 223, 42, 52, 140, 52, 27, 88, 107, 148, 239, 3, 35, 30, 238, 176, 182, 120, 22, 34, 28, 185, 186, 132, 43, 237, 92, 91, 103, 174, 15, 250, 247, 50, 43, 251, 57, 215, 251, 222, 49, 189, 246, 168, 129, 2, 90, 85, 97, 160, 247, 232, 172, 79, 78, 51, 86, 88, 126, 43, 178, 52, 160, 42, 21, 84, 197, 88, 113, 54, 226, 149, 194, 18, 226, 138, 243, 12, 55, 209, 81, 183, 50, 221, 138, 115, 99, 247, 164, 128, 31, 208, 189, 135, 114, 102, 115, 1, 158, 61, 92, 60, 43, 41, 156, 174, 208, 174, 69, 198, 55, 140, 36, 199, 17, 9, 186, 225, 84, 157, 253, 37, 146, 204, 225, 144, 208, 232, 57, 128, 218, 237, 7, 212, 50, 164, 250, 16, 76, 165, 78, 80, 247, 58, 246, 8, 163, 69, 86, 166, 31, 148, 49, 82, 155, 40, 60, 95, 155, 220, 180, 3, 175, 220, 161, 131, 145, 94, 97, 234, 228, 110, 162, 48]

