Nama : Adelia Putri Widyasari

NIM : A11.2022.14426 Kelas : A11.43UG1

KUIS DATA ENCRYPTION STANDARD (DES)

Plaintext: FOTO SELFIE ANDA SAAT INI

Key: 02214426

Github: https://github.com/adeliaputriw/Kriptografi-DES-43UG1-A11.2022.14426.git

1. Bagaimana hasil binerisasi image selfie anda sebagai plaintext?

2. Bagaimana proses dan hasil enkripsi pada setiap fase?

Data Being Encrypted: 3030303030303030

After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 00110010111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

100001000001001111001111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

010101111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3131313131313030 After Initial Permutation: 00FF003F00FF0000

Left Half Right Half Sub Key

000000001011001111100111110001110

Round: 2 00000000101100111110011110001110

01101000111011101000111001001000

Round: 3 01101000111011101000111001001000

1001101001001111110110100101011110

Round: 4 100110100100111110110100101011110

00010000010000001101011010010110

Round: 5 00010000010000001101011010010110

1111010010101011111100010101011111

Round: 6 1111010010101011111100010101011111

0010000101010110111110010101110000

Round: 7 001000010101011011110010101010000

000001101011001111100101101011001

Round: 8 000001101011100111100101101011001

11001101110011000100100100111101

Round: 9 11001101110011000100100100111101

110101100100111110011010100000110

Round: 10 110101100100111110011010100000110

00001000001110110110101000100000

Round: 11 00001000001110110110101000100000

101001100100111111101000001111010

Round: 12 101001100100111111101000001111010

100100010101011111010010110001101

Round: 13 100100010101011111010010110001101

111110000101110010011111101001101

Round: 14 111110000101111001001111101001101

00010001101100001110001100100000

000110110010100010001101001100110010000100010011

Round: 15 00010001101100001110001100100000

001011101111010001001111000101111

Round: 16 001011101111010001001111000101111

111011001011110000110001111011110

Round: Swap 111011001011110000110001111011110

00101110111101000100111000101111

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

100111101111011001010000011111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

0101011111010011110001101001001000

Round: Swap 01010111101001110001101001001000

001001000101110111100010001011110

Data Being Encrypted: 3030303030303030

After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

110001111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 000011001000011011010110110100100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

0101011111010011110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 2030303030303030 After Initial Permutation: 00FE000000FF0000

Left Half Right Half Sub Key

00000000101100101110011110110001

Round: 2 00000000101100101110011110110001

11000010011010100001100001001010

Round: 3 11000010011010100001100001001010

10100011100000101100010110101101

Round: 4 10100011100000101100010110101101

01011001101001100000111100100001

Round: 5 01011001101001100000111100100001

011101101111100100010001101001001

Round: 6 01110110111100100010001101001001

100110100001011111111101010110100

Round: 7 100110100001011111111101010110100

01011101000000110011000100100100001

Round: 8 01011101000000110011000100100001

101100100001011100110011111100101

Round: 9 10110010000101110011001111100101

001011011110001111111100010000111

Round: 10 0010110111110001111111100010000111

00001101100001010110100011101011

Round: 11 00001101100001010110100011101011

11001001101000011110100010100000

Round: 12 11001001101000011110100010100000

00100000100001111001101010101000

Round: 13 00100000100001111001101010101000

000110010101111000000001110101011

Round: 14 000110010101111000000001110101011

110011110000111111110001000011101

000110110010100010001101001100110010000100010011

Round: 15 110011110000111111110001000011101

1111101010001010110101101000000001

Round: 16 1111101010001010110101101000000001

01001111110001011110001111110010010

Round: Swap 01001111100010111000111110010010

1111101010001010110101101000000001

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3131313030313131 After Initial Permutation: 00FF00E700FF0000

Left Half Right Half Sub Key

00000000101100111110011101010110

Round: 2 00000000101100111110011101010110

01111010110011101000011001000000

Round: 3 01111010110011101000011001000000

1010100011111110010011011111011010

Round: 4 1010100011111110010011011111011010

11100110111000001110101100000011

Round: 5 11100110111000001110101100000011

10000101001100100010111001111001

Round: 6 10000101001100100010111001111001

0100101111011101101111101101111110

Round: 7 010010111101110110111110110111110

10101000010001101001111011110000

Round: 8 10101000010001101001111011110000

101100101111110110101010101000101

Round: 9 10110010111110110101010101000101

110011011101101101010011111000010

Round: 10 11001101110110110101001111000010

1010011000111111000100011111101000

Round: 11 1010011000111111000100011111101000

110101110110001100111110001001100

Round: 12 11010111011000110011110001001100

001110110010100100000000000000110

Round: 13 001110110010100100000000000000110

10001000100010101011001010011000

Round: 14 10001000100010101011001010011000

10100111110100100000101101001001

000110110010100010001101001100110010000100010011

Round: 15 10100111110100100000101101001001

11001001000000010100011001110101

Round: 16 11001001000000010100011001110101

111100011010101101101010101111010

Round: Swap 11110001101010110110101010111010

11001001000000010100011001110101

Data Being Encrypted: 3130303030303030 After Initial Permutation: 00FF000100FF0000

Left Half Right Half Sub Key

0000000101100111110011110110000

Round: 2 00000000101100111110011110110000

01100010111011001000001001001000

Round: 3 01100010111011001000001001001000

011010101100111111101010001000010

Round: 4 011010101100111111101010001000010

011001001100100111111100100011010

Round: 5 011001001100100111111100100011010

10101101011110000101001010101011000

Round: 6 10101101011100001010010101011000

1111010110101101111100001001111000

Round: 7 11110101101101101111100001001111000

11110110101110110110001000011101

Round: 8 11110110101110110110001000011101

00011110000111101100001111101010

Round: 9 00011110000111101100001111101010

000110110010110011111110001000111

Round: 10 000110110010110011111110001000111

000100101010000100001010111111000

Round: 11 000100101010000100001010111111000

00011000010100101101010100010110

Round: 12 0001100001010010110101010100010110

000101100001100010001011101111110

Round: 13 00010110000110001000101110111110

10110100010100110000011010001101

Round: 14 10110100010100110000011010001101

10100100100011100010100000010100

000110110010100010001101001100110010000100010011

Round: 15 10100100100011100010100000010100

00001100110011110110100100101000

Round: 16 00001100110011110110100100101000

11111011011011101010010110011100

Round: Swap 11111011011011010101010110011100

00001100110011110110100100101000

Data Being Encrypted: 3030303030303030

After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

110001111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

0101011111010011110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3020303030303030 After Initial Permutation: 00FD000000FF0000

Left Half Right Half Sub Key

00000000101100011110011110110001

Round: 2 00000000101100011110011110110001

11100010011011100001100000001010

Round: 3 11100010011011100001100000001010

00100011010100010100001110101111

Round: 4 00100011010100010100001110101111

10000101000011000100010001000011

Round: 5 1000010100001100010001000100011

000111000100101100110000000011011

Round: 6 00011100010010110011000000011011

01000101000101101000110100001101

Round: 7 01000101000101101000110100001101

111100010100110101111110111000011

Round: 8 111100010100110101111110111000011

0011111111010010111000111100010110

Round: 9 0011111111010010111000111100010110

0110110010011111101111110000000111

Round: 10 011011001001111101111100000000111

000100010001101010001011111000011

Round: 11 00010001000110101000101111000011

11000111010100001010001010011100

Round: 12 11000111010100001010001010011100

1111111101011100011010011111000110

Round: 13 11111110101110001101001111000110

01101111011011010011001010110111

Round: 14 01101111011011010011001010110111

110011110000011010000010101111001

000110110010100010001101001100110010000100010011

Round: 15 11001111000001101000001010111001

10100000111011001100111101110101

Round: 16 10100000111011001100111101110101

11001010011100110010011000011101

Round: Swap 11001010011100110010011000011101

10100000111011001100111101110101

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3031303030303031 After Initial Permutation: 00FF008200FF0000