Enter your choice

4

File is decrypted and stored as a Output file

Enter your choice

4.1

Round wise details of the reverse cipher

Number of Blocks: 25

Number of rounds for block 1 are 24

Round 1

Pbox Selected -->23

Sbox Selected -->7

Key Selected -->3

Round 2

Pbox Selected -->16

Sbox Selected -->24

Key Selected -->11

Round 3

Pbox Selected -->8

Sbox Selected -->18

Key Selected -->3

Round 4

Pbox Selected -->20

Sbox Selected -->20

Key Selected -->20

Round 5

Pbox Selected -->12

Sbox Selected -->0

Key Selected -->10

Round 6

Pbox Selected -->18

Sbox Selected -->0

Key Selected -->16

Round 7

Pbox Selected -->0

Sbox Selected -->19

Key Selected -->3

Round 8

Pbox Selected -->17

Sbox Selected -->9

Key Selected -->16

Round 9

Pbox Selected -->6

Sbox Selected -->19

Key Selected -->8

Round 10

Pbox Selected -->1

Sbox Selected -->4

Key Selected -->12

Round 11

Pbox Selected -->6

Sbox Selected -->22

Key Selected -->22

Round 12

Pbox Selected -->14

Sbox Selected -->21

Key Selected -->7

Round 13

Pbox Selected -->1

Sbox Selected -->21

Key Selected -->8

Round 14

Pbox Selected -->15

Sbox Selected -->9

Key Selected -->2

Round 15

Pbox Selected -->12

Sbox Selected -->2

Key Selected -->20



Round 16

Pbox Selected -->24

Sbox Selected -->15

Key Selected -->4

Round 17

Pbox Selected -->19

Sbox Selected -->24

Key Selected -->6

Round 18

Pbox Selected -->22

Sbox Selected -->1

Key Selected -->3

Round 19

Pbox Selected -->1

Sbox Selected -->0

Key Selected -->14

Round 20

Pbox Selected -->10

Sbox Selected -->24

Key Selected -->16

Round 21

Pbox Selected -->1

Sbox Selected -->20

Key Selected -->10

Round 22

Pbox Selected -->5

Sbox Selected -->24

Key Selected -->14

Round 23

Pbox Selected -->7

Sbox Selected -->17

Key Selected -->22

Round 24

Pbox Selected -->14

Sbox Selected -->17

Key Selected -->23

Number of rounds for block 2 are 14

Round 1

Pbox Selected -->13

Sbox Selected -->12

Key Selected -->21

Round 2

Pbox Selected -->23

Sbox Selected -->5

Key Selected -->21

Round 3

Pbox Selected -->9

Sbox Selected -->8

Key Selected -->22

Round 4

Pbox Selected -->15

Sbox Selected -->5

Key Selected -->18

Round 5

Pbox Selected -->11

Sbox Selected -->1

Key Selected -->6

Round 6

Pbox Selected -->21

Sbox Selected -->7

Key Selected -->5

Round 7

Pbox Selected -->5

Sbox Selected -->24

Key Selected -->5

Round 8

Pbox Selected -->7

Sbox Selected -->14

Key Selected -->20

Round 9

Pbox Selected -->24

Sbox Selected -->13

Key Selected -->18

Round 10

Pbox Selected -->20

Sbox Selected -->2

Key Selected -->11

Round 11

Pbox Selected -->7

Sbox Selected -->23

Key Selected -->11

Round 12

Pbox Selected -->18

Sbox Selected -->24

Key Selected -->24

Round 13

Pbox Selected -->8

Sbox Selected -->14

Key Selected -->5

Round 14

Pbox Selected -->18

Sbox Selected -->17

Key Selected -->0

Number of rounds for block 3 are 22

Round 1

Pbox Selected -->13

Sbox Selected -->16

Key Selected -->6

Round 2

Pbox Selected -->23

Sbox Selected -->9

Key Selected -->4

Round 3

Pbox Selected -->16

Sbox Selected -->9

Key Selected -->1

Round 4

Pbox Selected -->23

Sbox Selected -->5

Key Selected -->1

Round 5

Pbox Selected -->3

Sbox Selected -->2

Key Selected -->3

Round 6

Pbox Selected -->2

Sbox Selected -->16

Key Selected -->17

Round 7

Pbox Selected -->3

Sbox Selected -->13

Key Selected -->10

Round 8

Pbox Selected -->18

Sbox Selected -->24

Key Selected -->6

Round 9

Pbox Selected -->23

Sbox Selected -->21

Key Selected -->14

Round 10

Pbox Selected -->14

Sbox Selected -->10

Key Selected -->23

Round 11

Pbox Selected -->18

Sbox Selected -->10

Key Selected -->22

Round 12

Pbox Selected -->12

Sbox Selected -->2

Key Selected -->18

Round 13

Pbox Selected -->3

Sbox Selected -->8

Key Selected -->16

Round 14

Pbox Selected -->5

Sbox Selected -->4

Key Selected -->0

Round 15

Pbox Selected -->20

Sbox Selected -->2

Key Selected -->1

Round 16

Pbox Selected -->8

Sbox Selected -->18

Key Selected -->22

Round 17

Pbox Selected -->23

Sbox Selected -->11

Key Selected -->24

Round 18

Pbox Selected -->0

Sbox Selected -->16

Key Selected -->12

Round 19

Pbox Selected -->3

Sbox Selected -->9

Key Selected -->17

Round 20

Pbox Selected -->4

Sbox Selected -->0

Key Selected -->1

Round 21

Pbox Selected -->24

Sbox Selected -->4

Key Selected -->6

Round 22

Pbox Selected -->20

Sbox Selected -->6

Key Selected -->14

Number of rounds for block 4 are 15

Round 1

Pbox Selected -->12

Sbox Selected -->16

Key Selected -->23

Round 2

Pbox Selected -->21

Sbox Selected -->14

Key Selected -->6

Round 3

Pbox Selected -->13

Sbox Selected -->5

Key Selected -->12

Round 4

Pbox Selected -->22

Sbox Selected -->4

Key Selected -->16

Round 5

Pbox Selected -->0

Sbox Selected -->22

Key Selected -->18

Round 6

Pbox Selected -->10

Sbox Selected -->11

Key Selected -->4

Round 7

Pbox Selected -->21

Sbox Selected -->22

Key Selected -->7

Round 8

Pbox Selected -->8

Sbox Selected -->9

Key Selected -->13

Round 9

Pbox Selected -->12

Sbox Selected -->9

Key Selected -->18

Round 10

Pbox Selected -->19

Sbox Selected -->5

Key Selected -->16

Round 11

Pbox Selected -->11

Sbox Selected -->20

Key Selected -->5

Round 12

Pbox Selected -->16

Sbox Selected -->16

Key Selected -->5

Round 13

Pbox Selected -->19

Sbox Selected -->19

Key Selected -->11

Round 14

Pbox Selected -->4

Sbox Selected -->7

Key Selected -->14

Round 15

Pbox Selected -->0

Sbox Selected -->18

Key Selected -->19

Number of rounds for block 5 are 19

Round 1

Pbox Selected -->3

Sbox Selected -->14

Key Selected -->2



Round 2

Pbox Selected -->5

Sbox Selected -->17

Key Selected -->16

Round 3

Pbox Selected -->19

Sbox Selected -->4

Key Selected -->5

Round 4

Pbox Selected -->12

Sbox Selected -->12

Key Selected -->0

Round 5

Pbox Selected -->6

Sbox Selected -->19

Key Selected -->19

Round 6

Pbox Selected -->3

Sbox Selected -->23

Key Selected -->11

Round 7

Pbox Selected -->8

Sbox Selected -->22

Key Selected -->0

Round 8

Pbox Selected -->0

Sbox Selected -->19

Key Selected -->5

Round 9

Pbox Selected -->10

Sbox Selected -->10

Key Selected -->3

Round 10

Pbox Selected -->2

Sbox Selected -->16

Key Selected -->6

Round 11

Pbox Selected -->9

Sbox Selected -->3

Key Selected -->16

Round 12

Pbox Selected -->6

Sbox Selected -->13

Key Selected -->0

Round 13

Pbox Selected -->9

Sbox Selected -->12

Key Selected -->2

Round 14

Pbox Selected -->11

Sbox Selected -->20

Key Selected -->20

Round 15

Pbox Selected -->18

Sbox Selected -->14

Key Selected -->14

Round 16

Pbox Selected -->13

Sbox Selected -->0

Key Selected -->4

Round 17

Pbox Selected -->7

Sbox Selected -->17

Key Selected -->16

Round 18

Pbox Selected -->21

Sbox Selected -->13

Key Selected -->11

Round 19

Pbox Selected -->20

Sbox Selected -->16

Key Selected -->11

Number of rounds for block 6 are 20

Round 1

Pbox Selected -->12

Sbox Selected -->24

Key Selected -->2

Round 2

Pbox Selected -->1

Sbox Selected -->18

Key Selected -->3

Round 3

Pbox Selected -->14

Sbox Selected -->20

Key Selected -->15

Round 4

Pbox Selected -->7

Sbox Selected -->14

Key Selected -->14

Round 5

Pbox Selected -->14

Sbox Selected -->14

Key Selected -->14

Round 6

Pbox Selected -->12

Sbox Selected -->18

Key Selected -->20

Round 7

Pbox Selected -->2

Sbox Selected -->19

Key Selected -->23

Round 8

Pbox Selected -->5

Sbox Selected -->3

Key Selected -->13

Round 9

Pbox Selected -->8

Sbox Selected -->24

Key Selected -->16

Round 10

Pbox Selected -->17

Sbox Selected -->23

Key Selected -->11

Round 11

Pbox Selected -->20

Sbox Selected -->15

Key Selected -->4

Round 12

Pbox Selected -->7

Sbox Selected -->14

Key Selected -->7

Round 13

Pbox Selected -->22

Sbox Selected -->3

Key Selected -->1

Round 14

Pbox Selected -->16

Sbox Selected -->7

Key Selected -->1

Round 15

Pbox Selected -->21

Sbox Selected -->1

Key Selected -->13

Round 16

Pbox Selected -->15

Sbox Selected -->5

Key Selected -->1

Round 17

Pbox Selected -->11

Sbox Selected -->13

Key Selected -->16

Round 18

Pbox Selected -->13

Sbox Selected -->15

Key Selected -->8

Round 19

Pbox Selected -->8

Sbox Selected -->24

Key Selected -->22

Round 20

Pbox Selected -->24

Sbox Selected -->9

Key Selected -->16

Number of rounds for block 7 are 24

Round 1

Pbox Selected -->19

Sbox Selected -->11

Key Selected -->12

Round 2

Pbox Selected -->19

Sbox Selected -->13

Key Selected -->17

Round 3

Pbox Selected -->7

Sbox Selected -->16

Key Selected -->8

Round 4

Pbox Selected -->5

Sbox Selected -->2

Key Selected -->4

Round 5

Pbox Selected -->15

Sbox Selected -->9

Key Selected -->10

Round 6

Pbox Selected -->5

Sbox Selected -->20

Key Selected -->11

Round 7

Pbox Selected -->11

Sbox Selected -->12

Key Selected -->15

Round 8

Pbox Selected -->6

Sbox Selected -->5

Key Selected -->24

Round 9

Pbox Selected -->1

Sbox Selected -->6

Key Selected -->1

Round 10

Pbox Selected -->10

Sbox Selected -->8

Key Selected -->3

Round 11

Pbox Selected -->19

Sbox Selected -->7

Key Selected -->3

Round 12

Pbox Selected -->11

Sbox Selected -->11

Key Selected -->24

Round 13

Pbox Selected -->14

Sbox Selected -->4

Key Selected -->6

Round 14

Pbox Selected -->11

Sbox Selected -->9

Key Selected -->7

Round 15

Pbox Selected -->24

Sbox Selected -->11

Key Selected -->1

Round 16

Pbox Selected -->18

Sbox Selected -->14

Key Selected -->24

Round 17

Pbox Selected -->15

Sbox Selected -->9

Key Selected -->23

Round 18

Pbox Selected -->7

Sbox Selected -->17

Key Selected -->5

Round 19

Pbox Selected -->22

Sbox Selected -->12

Key Selected -->15

Round 20

Pbox Selected -->17

Sbox Selected -->5

Key Selected -->1

Round 21

Pbox Selected -->5

Sbox Selected -->13

Key Selected -->0

Round 22

Pbox Selected -->11

Sbox Selected -->8

Key Selected -->8

Round 23

Pbox Selected -->22

Sbox Selected -->22

Key Selected -->1

Round 24

Pbox Selected -->4



Sbox Selected -->16

Key Selected -->5

Number of rounds for block 8 are 14

Round 1

Pbox Selected -->0

Sbox Selected -->16

Key Selected -->7

Round 2

Pbox Selected -->21

Sbox Selected -->1

Key Selected -->9

Round 3

Pbox Selected -->13

Sbox Selected -->16

Key Selected -->3

Round 4

Pbox Selected -->18

Sbox Selected -->4

Key Selected -->24

Round 5

Pbox Selected -->4

Sbox Selected -->3