Left Half Right Half Sub Key

00000000101100111110011100110011

Round: 2 00000000101100111110011100110011

011100100101111000000110001100011

Round: 3 011100100101111000000110001100011

1010110001110000101111111111010000

Round: 4 1010110001110000101111111111010000

10011101010010110101100001111101

Round: 5 100111010101011010110100001111101

011001000010011111000100110000000

Round: 6 01100100001001111000100110000000

11000101101110000001010011111010

Round: 7 11000101101110000001010011111010

10100011000111000001000111110110

Round: 8 10100011000111000001000111110110

010101111111000101011001000010010

Round: 9 010101111111000101011001000010010

01000001100101011110101111010101

Round: 10 01000001100101011110101111010101

001100010001001000110110101010111

Round: 11 00110001000100100011011010100111

010111000100100010101111011101100

Round: 12 0101110001001001010111011101100

01001000100001100111010100100000

Round: 13 01001000100001100111010100100000

11110110100100011100111110010101

Round: 14 11110110100100011100111110010101

11010100101001000000111001011111

000110110010100010001101001100110010000100010011

Round: 15 11010100101001000000111001011111

11100011110100110001001001001110

Round: 16 11100011110100110001001001001110

01110100110100110110100010011010

Round: Swap 01110100110100110110100010011010

11100011110100110001001001001110

Data Being Encrypted: 3131303030303030 After Initial Permutation: 00FF000300FF0000

Left Half Right Half Sub Key

0000000101100111110011110110010

Round: 2 00000000101100111110011110110010

011010101111011001000001001101000

Round: 3 01101010111011001000001001101000

00101000010001111001000001000010

Round: 4 00101000010001111001000001000010

01101101101011000010100010100000

Round: 5 01101101101011000010100010100000

01100000011000011110011111010000

Round: 6 01100000011000011110011111010000

10011110001100100110110011110011

Round: 7 10011110001100100110110011110011

1001000011101111110010010010111110

Round: 8 100100001110111110010010010111110

10100000001011100110100011110010

Round: 9 10100000001011100110100011110010

01100000101101001001000011110001

Round: 10 01100000101101001001000011110001

000100100001001001010111111100010

Round: 11 0001001000010010010111111100010

011000001100101011111110001010000

Round: 12 011000001100101011111110001010000

1100011100000000001101010100011011

Round: 13 1100011100000000001101010101011

00100000000101110000010111001110

Round: 14 00100000000101110000010111001110

01100001011011011010000011110011

000110110010100010001101001100110010000100010011

Round: 15 01100001011011011010000011110011

001101010011110111111101110101111

Round: 16 001101010011110111111011110101111

110011111001010001100000000010011

Round: Swap 11001111100101000110000000010011

001101010011110111111101110101111

Data Being Encrypted: 3030303030303030

After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

110001111110110100111010111101000

Round: 10 11000111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 000011001000011011010110110100100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

0101011111010011110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030203030303030 After Initial Permutation: 00FB000000FF0000

Left Half Right Half Sub Key

000000001011011111110011110110001

Round: 2 000000001011011111110011110110001

11100010001011100001100001001010

Round: 3 11100010001011100001100001001010

00100011010001100100011010101111

Round: 4 00100011010001100100011010101111

00010110010010000111000100000110

Round: 5 00010110010010000111000100000110

01110011100011000101100001000010

Round: 6 01110011100011000101100001000010

10100001000011011001101101001100

Round: 7 10100001000011011001101101001100

00000011110000101111101100011011

Round: 8 00000011110000101111101100011011

11010001101001000000010010011001

Round: 9 11010001101001000000010010011001

0111111100010100011111110001000100

Round: 10 0111111100010100011111110001000100

00010001010110001101010110101111

Round: 11 00010001010110001101010110101111

01001011101000100010001000010011

Round: 12 0100101110100010001000100010011

00000111101100001110111101000101

Round: 13 00000111101100001110111101000101

01100100100011000111010011110010

Round: 14 01100100100011000111010011110010

0001001001010101010000100001010010

000110110010100010001101001100110010000100010011

Round: 15 00010010010101010000100001010010

00011010000110111101110001100001

Round: 16 00011010000110111101110001100001

110010111001100011110010111110010

Round: Swap 11001011100110001111001011110010

00011010000110111101110001100001

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030313030303030 After Initial Permutation: 00FF000400FF0000

Left Half Right Half Sub Key

00000000101100111110011110110101

Round: 2 00000000101100111110011110110101

011010100110110000000000001001010

Round: 3 011010100110110000000000001001010

01110011001011111111111110110010001

Round: 4 0111001100101111111111110110010001

011000011100000011111110000010111

Round: 5 01100001110000001111110000010111

00001111011101100010011000110000

Round: 6 00001111011101100010011000110000

10110000000010101100111011010110

Round: 7 10110000000010101100111011010110

000011111100000011011011010001111

Round: 8 000011111100000011011011010001111

11010001000111101001010001011011

Round: 9 11010001000111101001010001011011

1100010100100101111101000111110100

Round: 10 11000101001001011110100011110100

1111111110010011001001010101110011

Round: 11 11111111001001100100101010110011

10101110010110110000010111010010

Round: 12 10101110010110110000010111010010

100101011001110101101000111111111

Round: 13 10010101100111010110100011111111

101110110101010001010111111011000

Round: 14 10111011010101000101011111011000

101111010010011001000010111111010

000110110010100010001101001100110010000100010011

Round: 15 10111101001001100100001011111010

01010100100011010110000101111101

Round: 16 01010100100011010110000101111101

00010111001001000001101111001110

Round: Swap 00010111001001000001101111001110

01010100100011010110000101111101

Data Being Encrypted: 3031313130303030 After Initial Permutation: 00FF000E00FF0000

Left Half Right Half Sub Key

00000000101100111110011110111111

Round: 2 00000000101100111110011110111111

011010100110110000000110001001011

Round: 3 01101010011011000000110001001011

011000100010101111111011100111001

Round: 4 01100010001010111111011100111001

11000100010011111100001111001111110

Round: 5 11000100010011111100001111001111110

0011100000111101001000110101010100

Round: 6 00111000001111010010001101010100

1110101111110110000101111100011101

Round: 7 1110101111110110000101111100011101

100000000110111111000110100111001

Round: 8 10000000011011111000110100111001

10011001010000000000011000010011

Round: 9 10011001010000000000011000010011

01101111110000100101101101000111000

Round: 10 011011111100001001011011000111000

001000000100001001001101101100100

Round: 11 0010000000100001001001101100100

011000011111110110011001001001100

Round: 12 011000011111110110011001001001100

00101100001110010000000010111000

Round: 13 00101100001110010000000010111000

10100110100100011000011011000100

Round: 14 10100110100100011000011011000100

101110001010000101110111111110100

000110110010100010001101001100110010000100010011

Round: 15 101110001010000101110111111110100

101110010100110110100110110100100

Round: 16 10111001010011011000110110100100

1011110100100111111001000101111010

Round: Swap 1011110100100111111001000101111010

10111001010011011000110110100100

Data Being Encrypted: 3030303030303030

After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 00110010111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