Key Selected -->8

Round 6

Pbox Selected -->5

Sbox Selected -->19

Key Selected -->11

Round 7

Pbox Selected -->20

Sbox Selected -->6

Key Selected -->15

Round 8

Pbox Selected -->11

Sbox Selected -->4

Key Selected -->16

Round 9

Pbox Selected -->8

Sbox Selected -->14

Key Selected -->6

Round 10

Pbox Selected -->5

Sbox Selected -->21

Key Selected -->16

Round 11

Pbox Selected -->4

Sbox Selected -->10

Key Selected -->23

Round 12

Pbox Selected -->14

Sbox Selected -->12

Key Selected -->2

Round 13

Pbox Selected -->13

Sbox Selected -->20

Key Selected -->20

Round 14

Pbox Selected -->22

Sbox Selected -->15

Key Selected -->17

Number of rounds for block 9 are 23

Round 1

Pbox Selected -->16

Sbox Selected -->7

Key Selected -->8

Round 2

Pbox Selected -->21

Sbox Selected -->12

Key Selected -->2

Round 3

Pbox Selected -->21

Sbox Selected -->3

Key Selected -->20

Round 4

Pbox Selected -->13

Sbox Selected -->3

Key Selected -->23

Round 5

Pbox Selected -->19

Sbox Selected -->16

Key Selected -->11

Round 6

Pbox Selected -->0

Sbox Selected -->17

Key Selected -->22

Round 7

Pbox Selected -->9

Sbox Selected -->10

Key Selected -->8

Round 8

Pbox Selected -->3

Sbox Selected -->18

Key Selected -->12

Round 9

Pbox Selected -->20

Sbox Selected -->11

Key Selected -->3

Round 10

Pbox Selected -->11

Sbox Selected -->23

Key Selected -->14

Round 11

Pbox Selected -->14

Sbox Selected -->18

Key Selected -->7

Round 12

Pbox Selected -->1

Sbox Selected -->10

Key Selected -->10

Round 13

Pbox Selected -->20

Sbox Selected -->16

Key Selected -->16

Round 14

Pbox Selected -->3

Sbox Selected -->1

Key Selected -->0

Round 15

Pbox Selected -->21

Sbox Selected -->21

Key Selected -->14

Round 16

Pbox Selected -->21

Sbox Selected -->8

Key Selected -->10

Round 17

Pbox Selected -->6

Sbox Selected -->22

Key Selected -->11

Round 18

Pbox Selected -->9

Sbox Selected -->2

Key Selected -->4

Round 19

Pbox Selected -->4

Sbox Selected -->20

Key Selected -->7

Round 20

Pbox Selected -->9

Sbox Selected -->2

Key Selected -->12

Round 21

Pbox Selected -->12

Sbox Selected -->8

Key Selected -->0

Round 22

Pbox Selected -->21

Sbox Selected -->6

Key Selected -->8

Round 23

Pbox Selected -->9

Sbox Selected -->5

Key Selected -->6

Number of rounds for block 10 are 21

Round 1

Pbox Selected -->10

Sbox Selected -->18

Key Selected -->11

Round 2

Pbox Selected -->5

Sbox Selected -->7

Key Selected -->16

Round 3

Pbox Selected -->1

Sbox Selected -->11

Key Selected -->1

Round 4

Pbox Selected -->11

Sbox Selected -->1

Key Selected -->19

Round 5

Pbox Selected -->10

Sbox Selected -->11

Key Selected -->21

Round 6

Pbox Selected -->2

Sbox Selected -->6

Key Selected -->14

Round 7

Pbox Selected -->5

Sbox Selected -->21

Key Selected -->2

Round 8

Pbox Selected -->5

Sbox Selected -->19

Key Selected -->3

Round 9

Pbox Selected -->0

Sbox Selected -->5

Key Selected -->9

Round 10

Pbox Selected -->4

Sbox Selected -->23

Key Selected -->22

Round 11

Pbox Selected -->9

Sbox Selected -->0

Key Selected -->14

Round 12

Pbox Selected -->22

Sbox Selected -->18

Key Selected -->3

Round 13

Pbox Selected -->6

Sbox Selected -->5

Key Selected -->17

Round 14

Pbox Selected -->3

Sbox Selected -->23

Key Selected -->21

Round 15

Pbox Selected -->15

Sbox Selected -->18

Key Selected -->1

Round 16

Pbox Selected -->9

Sbox Selected -->8

Key Selected -->0

Round 17

Pbox Selected -->6

Sbox Selected -->12

Key Selected -->7

Round 18

Pbox Selected -->0

Sbox Selected -->18

Key Selected -->10

Round 19

Pbox Selected -->22

Sbox Selected -->10

Key Selected -->15

Round 20

Pbox Selected -->20

Sbox Selected -->22

Key Selected -->6

Round 21

Pbox Selected -->9

Sbox Selected -->20

Key Selected -->18

Number of rounds for block 11 are 21

Round 1

Pbox Selected -->17

Sbox Selected -->21

Key Selected -->18

Round 2

Pbox Selected -->24

Sbox Selected -->5

Key Selected -->0

Round 3

Pbox Selected -->19



Sbox Selected -->19

Key Selected -->10

Round 4

Pbox Selected -->4

Sbox Selected -->18

Key Selected -->2

Round 5

Pbox Selected -->10

Sbox Selected -->0

Key Selected -->12

Round 6

Pbox Selected -->13

Sbox Selected -->20

Key Selected -->24

Round 7

Pbox Selected -->12

Sbox Selected -->4

Key Selected -->22

Round 8

Pbox Selected -->16

Sbox Selected -->10

Key Selected -->13

Round 9

Pbox Selected -->24

Sbox Selected -->2

Key Selected -->0

Round 10

Pbox Selected -->22

Sbox Selected -->14

Key Selected -->21

Round 11

Pbox Selected -->1

Sbox Selected -->8

Key Selected -->16

Round 12

Pbox Selected -->11

Sbox Selected -->8

Key Selected -->19

Round 13

Pbox Selected -->12

Sbox Selected -->4

Key Selected -->19

Round 14

Pbox Selected -->15

Sbox Selected -->2

Key Selected -->9

Round 15

Pbox Selected -->23

Sbox Selected -->24

Key Selected -->5

Round 16

Pbox Selected -->4

Sbox Selected -->7

Key Selected -->8

Round 17

Pbox Selected -->16

Sbox Selected -->22

Key Selected -->8

Round 18

Pbox Selected -->4

Sbox Selected -->12

Key Selected -->10

Round 19

Pbox Selected -->18

Sbox Selected -->3

Key Selected -->4

Round 20

Pbox Selected -->2

Sbox Selected -->6

Key Selected -->3

Round 21

Pbox Selected -->18

Sbox Selected -->16

Key Selected -->24

Number of rounds for block 12 are 22

Round 1

Pbox Selected -->23

Sbox Selected -->19

Key Selected -->22

Round 2

Pbox Selected -->16

Sbox Selected -->20

Key Selected -->11

Round 3

Pbox Selected -->13

Sbox Selected -->17

Key Selected -->12

Round 4

Pbox Selected -->15

Sbox Selected -->24

Key Selected -->9

Round 5

Pbox Selected -->13

Sbox Selected -->2

Key Selected -->17

Round 6

Pbox Selected -->2

Sbox Selected -->20

Key Selected -->6

Round 7

Pbox Selected -->16

Sbox Selected -->13

Key Selected -->6

Round 8

Pbox Selected -->11

Sbox Selected -->8

Key Selected -->10

Round 9

Pbox Selected -->1

Sbox Selected -->19

Key Selected -->3

Round 10

Pbox Selected -->1

Sbox Selected -->19

Key Selected -->2

Round 11

Pbox Selected -->14

Sbox Selected -->6

Key Selected -->8

Round 12

Pbox Selected -->7

Sbox Selected -->24

Key Selected -->21

Round 13

Pbox Selected -->24

Sbox Selected -->15

Key Selected -->4

Round 14

Pbox Selected -->8

Sbox Selected -->18

Key Selected -->8

Round 15

Pbox Selected -->6

Sbox Selected -->0

Key Selected -->14

Round 16

Pbox Selected -->14

Sbox Selected -->10

Key Selected -->2

Round 17

Pbox Selected -->20

Sbox Selected -->19

Key Selected -->16

Round 18

Pbox Selected -->13

Sbox Selected -->5

Key Selected -->11

Round 19

Pbox Selected -->17

Sbox Selected -->21

Key Selected -->4

Round 20

Pbox Selected -->19

Sbox Selected -->3

Key Selected -->0

Round 21

Pbox Selected -->13

Sbox Selected -->6

Key Selected -->3

Round 22

Pbox Selected -->0

Sbox Selected -->9

Key Selected -->7

Number of rounds for block 13 are 23

Round 1

Pbox Selected -->3

Sbox Selected -->5

Key Selected -->16

Round 2

Pbox Selected -->1

Sbox Selected -->4

Key Selected -->18

Round 3

Pbox Selected -->8

Sbox Selected -->5

Key Selected -->3

Round 4

Pbox Selected -->11

Sbox Selected -->21

Key Selected -->14

Round 5

Pbox Selected -->3

Sbox Selected -->22

Key Selected -->0

Round 6

Pbox Selected -->19

Sbox Selected -->17

Key Selected -->11

Round 7

Pbox Selected -->1

Sbox Selected -->16

Key Selected -->19

Round 8

Pbox Selected -->8

Sbox Selected -->19

Key Selected -->6

Round 9

Pbox Selected -->19

Sbox Selected -->23

Key Selected -->1

Round 10

Pbox Selected -->1

Sbox Selected -->16

Key Selected -->18

Round 11

Pbox Selected -->18

Sbox Selected -->12

Key Selected -->14

Round 12

Pbox Selected -->5

Sbox Selected -->21

Key Selected -->6

Round 13

Pbox Selected -->16

Sbox Selected -->4

Key Selected -->23

Round 14

Pbox Selected -->10

Sbox Selected -->7

Key Selected -->9

Round 15

Pbox Selected -->18

Sbox Selected -->3

Key Selected -->9

Round 16

Pbox Selected -->22

Sbox Selected -->8

Key Selected -->11

Round 17

Pbox Selected -->7

Sbox Selected -->12

Key Selected -->14

Round 18

Pbox Selected -->18

Sbox Selected -->23

Key Selected -->17

Round 19

Pbox Selected -->8

Sbox Selected -->0

Key Selected -->3

Round 20

Pbox Selected -->11

Sbox Selected -->16

Key Selected -->2

Round 21

Pbox Selected -->11

Sbox Selected -->7

Key Selected -->2



Round 22

Pbox Selected -->21

Sbox Selected -->22

Key Selected -->9

Round 23

Pbox Selected -->4

Sbox Selected -->17

Key Selected -->4

Number of rounds for block 14 are 19

Round 1

Pbox Selected -->8

Sbox Selected -->21

Key Selected -->22

Round 2

Pbox Selected -->1

Sbox Selected -->10

Key Selected -->8

Round 3

Pbox Selected -->8

Sbox Selected -->16

Key Selected -->13

Round 4

Pbox Selected -->17

Sbox Selected -->20

Key Selected -->16

Round 5

Pbox Selected -->23

Sbox Selected -->19

Key Selected -->22

Round 6

Pbox Selected -->15

Sbox Selected -->1

Key Selected -->8

Round 7

Pbox Selected -->19

Sbox Selected -->11

Key Selected -->18

Round 8

Pbox Selected -->0

Sbox Selected -->5

Key Selected -->22

Round 9

Pbox Selected -->14

Sbox Selected -->12

Key Selected -->20

Round 10

Pbox Selected -->12

Sbox Selected -->24

Key Selected -->19

Round 11

Pbox Selected -->17

Sbox Selected -->15

Key Selected -->1

Round 12

Pbox Selected -->23

Sbox Selected -->6

Key Selected -->21

Round 13

Pbox Selected -->12

Sbox Selected -->14

Key Selected -->13

Round 14

Pbox Selected -->9

Sbox Selected -->4

Key Selected -->13

Round 15

Pbox Selected -->4

Sbox Selected -->11

Key Selected -->7

Round 16

Pbox Selected -->14

Sbox Selected -->19

Key Selected -->0

Round 17

Pbox Selected -->19

Sbox Selected -->3

Key Selected -->11

Round 18

Pbox Selected -->23

Sbox Selected -->22

Key Selected -->16

Round 19

Pbox Selected -->18

Sbox Selected -->13

Key Selected -->4

Number of rounds for block 15 are 14

Round 1

Pbox Selected -->15

Sbox Selected -->18

Key Selected -->15

Round 2

Pbox Selected -->16

Sbox Selected -->13

Key Selected -->15

Round 3

Pbox Selected -->11

Sbox Selected -->11

Key Selected -->17

Round 4

Pbox Selected -->2

Sbox Selected -->1

Key Selected -->4

Round 5

Pbox Selected -->12

Sbox Selected -->6

Key Selected -->19

Round 6

Pbox Selected -->1

Sbox Selected -->18

Key Selected -->17

Round 7

Pbox Selected -->2

Sbox Selected -->22