110001111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

0101011111010011110001101001001000

Round: Swap 01010111101001110001101001001000

001001000101110111100010001011110

Data Being Encrypted: 3030302030303030 After Initial Permutation: 00F7000000FF0000

Left Half Right Half Sub Key

00000000101110111110011110110001

Round: 2 00000000101110111110011110110001

11100110001011100001100100001010

Round: 3 11100110001011100001100100001010

011100010101001001100010101011110

Round: 4 01110001010100100110001010101110

00011011001000001000101111101000

Round: 5 00011011001000001000101111101000

011000010001101100011111110000011

Round: 6 011000010001101100011111110000011

01111111001010101010111110000000101

Round: 7 01111111001010101010111110000000101

1000011101000000010111111111101100

Round: 8 100001110100000001011111111101100

00110011100110100101101110011101

Round: 9 00110011100110100101101110011101

10001000000100111010010101100010

Round: 10 10001000000100111010010101100010

01100100011100100100111011110110

Round: 11 01100100011100100100111011110110

11101111010101011000000101001101

Round: 12 11101111010101011000000101001101

110100111111101000100110001101011

Round: 13 110100111111101000100110001101011

00101010001110010010001011101000

Round: 14 00101010001110010010001011101000

100111100001111111011001110000001

000110110010100010001101001100110010000100010011

Round: 15 10011110000111111011001110000001

001100100000110001111110001000010

Round: 16 00110010000011000111110001000010

11001001100011101001010001110101

Round: Swap 11001001100011101001010001110101

00110010000011000111110001000010

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030313131 After Initial Permutation: 00FF00E000FF0000

Left Half Right Half Sub Key

00000000101100111110011101010001

Round: 2 00000000101100111110011101010001

011100100100111100000110001000010

Round: 3 01110010010011100000110001000010

00100100011100011010000011110101

Round: 4 00100100011100011010000011110101

1111010100111110101000000000100111

Round: 5 111101010011110101000000000100111

00100111011110001011000111011110

Round: 6 00100111011110001011000111011110

101000010001111111010110111011100

Round: 7 101000010001111111010110111011100

01010001010100010011101001000010

Round: 8 01010001010100010011101001000010

0111001011111100101010101110000101

Round: 9 011100101111110010101010110000101

10101100000011000101010101011111

Round: 10 10101100000011000101010101011011

011111011001101101100000101111100

Round: 11 011111011001101101100000101111100

11110101100001000101001110100100

Round: 12 11110101100001000101001110100100

0101111110010111100011110100001110

Round: 13 01011111001011100011110100001110

11010011011001110101100110011011

Round: 14 11010011011001110101100110011011

00101001000110111011100111101101

000110110010100010001101001100110010000100010011

Round: 15 00101001000110111011100111101101

001010101001111111010110110100110

Round: 16 00101010101111111010110110100110

010011001001111111100011101110101

Round: Swap 010011001001111111100011101110101

00101010101001111111010110110110100110

Data Being Encrypted: 3130303131303030 After Initial Permutation: 00FF001900FF0000

Left Half Right Half Sub Key

00000000101100111110011110101000

Round: 2 00000000101100111110011110101000

011010001111111101000011001101001

Round: 3 011010001111111101000011001101001

00100100011011001000101101000110

Round: 4 00100100011011001000101101000110

01001100100110110111001010001011

Round: 5 01001100100110110111001010001011

1011011111111001111110100101100111

Round: 6 1011011111111001111110100101100111

00000011011100110001001010000111

Round: 7 00000011011100110001001010000111

11001110011100110100001110000111

Round: 8 11001110011100110100001110000111

101101110000010000110000000000001

Round: 9 101101110000010000110000000000001

10010111110000101111100010111100101

Round: 10 10010111100001011110001011100101

10000100101000110010101101101100

Round: 11 10000100101000110010101101101100

011001101011111110110000100011100

Round: 12 011001101011111110110000100011100

100101111111100010011000111000001

Round: 13 100101111111100010011000111000001

111110111010111110000101000000011

Round: 14 111110111010111110000101000000011

00010111001100100000111001011101

000110110010100010001101001100110010000100010011

Round: 15 00010111001100100000111001011101

1010101000101111010010101111101010

Round: 16 1010101000101111010010101111101010

01001000000010000011001011001000

Round: Swap 01001000000010000011001011001000

1010101000101111010010101111101010

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

110001111110110100111010111101000

Round: 10 11000111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 000011001000011011010110110100100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

010101111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303020303030 After Initial Permutation: 00EF000000FF0000

Left Half Right Half Sub Key

00000000101000111110011110110001

Round: 2 00000000101000111110011110110001

111001100010111110001100101001010

Round: 3 11100110001011111000110010101010

11010000000011100111011010101111

Round: 4 11010000000011100111011010101111

11000110011011001011100011110010

Round: 5 11000110011011001011100011110010

110101110101101111110111001110110

Round: 6 11010111010110111110111001110110

0100010100011101111111100100111100

Round: 7 0100010100011101111111100100111100

1011101010011010000101010101000001

Round: 8 10111010100110100001010101000001

01010101001001010011001100110111

Round: 9 01010101001001010011001100110111

010100000010001110111001111111101

Round: 10 010100000010001110111001111111101

11011011100101101100010000010100

Round: 11 11011011100101101100010000010100

11010001010011000101000001000011

Round: 12 11010001010011000101000001000011

011011011011100100010010111101000

Round: 13 011011011011100100010010111101000

00110010100100001010111001010100

Round: 14 001100101001000010101111001010100

10001011010000011010100101001101

000110110010100010001101001100110010000100010011

Round: 15 1000101101000001101010010101101

101010110111111010010000011011101

Round: 16 10101011011111010010000011011101

101111100101010100001001010001010

Round: Swap 10111100101010100001001010001010

101010110111111010010000011011101

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030313131 After Initial Permutation: 00FF00E000FF0000

Left Half Right Half Sub Key

00000000101100111110011101010001

Round: 2 00000000101100111110011101010001

011100100100111100000110001000010

Round: 3 01110010010011100000110001000010

00100100011100011010000011110101

Round: 4 00100100011100011010000011110101

1111010100111110101000000000100111

Round: 5 11110101001111010100000000100111

00100111011110001011000111011110

Round: 6 00100111011110001011000111011110

101000010001111111010110111011100

Round: 7 101000010001111111010110111011100

01010001010100010011101001000010

Round: 8 01010001010100010011101001000010

0111001011111100101010101110000101

Round: 9 011100101111110010101010110000101

10101100000011000101010101011111

Round: 10 10101100000011000101010101011011

011111011001101101100000101111100

Round: 11 011111011001101101100000101111100

11110101100001000101001110100100

Round: 12 11110101100001000101001110100100

0101111110010111100011110100001110

Round: 13 01011111001011100011110100001110

11010011011001110101100110011011

Round: 14 11010011011001110101100110011011

00101001000110111011100111101101

000110110010100010001101001100110010000100010011

Round: 15 00101001000110111011100111101101

001010101001111111010110110100110

Round: 16 00101010101111111010110110100110

010011001001111111100011101110101

Round: Swap 010011001001111111100011101110101

001010101001111111010110110100110

Data Being Encrypted: 3131303031313030 After Initial Permutation: 00FF003300FF0000