Key Selected -->11

Round 8

Pbox Selected -->5

Sbox Selected -->2

Key Selected -->1

Round 9

Pbox Selected -->22

Sbox Selected -->4

Key Selected -->10

Round 10

Pbox Selected -->11

Sbox Selected -->10

Key Selected -->1

Round 11

Pbox Selected -->18

Sbox Selected -->18

Key Selected -->9

Round 12

Pbox Selected -->19

Sbox Selected -->6

Key Selected -->11

Round 13

Pbox Selected -->14

Sbox Selected -->8

Key Selected -->16

Round 14

Pbox Selected -->22

Sbox Selected -->12

Key Selected -->22

Number of rounds for block 16 are 24

Round 1

Pbox Selected -->16

Sbox Selected -->5

Key Selected -->22

Round 2

Pbox Selected -->5

Sbox Selected -->14

Key Selected -->13

Round 3

Pbox Selected -->14

Sbox Selected -->9

Key Selected -->4

Round 4

Pbox Selected -->4

Sbox Selected -->0

Key Selected -->10

Round 5

Pbox Selected -->10

Sbox Selected -->18

Key Selected -->19

Round 6

Pbox Selected -->13

Sbox Selected -->4

Key Selected -->9

Round 7

Pbox Selected -->23

Sbox Selected -->11

Key Selected -->15

Round 8

Pbox Selected -->7

Sbox Selected -->11

Key Selected -->15

Round 9

Pbox Selected -->16

Sbox Selected -->13

Key Selected -->4

Round 10

Pbox Selected -->1

Sbox Selected -->1

Key Selected -->17

Round 11

Pbox Selected -->7

Sbox Selected -->8

Key Selected -->23

Round 12

Pbox Selected -->4

Sbox Selected -->12

Key Selected -->8

Round 13

Pbox Selected -->6

Sbox Selected -->4

Key Selected -->17

Round 14

Pbox Selected -->7

Sbox Selected -->14

Key Selected -->13

Round 15

Pbox Selected -->4

Sbox Selected -->2

Key Selected -->13

Round 16

Pbox Selected -->16

Sbox Selected -->14

Key Selected -->1

Round 17

Pbox Selected -->18

Sbox Selected -->5

Key Selected -->19

Round 18

Pbox Selected -->10

Sbox Selected -->0

Key Selected -->20

Round 19

Pbox Selected -->20

Sbox Selected -->8

Key Selected -->5

Round 20

Pbox Selected -->14

Sbox Selected -->4

Key Selected -->0

Round 21

Pbox Selected -->19

Sbox Selected -->16

Key Selected -->13

Round 22

Pbox Selected -->4

Sbox Selected -->1

Key Selected -->23

Round 23

Pbox Selected -->8

Sbox Selected -->11

Key Selected -->16

Round 24

Pbox Selected -->17

Sbox Selected -->18

Key Selected -->4

Number of rounds for block 17 are 25

Round 1

Pbox Selected -->23

Sbox Selected -->3

Key Selected -->3

Round 2

Pbox Selected -->4

Sbox Selected -->4

Key Selected -->17



Round 3

Pbox Selected -->19

Sbox Selected -->8

Key Selected -->14

Round 4

Pbox Selected -->23

Sbox Selected -->6

Key Selected -->22

Round 5

Pbox Selected -->6

Sbox Selected -->23

Key Selected -->16

Round 6

Pbox Selected -->19

Sbox Selected -->23

Key Selected -->3

Round 7

Pbox Selected -->20

Sbox Selected -->2

Key Selected -->21

Round 8

Pbox Selected -->6

Sbox Selected -->10

Key Selected -->3

Round 9

Pbox Selected -->5

Sbox Selected -->14

Key Selected -->10

Round 10

Pbox Selected -->1

Sbox Selected -->9

Key Selected -->2

Round 11

Pbox Selected -->4

Sbox Selected -->7

Key Selected -->15

Round 12

Pbox Selected -->0

Sbox Selected -->12

Key Selected -->1

Round 13

Pbox Selected -->6

Sbox Selected -->12

Key Selected -->6

Round 14

Pbox Selected -->13

Sbox Selected -->23

Key Selected -->0

Round 15

Pbox Selected -->10

Sbox Selected -->24

Key Selected -->2

Round 16

Pbox Selected -->11

Sbox Selected -->5

Key Selected -->10

Round 17

Pbox Selected -->11

Sbox Selected -->5

Key Selected -->6

Round 18

Pbox Selected -->11

Sbox Selected -->4

Key Selected -->17

Round 19

Pbox Selected -->8

Sbox Selected -->4

Key Selected -->6

Round 20

Pbox Selected -->10

Sbox Selected -->15

Key Selected -->20

Round 21

Pbox Selected -->17

Sbox Selected -->16

Key Selected -->11

Round 22

Pbox Selected -->17

Sbox Selected -->4

Key Selected -->18

Round 23

Pbox Selected -->5

Sbox Selected -->21

Key Selected -->3

Round 24

Pbox Selected -->9

Sbox Selected -->6

Key Selected -->24

Round 25

Pbox Selected -->23

Sbox Selected -->2

Key Selected -->10

Number of rounds for block 18 are 25

Round 1

Pbox Selected -->11

Sbox Selected -->19

Key Selected -->3

Round 2

Pbox Selected -->4

Sbox Selected -->7

Key Selected -->17

Round 3

Pbox Selected -->23

Sbox Selected -->17

Key Selected -->8

Round 4

Pbox Selected -->22

Sbox Selected -->10

Key Selected -->7

Round 5

Pbox Selected -->18

Sbox Selected -->7

Key Selected -->1

Round 6

Pbox Selected -->22

Sbox Selected -->4

Key Selected -->20

Round 7

Pbox Selected -->18

Sbox Selected -->11

Key Selected -->9

Round 8

Pbox Selected -->22

Sbox Selected -->19

Key Selected -->6

Round 9

Pbox Selected -->20

Sbox Selected -->22

Key Selected -->19

Round 10

Pbox Selected -->9

Sbox Selected -->2

Key Selected -->2

Round 11

Pbox Selected -->3

Sbox Selected -->16

Key Selected -->10

Round 12

Pbox Selected -->6

Sbox Selected -->14

Key Selected -->4

Round 13

Pbox Selected -->19

Sbox Selected -->11

Key Selected -->22

Round 14

Pbox Selected -->15

Sbox Selected -->4

Key Selected -->19

Round 15

Pbox Selected -->8

Sbox Selected -->19

Key Selected -->3

Round 16

Pbox Selected -->15

Sbox Selected -->11

Key Selected -->19

Round 17

Pbox Selected -->7

Sbox Selected -->4