Left Half Right Half Sub Key

000000001011001111100111110000010

Round: 2 00000000101100111110011110000010

011010001111111101000101001101000

Round: 3 011010001111111101000101001101000

00001100010011101010000111101110

Round: 4 00001100010011101010000111101110

101100000010100011111100011011100

Round: 5 10110000001010001111100011011100

111000101000111111110101000100001

Round: 6 111000101000111111110101000100001

01100111100110100000100110011011

Round: 7 01100111100110100000100110011011

0111000011011011001001010010010111

Round: 8 01110000110110110010010100100111

111000111001010110100001111111110

Round: 9 111000111001010110100001111111110

10001000010100001001010000011110

Round: 10 10001000010100001001010000011110

00001001010110011001000010011001

Round: 11 00001001010110011001000010011001

01110110000111101111010001111000

Round: 12 01110110000111101111010001111000

10010001110101010001111001101000

Round: 13 10010001110101010001111001101000

111111111111110100110110010011101

Round: 14 111111111111110100110110010011101

10011100010010000010010110100101

000110110010100010001101001100110010000100010011

Round: 15 10011100010010000010010110100101

11111011111111001011110010001011110

Round: 16 11111011111111001011110010001011110

110111010110011100010111100100001

Round: Swap 11011101011001110001011100100001

11111011111111001011110010001011110

Data Being Encrypted: 3030303030303030

After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

110001111110110100111010111101000

Round: 10 11000111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 000011001000011011010110110100100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

0101011111010011110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030203030 After Initial Permutation: 00DF000000FF0000

Left Half Right Half Sub Key

0000000100100111110011110110001

Round: 2 00000000100100111110011110110001

01100110011011100000100101001010

Round: 3 0110011001101110000010010101010

011000001101101111100110100000111

Round: 4 01100000110110111100110100000111

001010110100111111001101101000111

Round: 5 00101011010011111001101101000111

10101101101001101111000011010101

Round: 7 10101101101001101110000110101001

01010010101100101110101110100001

Round: 8 0101001011100101110101110100001

010100110110101000101010111111111

Round: 9 01010011011010100010101011111111

11100101000010110011011010110001

Round: 10 11100101000010110011011010110001

11010000110001111101100011010111

Round: 11 11010000110001111101100011010111

01000011101010010100110000111001

Round: 12 01000011101010010100110000111001

0011111101011011001101011110001000

Round: 13 00111110101101100110101110001000

01000101001100011100001110110100

Round: 14 01000101001100011100001110110100

10111001001010100001011011101001

000110110010100010001101001100110010000100010011

Round: 15 10111001001010100001011011101001

11000100010101100110011001010010

Round: 16 11000100010101100110011001010010

1010111111100110100111100010001010

Round: Swap 101011111110011010011100010001010

11000100010101100110011001010010

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3131313130303130 After Initial Permutation: 00FF004F00FF0000

Left Half Right Half Sub Key

0000000010110011111100111111111111

Round: 2 000000001011001111100111111111110

01100010111011001000001001101000

Round: 3 01100010111011001000001001101000

011010001100111111101000000001100

Round: 4 011010001100111111101000000001100

011011101111000111111100100100011

Round: 5 011011101111000111111100100100011

10100001001110100111010101000000

Round: 6 10100001001110100111010101000000

101011111101000011101001100101011

Round: 7 101011111101000011101001100101011

01011000001010100011110100110100

Round: 8 01011000001010100011110100110100

00000111111010110101111111110001101

Round: 9 0000011111010110101111111110001101

01011101000011001000110100100000

Round: 10 01011101000011001000110100100000

010011010110110100111001101111101

Round: 11 01001101011011010011100110111101

010110100000111110100011001000100

Round: 12 01011010000011110100011001000100

1001101111110001101101111000001111

Round: 13 100110111111000110110111000001111

10001011110110100000111001010110

Round: 14 10001011110110100000111001010110

111100000101111100101110101001100

000110110010100010001101001100110010000100010011

Round: 15 11110000010111100101110101001100

00001111101100001001101110010001

Round: 16 00001111101100001001101110010001

010101110111000001000010101011110

Round: Swap 010101110111000001000010101011110

00001111101100001001101110010001

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 000011001000011011010110110100100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

010101111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030302030 After Initial Permutation: 00BF000000FF0000

Left Half Right Half Sub Key

00000000111100111110011110110001

Round: 2 00000000111100111110011110110001

011001100110111110000100001001110

Round: 3 01100110011011110000100001001110

11011011111101001110101010100101111

Round: 4 110110111111010011101010101011111

10100000111100001001101101110100

Round: 5 1010000011110000100110110110110100

00101010110011101100001000110011

Round: 6 00101010110011101100001000110011

10001100111101001101100110101111

Round: 7 100011001111010011011011011111

Round: 8 010110001000110101101111111011101

1111011111101000001111110110000010

Round: 9 1111011111101000001111110110000010

00100100000100010011000111011010

Round: 10 00100100000100010011000111011010

101100001110110001100100101111000

Round: 11 10110000111011000110010010111000

10010100100101101100010100111011

Round: 12 10010100100101101100010100111011

01100011101000110000001100111011

Round: 13 01100011101000110000001100111011

00010011011111011110110010000001

Round: 14 00010011011111011110110010000001

00101001011001101011000111010110

000110110010100010001101001100110010000100010011

Round: 15 00101001011001101011000111010110

111110111111101010001101101110111

Round: 16 111110111111101010001101101110011

01010100110111011001010001111000

Round: Swap 01010100110111011001010001111000

111110111111101010001101101110011

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3031313130303031 After Initial Permutation: 00FF008E00FF0000

Left Half Right Half Sub Key

00000000101100111110011100111111

Round: 2 00000000101100111110011100111111

01111000010011000000100001000010

Round: 3 01111000010011000000100001000010

01110100101100011001001010010011

Round: 4 01110100101100011001001010010011

11110101101001111010110010100010

Round: 5 11110101101001111010110010100010

0011000101111111111011011001001111

Round: 6 0011000101111111110110110010011111

10110000100110110100011110011001

Round: 7 10110000100110110100011110011001

00100011100000001100101000010111

Round: 8 00100011100000001100101000010111

011010010101001111111001100001111

Round: 9 011010010101001111111001100001111

1000001001111100001101000101011110

Round: 10 10000010011110000110100010101110

10000101001110010011101100100000

Round: 11 10000101001110010011101100100000

010011010101001111000101110010110

Round: 12 010011010101010111000101110010110

1001001010111100101001111110101100

Round: 13 100100101011110010100111110101100

111111001000000001111111100110110

Round: 14 111111001000000001111111100110110

1111111110000100101001111100100110

000110110010100010001101001100110010000100010011

Round: 15 1111111110000100101001111100100110

011111110011010100000011011100100

Round: 16 01111110011010100000011011100100

01100101010010101000001011000100

Round: Swap 0110010101010101000001011000100

011111110011010100000011011100100

Data Being Encrypted: 3030303030303030

After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101110001111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

110001111110110100111010111101000

Round: 10 11000111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 000011001000011011010110110100100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

010101111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030303020 After Initial Permutation: 007F000000FF0000

Left Half Right Half Sub Key

0000000001100111110011110110001

Round: 2 0000000001100111110011110110001

01100010011001110100100001001110

Round: 3 01100010011001110100100001001110

00011010001001001101010001101111

Round: 4 00011010001001001101010001101111

00100000010111011010010010011001

Round: 5 00100000010111011010010010011001

01111010010011001000010110110111

Round: 6 01111010010011001000010110110111

11001001111001111000111100001110

Round: 7 11001001111001111000111100001110

00100011100001110010001010011001

Round: 8 00100011100001110010001010011001

10000011011010010011001100010000

Round: 9 10000011011010010011001100010000

10000111001111000001101101010011

Round: 10 10000111001111000001101101010011

101000110011111001011011111001100

Round: 11 10100011001111100101101111001100

10110011100101110001100001110001

Round: 12 10110011100101110001100001110001

001010010110110011011111100101010

Round: 13 00101001011011001101111100101010

011010111100111101011010001000000

Round: 14 01101011100111101011010001000000

11101001000001001110010101000111

000110110010100010001101001100110010000100010011

Round: 15 11101001000001001110010101000111

101101011100010111101000100011000

Round: 16 101101011100010111101000100011000

01010111000101000101000111101011

Round: Swap 010101111000101000101000111101011

101101011100010111101000100011000

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030303031 After Initial Permutation: 00FF008000FF0000

Left Half Right Half Sub Key

00000000101100111110011100110001

Round: 2 0000000010110011111001110011

011100100101111100000110001000011

Round: 3 011100100101111100000110001000011

00101100001100001011101111010011

Round: 4 00101100001100001011101111010011

10001001011010000111101101110001

Round: 5 10001001011010000111101101110001

001111001101111110110110010111111

Round: 6 001111001101111101101100101111111

00010100110011010001101010000000

Round: 7 00010100110011010001101010000000

011100010111110010011010011000101

Round: 8 01110001011110010011010011000101

01110100101111100111111110110111100

Round: 9 0111010010111110011111111011011100

101000010010101011111110000101100

Round: 10 101000010010101011111110000101100

011110100101000111110011110001100

Round: 11 01111010010100011110011110001100

111100111110011111011011010011011

Round: 12 11110011111001111011011010011011

1110100111111001111111010010001001

Round: 13 1110100111111001111111010010001001

01000111011010011010000111011111

Round: 14 01000111011010011010000111011111

001100010000011111100011101001110

000110110010100010001101001100110010000100010011

Round: 15 00110001000001111100011101001110

01100011110011000110011010000110

Round: 16 01100011110011000110011010000110

00100001000100100000101100001100

Round: Swap 00100001000100100000101100001100

01100011110011000110011010000110

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

000000001011001111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

10011000110111001011101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 101010110110100111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

0011001111101110111111110000011100

Round: Swap 001100111110111011111110000011100

11111100100011111111101100001010101

Data Being Encrypted: 3130303030303030 After Initial Permutation: 00FF000100FF0000

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0000000101100111110011110110000

Round: 2 00000000101100111110011110110000

01100010111011001000001001001000

Round: 3 01100010111011001000001001001000

011010101100111111101010001000010

Round: 4 011010101100111111101010001000010

011001001100100111111100100011010

Round: 5 011001001100100111111100100011010

1010110101111000010100101010111000

Round: 6 10101101011100001010010101011000

11110101101011011111100001001111000

Round: 7 11110101101101101111100001001111000

11110110101110110110001000011101

Round: 8 11110110101110110110001000011101

00011110000111101100001111101010

Round: 9 00011110000111101100001111101010

000110110010110011111110001000111

Round: 10 000110110010110011111110001000111

000100101010000100001010111111000

Round: 11 000100101010000100001010111111000

00011000010100101101010100010110

Round: 12 000110000101001011010101010010110

000101100001100010001011101111110

Round: 13 00010110000110001000101110111110

10110100010100110000011010001101

Round: 14 10110100010100110000011010001101

10100100100011100010100000010100

000110110010100010001101001100110010000100010011

Round: 15 10100100100011100010100000010100

00001100110011110110100100101000

Round: 16 00001100110011110110100100101000

11111011011011101010010110011100

Round: Swap 1111101101101101010010110011100

00001100110011110110100100101000

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

0011001011110001111100110100001111

Round: 4 00110010111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 203030303030303030 After Initial Permutation: 00FE000000FF0000 Left Half Right Half Sub Key 0000000101100101110011110110001

Round: 2 00000000101100101110011110110001

11000010011010100001100001001010

Round: 3 11000010011010100001100001001010

10100011100000101100010110101101

Round: 4 10100011100000101100010110101101

01011001101001100000111100100001

Round: 5 01011001101001100000111100100001

011101101111100100010001101001001

Round: 6 01110110111100100010001101001001

100110100001011111111101010110100

Round: 7 100110100001011111111101010110100

01011101000000110011000100100100001

Round: 8 01011101000000110011000100100001

10110010000101110011001111100101

Round: 9 10110010000101110011001111100101

0010110111110001111111100010000111

Round: 10 0010110111110001111111100010000111

00001101100001010110100011101011

Round: 11 00001101100001010110100011101011

11001001101000011110100010100000

Round: 12 11001001101000011110100010100000

00100000100001111001101010101000

Round: 13 00100000100001111001101010101000

000110010101111000000001110101011

Round: 14 000110010101111000000001110101011

110011110000111111110001000011101

000110110010100010001101001100110010000100010011

Round: 15 110011110000111111110001000011101

1111101010001010110110110000000001

Round: 16 111110101000101011010110000000001

01001111110001011110001111110010010

Round: Swap 010011111000101111000111110010010

1111101010001010110101101000000001

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

10011000110111001011101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

10101011011000111101111101101000

Round: 7 101010110110100111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131303030303030

After Initial Permutation: 00FF000300FF0000

Left Half Right Half Sub Key

00000000101100111110011110110010

Round: 2 00000000101100111110011110110010

011010101111011001000001001101000

Round: 3 01101010111011001000001001101000

00101000010001111001000001000010

Round: 4 00101000010001111001000001000010

011011011011011000010100010100000

Round: 5 01101101101011000010100010100000

01100000011000011110011111010000

Round: 6 01100000011000011110011111010000

10011110001100100110110011110011

Round: 7 10011110001100100110110011110011

1001000011101111110010010010111110

Round: 8 100100001110111110010010010111110

10100000001011100110100011110010

Round: 9 10100000001011100110100011110010

01100000101101001001000011110001

Round: 10 01100000101101001001000011110001

000100100001001001010111111100010

Round: 11 0001001000010010010111111100010

011000001100101011111110001010000

Round: 12 011000001100101011111110001010000

11000111000000000011010100011011

Round: 13 1100011100000000001101010101011

00100000000101110000010111001110

Round: 14 00100000000101110000010111001110

01100001011011011010000011110011

000110110010100010001101001100110010000100010011

Round: 15 01100001011011011010000011110011

001101010011110111111101110101111

1100111111001010001100000000010011

Round: Swap 110011111001010001100000000010011

001101010011110111111101110101111

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

0011001011110001111100110100001111

Round: 4 00110010111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

010101111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 302030303030303030 After Initial Permutation: 00FD000000FF0000 Left Half Right Half Sub Key 00000000101100011110011110110001

Round: 2 00000000101100011110011110110001

11100010011011100001100000001010

Round: 3 11100010011011100001100000001010

00100011010100010100001110101111

Round: 4 00100011010100010100001110101111

10000101000011000100010001000011

Round: 5 1000010100001100010001000100011

000111000100101100110000000011011

Round: 6 00011100010010110011000000011011

01000101000101101000110100001101

Round: 7 01000101000101101000110100001101

111100010100110101111110111000011

Round: 8 111100010100110101111110111000011

0011111111010010111000111100010110

Round: 9 0011111111010010111000111100010110

0110110010011111101111110000000111

Round: 10 011011001001111101111100000000111

000100010001101010001011111000011

Round: 11 000100010001101010001011111000011

11000111010100001010001010011100

Round: 12 11000111010100001010001010011100

11111110101110001101001111000110

Round: 13 11111110101110001101001111000110

01101111011011010011001010110111

Round: 14 01101111011011010011001010110111

110011110000011010000010101111001

000110110010100010001101001100110010000100010011

Round: 15 11001111000001101000001010111001

10100000111011001100111101110101

Round: 16 10100000111011001100111101110101

11001010011100110010011000011101

Round: Swap 11001010011100110010011000011101

10100000111011001100111101110101

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 000011001000011011010110110100100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030313131313131 After Initial Permutation: 00FF00FC00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001101