Key Selected -->11

Round 18

Pbox Selected -->12

Sbox Selected -->10

Key Selected -->6

Round 19

Pbox Selected -->2

Sbox Selected -->8

Key Selected -->17

Round 20

Pbox Selected -->12

Sbox Selected -->0

Key Selected -->18

Round 21

Pbox Selected -->17

Sbox Selected -->21

Key Selected -->1

Round 22

Pbox Selected -->10

Sbox Selected -->21

Key Selected -->20

Round 23

Pbox Selected -->18

Sbox Selected -->10

Key Selected -->24

Round 24

Pbox Selected -->21

Sbox Selected -->10

Key Selected -->19

Round 25

Pbox Selected -->15

Sbox Selected -->1

Key Selected -->13

Number of rounds for block 19 are 13

Round 1

Pbox Selected -->8

Sbox Selected -->24

Key Selected -->17

Round 2

Pbox Selected -->11

Sbox Selected -->4

Key Selected -->21

Round 3

Pbox Selected -->0

Sbox Selected -->3

Key Selected -->11

Round 4

Pbox Selected -->12

Sbox Selected -->6

Key Selected -->3

Round 5

Pbox Selected -->17

Sbox Selected -->21

Key Selected -->17

Round 6

Pbox Selected -->10

Sbox Selected -->24

Key Selected -->3

Round 7

Pbox Selected -->24

Sbox Selected -->3

Key Selected -->8

Round 8

Pbox Selected -->18

Sbox Selected -->16

Key Selected -->15

Round 9

Pbox Selected -->6

Sbox Selected -->7

Key Selected -->9

Round 10

Pbox Selected -->9

Sbox Selected -->6

Key Selected -->22

Round 11

Pbox Selected -->16

Sbox Selected -->20

Key Selected -->16

Round 12

Pbox Selected -->6

Sbox Selected -->11

Key Selected -->1

Round 13

Pbox Selected -->1

Sbox Selected -->20

Key Selected -->16

Number of rounds for block 20 are 18

Round 1



Pbox Selected -->19

Sbox Selected -->24

Key Selected -->3

Round 2

Pbox Selected -->10

Sbox Selected -->13

Key Selected -->7

Round 3

Pbox Selected -->13

Sbox Selected -->15

Key Selected -->23

Round 4

Pbox Selected -->6

Sbox Selected -->0

Key Selected -->4

Round 5

Pbox Selected -->18

Sbox Selected -->22

Key Selected -->24

Round 6

Pbox Selected -->5

Sbox Selected -->17

Key Selected -->21

Round 7

Pbox Selected -->4

Sbox Selected -->19

Key Selected -->7

Round 8

Pbox Selected -->2

Sbox Selected -->3

Key Selected -->3

Round 9

Pbox Selected -->22

Sbox Selected -->12

Key Selected -->4

Round 10

Pbox Selected -->12

Sbox Selected -->7

Key Selected -->5

Round 11

Pbox Selected -->8

Sbox Selected -->0

Key Selected -->12

Round 12

Pbox Selected -->3

Sbox Selected -->17

Key Selected -->3

Round 13

Pbox Selected -->23

Sbox Selected -->23

Key Selected -->15

Round 14

Pbox Selected -->17

Sbox Selected -->7

Key Selected -->14

Round 15

Pbox Selected -->20

Sbox Selected -->6

Key Selected -->2

Round 16

Pbox Selected -->12

Sbox Selected -->3

Key Selected -->17

Round 17

Pbox Selected -->22

Sbox Selected -->23

Key Selected -->14

Round 18

Pbox Selected -->3

Sbox Selected -->21

Key Selected -->5

Number of rounds for block 21 are 22

Round 1

Pbox Selected -->20

Sbox Selected -->24

Key Selected -->5

Round 2

Pbox Selected -->4

Sbox Selected -->23

Key Selected -->13

Round 3

Pbox Selected -->1

Sbox Selected -->15

Key Selected -->8

Round 4

Pbox Selected -->5

Sbox Selected -->19

Key Selected -->14

Round 5

Pbox Selected -->15

Sbox Selected -->11

Key Selected -->22

Round 6

Pbox Selected -->24

Sbox Selected -->16

Key Selected -->8

Round 7

Pbox Selected -->15

Sbox Selected -->8

Key Selected -->8

Round 8

Pbox Selected -->1

Sbox Selected -->9

Key Selected -->13

Round 9

Pbox Selected -->4

Sbox Selected -->1

Key Selected -->7

Round 10

Pbox Selected -->1

Sbox Selected -->10

Key Selected -->13

Round 11

Pbox Selected -->18

Sbox Selected -->13

Key Selected -->23

Round 12

Pbox Selected -->13

Sbox Selected -->6

Key Selected -->9

Round 13

Pbox Selected -->24

Sbox Selected -->9

Key Selected -->21

Round 14

Pbox Selected -->7

Sbox Selected -->0

Key Selected -->6

Round 15

Pbox Selected -->18

Sbox Selected -->11

Key Selected -->19

Round 16

Pbox Selected -->19

Sbox Selected -->18

Key Selected -->12

Round 17

Pbox Selected -->24

Sbox Selected -->1

Key Selected -->4

Round 18

Pbox Selected -->16

Sbox Selected -->17

Key Selected -->16

Round 19

Pbox Selected -->16

Sbox Selected -->17

Key Selected -->19

Round 20

Pbox Selected -->17

Sbox Selected -->20

Key Selected -->17

Round 21

Pbox Selected -->6

Sbox Selected -->7

Key Selected -->9

Round 22

Pbox Selected -->7

Sbox Selected -->22

Key Selected -->22

Number of rounds for block 22 are 16

Round 1

Pbox Selected -->12

Sbox Selected -->7

Key Selected -->19

Round 2

Pbox Selected -->5

Sbox Selected -->4

Key Selected -->20

Round 3

Pbox Selected -->6

Sbox Selected -->7

Key Selected -->9

Round 4

Pbox Selected -->17

Sbox Selected -->8

Key Selected -->4

Round 5

Pbox Selected -->2

Sbox Selected -->13

Key Selected -->9

Round 6

Pbox Selected -->2

Sbox Selected -->17

Key Selected -->4

Round 7

Pbox Selected -->14

Sbox Selected -->24

Key Selected -->5

Round 8

Pbox Selected -->1

Sbox Selected -->13

Key Selected -->21

Round 9

Pbox Selected -->8

Sbox Selected -->11

Key Selected -->9

Round 10

Pbox Selected -->8

Sbox Selected -->11

Key Selected -->16

Round 11

Pbox Selected -->19

Sbox Selected -->10

Key Selected -->24

Round 12