Round: 2 00000000101100111110011101001101

01111010010011000000010001100010

Round: 3 01111010010011000000010001100010

01110101100111011011011001110000

Round: 4 01110101100111011011011001110000

01000100000100001101011110011000

Round: 5 01000100000100001101011110011000

10001111000110100110000001010011

Round: 6 10001111000110100110000001010011

100010001110110101011110000111100

Round: 7 100010001110110101011110000111100

10001110000010110011101110001001

Round: 8 10001110000010110011101110001001

100001111001101011110000101011011

Round: 9 100001111001101011110000101011011

10000011100110100001000110111101

Round: 10 10000011100110100001000110111101

10101110101000011110100011010010

Round: 11 10101110101000011110100011010010

11000000000110101100100001111101

Round: 12 11000000000110101100100001111101

0001111001101001010101010001001001

Round: 13 00011110011010010101010001001001

1001111011111100000100111110011100

Round: 14 1001111011111100000100111110011100

0110010010110101111010000111111100

000110110010100010001101001100110010000100010011

Round: 15 011001001011010111010000111111100

10010100000000011111000110010111

Round: 16 10010100000000011111000110010111

101010100111000110110100111111100

Round: Swap 10101010011100011011010011111100

10010100000000011111000110010111

Data Being Encrypted: 3131313030303030

After Initial Permutation: 00FF000700FF0000

Left Half Right Half Sub Key

00000000101100111110011110110110

Round: 2 00000000101100111110011110110110

011010101111011101000001001001000

Round: 3 01101010111011101000001001001000

101010100100011111001010000000110

Round: 4 10101010010001111001010000000110

00100101100101101010011010001010

Round: 5 00100101100101101010011010001010

00110100000100000110110111000001

Round: 6 00110100000100000110110111000001

000001001111111010110100010110000

Round: 7 000001001111111010110100010110000

00010011001010011100010101100101

Round: 8 00010011001010011100010101100101

10100111111100001000110111111100000

Round: 9 1010011111110000100011011111100000

00110011001011001111011101111111

Round: 10 00110011001011001111011101111111

10011011110000000001001001101011

Round: 11 100110111110000000001001001101011

10011001100101010011000001001100

Round: 12 10011001100101010011000001001100

110000111111100101100000011010111

Round: 13 110000111111100101100000011010111

000101000111110110000101010101011

Round: 14 000101000111110110000101010101011

1100101100100010011111111110010110

000110110010100010001101001100110010000100010011

Round: 15 1100101100100010011111111110010110

00111001111101101010010111011110

Round: 16 00111001111101101010010111011110

0110011101111111111111100010000010

Round: Swap 011001110111111111011100010000010

001110011111011010100101111011110

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

0000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

0011001011110001111100110100001111

Round: 4 00110010111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030203030303030 After Initial Permutation: 00FB000000FF0000 Left Half Right Half Sub Key 000000001011011111110011110110001

Round: 2 000000001011011111110011110110001

11100010001011100001100001001010

Round: 3 11100010001011100001100001001010

00100011010001100100011010101111

Round: 4 00100011010001100100011010101111

00010110010010000111000100000110

Round: 5 00010110010010000111000100000110

01110011100011000101100001000010

Round: 6 01110011100011000101100001000010

10100001000011011001101101001100

Round: 7 10100001000011011001101101001100

00000011110000101111101100011011

Round: 8 00000011110000101111101100011011

11010001101001000000010010011001

Round: 9 11010001101001000000010010011001

0111111100010100011111110001000100

Round: 10 0111111100010100011111110001000100

00010001010110001101010110101111

Round: 11 00010001010110001101010110101111

01001011101000100010001000010011

Round: 12 0100101110100010001000100010011

00000111101100001110111101000101

Round: 13 00000111101100001110111101000101

01100100100011000111010011110010

Round: 14 01100100100011000111010011110010

0001001001010101010000100001010010

000110110010100010001101001100110010000100010011

Round: 15 00010010010101010000100001010010

00011010000110111101110001100001

Round: 16 00011010000110111101110001100001

11001011100110001111001011110010

Round: Swap 11001011100110001111001011110010

00011010000110111101110001100001

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030303031 After Initial Permutation: 00FF008000FF0000

Left Half Right Half Sub Key

00000000101100111110011100110001

Round: 2 00000000101100111110011100110001

011100100101111100000110001000011

Round: 3 011100100101111100000110001000011

00101100001100001011101111010011

Round: 4 00101100001100001011101111010011

10001001011010000111101101110001

Round: 5 10001001011010000111101101110001

0011110011011111101101100101111111

Round: 6 001111001101111101101100101111111

00010100110011010001101010000000

Round: 7 00010100110011010001101010000000

011100010111110010011010011000101

Round: 8 011100010111110010011010011000101

01110100101111100111111110110111100

Round: 9 0111010010111110011111111011011100

101000010010101011111110000101100

Round: 10 101000010010101011111110000101100

011110100101000111110011110001100

Round: 11 01111010010100011110011110001100

111100111110011111011011010011011

Round: 12 11110011111001111011011010011011

1110100111111001111111010010001001

Round: 13 111010011111100111111010010001001

01000111011010011010000111011111

Round: 14 01000111011010011010000111011111

001100010000011111100011101001110

000110110010100010001101001100110010000100010011

Round: 15 00110001000001111100011101001110

01100011110011000110011010000110

Round: 16 01100011110011000110011010000110

00100001000100100000101100001100

Round: Swap 00100001000100100000101100001100

01100011110011000110011010000110

Data Being Encrypted: 3131313130303030

After Initial Permutation: 00FF000F00FF0000

Left Half Right Half Sub Key

000000001011001111100111101111110

Round: 2 00000000101100111110011110111110

01100010111011001000011001101001

Round: 3 01100010111011001000011001101001

01100000111011010101101001000100

Round: 4 01100000111011010101101001000100

0011000001101010101001101010100011

Round: 5 001100000110101010101010101010101

00111100111010001010110011000110

Round: 6 00111100111010001010110011000110

100000001001100101010011111110000

Round: 7 1000000010011001010101011111110000

11011110001111011101101001001111

Round: 8 11011110001111011101101001001111

1111010101111100101111010110001101

Round: 9 111101010111110010111010110001101

0000011111111001001111000011110011

Round: 10 0000011111111001001111000011110011

00001010110011100000100110101111

Round: 11 00001010110011100000100110101111

10010111101110000001110100101000

Round: 12 10010111101110000001110100101000

00001001000100111110110111001111

Round: 13 00001001000100111110110111101111

01000001000100000010100001010000

Round: 14 01000001000100000010100001010000

10010011101001111011110010110010

000110110010100010001101001100110010000100010011

Round: 15 10010011101001111011110010110010

00100000001000011100001100001101

Round: 16 001000000010000111000011010001101

01100011010100100111001110000001

Round: Swap 01100011010100100111001110000001

00100000001000011100001100001101

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

0011001011110001111100110100001111

Round: 4 00110010111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030302030303030 After Initial Permutation: 00F7000000FF0000 Left Half Right Half Sub Key 00000000101110111110011110110001

Round: 2 00000000101110111110011110110001

11100110001011100001100100001010

Round: 3 11100110001011100001100100001010

011100010101001001100010101011110

Round: 4 011100010101001001100010101011110

00011011001000001000101111101000

Round: 5 000110110010000010001011111101000

011000010001101100011111110000011

Round: 6 011000010001101100011111110000011

01111111001010101010111110000000101

Round: 7 01111111001010101010111110000000101

1000011101000000010111111111101100

Round: 8 100001110100000001011111111101100

00110011100110100101101110011101

Round: 9 00110011100110100101101110011101

10001000000100111010010101100010

Round: 10 10001000000100111010010101100010

01100100011100100100111011110110

Round: 11 01100100011100100100111011110110

11101111010101011000000101001101

Round: 12 11101111010101011000000101001101

110100111111101000100110001101011

Round: 13 110100111111101000100110001101011

00101010001110010010001011101000

Round: 14 0010101000111001001001011101000

100111100001111111011001110000001

000110110010100010001101001100110010000100010011

Round: 15 100111100001111111011001110000001

00110010000011000111110001000010

Round: 16 00110010000011000111110001000010

11001001100011101001010001110101

Round: Swap 11001001100011101001010001110101

001100100000110001111110001000010

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303031303031 After Initial Permutation: 00FF009000FF0000

Left Half Right Half Sub Key

00000000101100111110011100100001

Round: 2 00000000101100111110011100100001

01111000010011000000110001100010

Round: 3 01111000010011000000110001100010

01100100101100011011011010000100

Round: 4 01100100101100011011011010000100

11011100100100110110100010111001

Round: 5 11011100100100110110100010111001

11000011010000010100100000110010

Round: 6 11000011010000010100100000110010

00110000110110111101100001101000

Round: 7 00110000110110111101100001101000

0101111110011100010100011011010001

Round: 8 01011111001110001010001101100001

101011111100001100000000100101100

Round: 9 101011111100001100000000100101100

1011111000010100011001111100100101

Round: 10 10111100001010001100111100100101

0001110111111100010111110000000010

Round: 11 0001110111111100010111110000000010

1111101010010011010101010101011101

Round: 12 11111010100100110101010101011101

0111110010001001111100111111000000

Round: 13 01111100100010011110011111000000

1011011110101111100000111100100000

Round: 14 101101111101011110000011100100000

100001101110010010011110001000110

000110110010100010001101001100110010000100010011

Round: 15 10000110111001001001110001000110

00000111011011011111011111111110001

Round: 16 00000111011011011111111111110001

10010000010000101100010010110101

Round: Swap 10010000010000101100010010110101

00000111011011011111011111111110001

Data Being Encrypted: 3131313131303030

After Initial Permutation: 00FF001F00FF0000

Left Half Right Half Sub Key

00000000101100111110011110101110

Round: 2 00000000101100111110011110101110

011010001111111101000111001001001

Round: 3 011010001111111101000111001001001

000101100100110010101111111001000

Round: 4 000101100100110010101111111001000

00001010000001101111100000001101

Round: 5 00001010000001101111100000001101

1111101011010110110100001001101111

Round: 6 1111101011010110110100001001101111

11101000000100000111110111100101

Round: 7 11101000000100000111110111100101

101100111011111110010010001000111

Round: 8 101100111011111110010010001000111

011010101111101100010110011101000

Round: 9 01101010111101100010110011101000

1000000001111101110101010100110100

Round: 10 10000000011111011101010100110100

10000111100001101100000010010111

Round: 11 10000111100001101100000010010111

1001010111101011100111111111101011

Round: 12 100101011110101110011111111101011

10111010110100011000111001000101

Round: 13 10111010110100011000111001000101

00000100001110100001110000111101

Round: 14 00000100001110100001110000111101

110111100111000011011111100100101

000110110010100010001101001100110010000100010011

Round: 15 11011110011100001101111100100101

10110111001110011100011101011001

Round: 16 10110111001110011100011101011001

101100000001011111100001101001110

Round: Swap 10110000000101111100001101001110

10110111001110011100011101011001

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

0011001011110001111100110100001111

Round: 4 00110010111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101110111111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303020303030 After Initial Permutation: 00EF000000FF0000 Left Half Right Half Sub Key 0000000101000111110011110110001

Round: 2 00000000101000111110011110110001

111001100010111110001100101001010

Round: 3 11100110001011111000110010101010

11010000000011100111011010101111

Round: 4 11010000000011100111011010101111

110001100110110010111100011110010

Round: 5 110001100110110010111100011110010

110101110101101111110111001110110

Round: 6 110101110101101111110111001110110

010001010001110111111110010011100

Round: 7 0100010100011101111111100100111100

10111010100110100001010101000001

Round: 8 10111010100110100001010101000001

01010101001001010011001100110111

Round: 9 01010101001001010011001100110111

010100000010001110111001111111101

Round: 10 010100000010001110111001111111101

11011011100101101100010000010100

Round: 11 11011011100101101100010000010100

11010001010011000101000001000011

Round: 12 11010001010011000101000001000011

011011011011100100010010111101000

Round: 13 011011011011100100010010111101000

001100101001000010101111001010100

Round: 14 00110010100100001010111001010100

10001011010000011010100101001101

000110110010100010001101001100110010000100010011

Round: 15 1000101101000001101010010101101

101010110111111010010000011011101

Round: 16 10101011011111010010000011011101

10111100101010100001001010001010

Round: Swap 101111100101010100001001010001010

101010110111111010010000011011101

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

001100101111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

100111101111011001010000011111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000001000111111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3131313031313030

After Initial Permutation: 00FF003700FF0000

Left Half Right Half Sub Key

000000001011001111100111110000110

Round: 2 00000000101100111110011110000110

011000001111111001000101001101000

Round: 3 011000001111111001000101001101000

11001100100001101110000111101000

Round: 4 11001100100001101110000111101000

110110000110111110010100001001110

Round: 5 11011000011011110010100001001110

01010001000001110101110111000000

Round: 6 01010001000001110101110111000000

10000000110000001100010010011010

Round: 7 10000000110000001100010010011010

00010000100001010000011101101101

Round: 8 00010000100001010000011101101101

000111101010101111100111101110111

Round: 9 00011110101010111110011110111

001111001100100110111110010010000

Round: 10 001111001100100110111110010010000

11000110000010011011000100111000

Round: 11 11000110000010011011000100111000

00011101101000100100110110110111

Round: 12 00011101101000100100110110110111

10101001110001110010001101001001

Round: 13 10101001110001110010001101001001

101111010000110011111110000111111

Round: 14 101111010000110011111110000111111

11100101111001001010001100111111

000110110010100010001101001100110010000100010011

Round: 15 11100101111001001010001100111111

0100101111110101111111001001101110

Round: 16 01001011111101011111110010011011110

11100111100000101000110001001000

Round: Swap 11100111100000101000110001001000

01001011111101011111110010011011110

Data Being Encrypted: 3131313030303030 After Initial Permutation: 00FF000700FF0000