Pbox Selected -->20

Sbox Selected -->14

Key Selected -->24

Round 13

Pbox Selected -->18

Sbox Selected -->4

Key Selected -->17

Round 14

Pbox Selected -->18

Sbox Selected -->10

Key Selected -->9

Round 15

Pbox Selected -->1

Sbox Selected -->7

Key Selected -->24

Round 16

Pbox Selected -->11

Sbox Selected -->15

Key Selected -->15

Number of rounds for block 23 are 25

Round 1

Pbox Selected -->13

Sbox Selected -->5

Key Selected -->9

Round 2

Pbox Selected -->1

Sbox Selected -->18

Key Selected -->9

Round 3

Pbox Selected -->2

Sbox Selected -->24

Key Selected -->19

Round 4

Pbox Selected -->5

Sbox Selected -->5

Key Selected -->9

Round 5

Pbox Selected -->20

Sbox Selected -->11

Key Selected -->16

Round 6

Pbox Selected -->20



Sbox Selected -->3

Key Selected -->8

Round 7

Pbox Selected -->1

Sbox Selected -->7

Key Selected -->1

Round 8

Pbox Selected -->23

Sbox Selected -->15

Key Selected -->23

Round 9

Pbox Selected -->4

Sbox Selected -->6

Key Selected -->21

Round 10

Pbox Selected -->16

Sbox Selected -->15

Key Selected -->18

Round 11

Pbox Selected -->21

Sbox Selected -->21

Key Selected -->1

Round 12

Pbox Selected -->0

Sbox Selected -->6

Key Selected -->15

Round 13

Pbox Selected -->3

Sbox Selected -->9

Key Selected -->5

Round 14

Pbox Selected -->18

Sbox Selected -->18

Key Selected -->9

Round 15

Pbox Selected -->5

Sbox Selected -->22

Key Selected -->21

Round 16

Pbox Selected -->18

Sbox Selected -->4

Key Selected -->2

Round 17

Pbox Selected -->21

Sbox Selected -->8

Key Selected -->15

Round 18

Pbox Selected -->8

Sbox Selected -->17

Key Selected -->21

Round 19

Pbox Selected -->4

Sbox Selected -->10

Key Selected -->11

Round 20

Pbox Selected -->9

Sbox Selected -->11

Key Selected -->11

Round 21

Pbox Selected -->7

Sbox Selected -->12

Key Selected -->18

Round 22

Pbox Selected -->21

Sbox Selected -->21

Key Selected -->2

Round 23

Pbox Selected -->7

Sbox Selected -->11

Key Selected -->3

Round 24

Pbox Selected -->21

Sbox Selected -->20

Key Selected -->0

Round 25

Pbox Selected -->1

Sbox Selected -->23

Key Selected -->20

Number of rounds for block 24 are 24

Round 1

Pbox Selected -->15

Sbox Selected -->4

Key Selected -->24

Round 2

Pbox Selected -->9

Sbox Selected -->23

Key Selected -->8

Round 3

Pbox Selected -->10

Sbox Selected -->19

Key Selected -->3

Round 4

Pbox Selected -->8

Sbox Selected -->23

Key Selected -->12

Round 5

Pbox Selected -->23

Sbox Selected -->13

Key Selected -->8

Round 6

Pbox Selected -->13

Sbox Selected -->20

Key Selected -->16

Round 7

Pbox Selected -->8

Sbox Selected -->4

Key Selected -->22

Round 8

Pbox Selected -->22

Sbox Selected -->4

Key Selected -->18

Round 9

Pbox Selected -->3

Sbox Selected -->17

Key Selected -->5

Round 10

Pbox Selected -->14

Sbox Selected -->2

Key Selected -->19

Round 11

Pbox Selected -->14

Sbox Selected -->9

Key Selected -->13

Round 12

Pbox Selected -->18

Sbox Selected -->24

Key Selected -->2

Round 13

Pbox Selected -->16

Sbox Selected -->8

Key Selected -->17

Round 14

Pbox Selected -->8

Sbox Selected -->5

Key Selected -->24

Round 15

Pbox Selected -->24

Sbox Selected -->23

Key Selected -->21

Round 16

Pbox Selected -->14

Sbox Selected -->0

Key Selected -->17

Round 17

Pbox Selected -->18

Sbox Selected -->16

Key Selected -->0

Round 18

Pbox Selected -->13

Sbox Selected -->8

Key Selected -->3

Round 19

Pbox Selected -->10

Sbox Selected -->24

Key Selected -->1

Round 20

Pbox Selected -->2

Sbox Selected -->9

Key Selected -->4

Round 21

Pbox Selected -->9

Sbox Selected -->12

Key Selected -->20

Round 22

Pbox Selected -->24

Sbox Selected -->17

Key Selected -->18

Round 23

Pbox Selected -->16

Sbox Selected -->21

Key Selected -->20

Round 24

Pbox Selected -->13

Sbox Selected -->6

Key Selected -->7

Number of rounds for block 25 are 18

Round 1

Pbox Selected -->22

Sbox Selected -->11

Key Selected -->21

Round 2

Pbox Selected -->23

Sbox Selected -->21

Key Selected -->3

Round 3

Pbox Selected -->18

Sbox Selected -->5

Key Selected -->7

Round 4

Pbox Selected -->2

Sbox Selected -->12

Key Selected -->13

Round 5

Pbox Selected -->2

Sbox Selected -->16

Key Selected -->22

Round 6

Pbox Selected -->21

Sbox Selected -->5

Key Selected -->12

Round 7

Pbox Selected -->6

Sbox Selected -->3

Key Selected -->22

Round 8

Pbox Selected -->13

Sbox Selected -->11

Key Selected -->21

Round 9

Pbox Selected -->9

Sbox Selected -->0

Key Selected -->14

Round 10

Pbox Selected -->11

Sbox Selected -->13

Key Selected -->13

Round 11

Pbox Selected -->22

Sbox Selected -->12

Key Selected -->22

Round 12

Pbox Selected -->10

Sbox Selected -->13

Key Selected -->2

Round 13

Pbox Selected -->21

Sbox Selected -->7

Key Selected -->6

Round 14

Pbox Selected -->23

Sbox Selected -->14

Key Selected -->23

Round 15

Pbox Selected -->20

Sbox Selected -->11

Key Selected -->4

Round 16

Pbox Selected -->19

Sbox Selected -->14

Key Selected -->12

Round 17

Pbox Selected -->6

Sbox Selected -->0

Key Selected -->11

Round 18

Pbox Selected -->12

Sbox Selected -->1

Key Selected -->8



Enter your choice

5

Decrypted Text Generated

Enter your choice