Left Half Right Half Sub Key

00000000101100111110011110110110

Round: 2 00000000101100111110011110110110

011010101111011101000001001001000

Round: 3 01101010111011101000001001001000

101010100100011111001010000000110

Round: 4 10101010010001111001010000000110

00100101100101101010011010001010

Round: 5 0010010110010110100011010001010

00110100000100000110110111000001

Round: 6 00110100000100000110110111000001

000001001111111010110100010110000

Round: 7 000001001111111010110100010110000

00010011001010011100010101100101

Round: 8 00010011001010011100010101100101

1010011111110000100011011111100000

Round: 9 1010011111110000100011011111100000

00110011001011001111011101111111

Round: 10 00110011001011001111011101111111

10011011110000000001001001101011

Round: 11 100110111110000000001001001101011

10011001100101010011000001001100

Round: 12 10011001100101010011000001001100

110000111111100101100000011010111

Round: 13 110000111111100101100000011010111

0001010001111110110000101010101011

Round: 14 000101000111110110000101010101011

1100101100100010011111111110010110

000110110010100010001101001100110010000100010011

Round: 15 1100101100100010011111111110010110

00111001111101101010010111011110

Round: 16 00111001111101101010010111011110

0110011101111111111111100010000010

Round: Swap 011001110111111111011100010000010

001110011111011010100101111011110

Data Being Encrypted: 3030303030203030 After Initial Permutation: 00DF000000FF0000 Left Half Right Half Sub Key 0000000100100111110011110110001

Round: 2 00000000100100111110011110110001

0110011001101111000001001010101010

Round: 3 01100110011011100000100101010101

011000001101101111100110100000111

Round: 4 01100000110110111100110100000111

001010110100111111001101101000111

Round: 5 00101011010011111001101101000111

011110001111111001001111111111111101

101011011010011011110000110101001

Round: 7 10101101101001101111000011010101

01010010101100101110101110100001

Round: 8 01010010101100101110101110100001

010100110110101000101010111111111

Round: 9 01010011011010100010101011111111

11100101000010110011011010110001

Round: 10 11100101000010110011011010110001

11010000110001111101100011010111

Round: 11 11010000110001111101100011010111

01000011101010010100110000111001

Round: 12 01000011101010010100110000111001

0011111101011011001101011110001000

Round: 13 00111110101101100110101110001000

01000101001100011100001110110100

Round: 14 01000101001100011100001110110100

10111001001010100001011011101001

000110110010100010001101001100110010000100010011

Round: 15 10111001001010100001011011101001

11000100010101100110011001010010

Round: 16 11000100010101100110011001010010

1010111111100110100111100010001010

Round: Swap 101011111110011010011100010001010

11000100010101100110011001010010

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3031313130303030 After Initial Permutation: 00FF000E00FF0000

Left Half Right Half Sub Key

00000000101100111110011110111111

Round: 2 00000000101100111110011110111111

011010100110110000000110001001011

Round: 3 01101010011011000000110001001011

011000100010101111111011100111001

Round: 4 011000100010101111111011100111001

11000100010011111100001111001111110

Round: 5 11000100010011111100001111001111110

00111000001111010010001101010100

Round: 6 00111000001111010010001101010100

1110101111110110000101111100011101

Round: 7 111010111110110000101111100011101

10000000110111111000110100111001

Round: 8 100000000110111111000110100111001

10011001010000000000011000010011

Round: 9 10011001010000000000011000010011

01101111110000100101101101000111000

Round: 10 011011111100001001011011000111000

001000000100001001001101101100100

Round: 11 0010000000100001001001101100100

011000011111110110011001001001100

Round: 12 011000011111110110011001001001100

00101100001110010000000010111000

Round: 13 00101100001110010000000010111000

10100110100100011000011011000100

Round: 14 10100110100100011000011011000100

101110001010000101110111111110100

000110110010100010001101001100110010000100010011

Round: 15 101110001010000101110111111110100

10111001010011011000110110100100

Round: 16 10111001010011011000110110100100

1011110100100111111001000101111010

Round: Swap 1011110100100111111001000101111010

10111001010011011000110110100100

Data Being Encrypted: 3031313030313131

After Initial Permutation: 00FF00E600FF0000

Left Half Right Half Sub Key

00000000101100111110011101010111

Round: 2 000000001011001111100111101010111

011110100100111100000110001100010

Round: 3 01111010010011100000110001100010

0110010011111100110100110111100010

Round: 4 01100100111110011010011011100010

0110111111010011001100101011111000

Round: 5 011011111010011001100101011111000

111010011010011111100010010011101

Round: 6 11101001101001111100010010011101

011111100111110010111100011111110111

Round: 7 01111100111110010111100011111110111

11010011101110001101000111100010

Round: 8 11010011101110001101000111100010

11001110001100001001010000011000

Round: 9 11001110001100001001010000011000

01010011100111011101001111001000

Round: 10 01010011100111011101001111001000

001111010111000111111110101100001

Round: 11 001111010111000111111110101100001

01010001010010000101110111011100

Round: 12 01010001010010000101110111011100

00111001100110100010000111011111

Round: 13 00111001100110100010000111011111

011111100000100011011000101101101

Round: 14 01111100000100011011000101101101

110101111001000111111000000011111

000110110010100010001101001100110010000100010011

Round: 15 1101011110010001111110000000011111

001111111000010110011110010111011

Round: 16 001111111000010110011110010111011

1101110100101011110000011111000101

Round: Swap 110111010010101111000001111000101

001111111000010110011110010111011

Data Being Encrypted: 3131313130303030 After Initial Permutation: 00FF000F00FF0000

Left Half Right Half Sub Key

00000000101100111110011110111110

Round: 2 00000000101100111110011110111110

01100010111011001000011001101001

Round: 3 01100010111011001000011001101001

01100000111011010101101001000100

Round: 4 01100000111011010101101001000100

0011000001101010101001101010100011

Round: 5 00110000011010101010101010101011

00111100111010001010110011000110

Round: 6 00111100111010001010110011000110

100000001001100101010011111110000

Round: 7 1000000010011001010101011111110000

11011110001111011101101001001111

Round: 8 11011110001111011101101001001111

1111010101111100101111010110001101

Round: 9 111101010111110010111010110001101

0000011111111001001111000011110011

Round: 10 0000011111111001001111000011110011

00001010110011100000100110101111

Round: 11 00001010110011100000100110101111

10010111101110000001110100101000

Round: 12 10010111101110000001110100101000

000010010001001111101101111001111

Round: 13 00001001000100111110110111001111

01000001000100000010100001010000

Round: 14 01000001000100000010100001010000

10010011101001111011110010110010

000110110010100010001101001100110010000100010011

Round: 15 10010011101001111011110010110010

00100000001000011100001100001101

Round: 16 00100000001000011100001100001101

01100011010100100111001110000001

Round: Swap 01100011010100100111001110000001

00100000001000011100001100001101

Data Being Encrypted: 3030303030302030 After Initial Permutation: 00BF000000FF0000 Left Half Right Half Sub Key 00000000111100111110011110110001

Round: 2 00000000111100111110011110110001

011001100110111110000100001001110

Round: 3 01100110011011110000100001001110

11011011111101001110101010100101111

Round: 4 110110111111010011101010101011111

10100000111100001001101101110100

Round: 5 1010000011110000100110110110100

00101010110011101100001000110011

Round: 6 00101010110011101100001000110011

10001100111101001101100110101111

Round: 7 100011001111010011011011011111

Round: 8 010110001000110101101111111011101

1111011111101000001111110110000010

Round: 9 11110111110100000111110110000010

00100100000100010011000111011010

Round: 10 00100100000100010011000111011010

101100001110110001100100101111000

Round: 11 10110000111011000110010010111000

10010100100101101100010100111011

Round: 12 10010100100101101100010100111011

01100011101000110000001100111011

Round: 13 01100011101000110000001100111011

00010011011111011110110010000001

Round: 14 00010011011111011110110010000001

00101001011001101011000111010110

000110110010100010001101001100110010000100010011

Round: 15 00101001011001101011000111010110

111110111111101010001101101110011

Round: 16 111110111111101010001101101110011

01010100110111011001010001111000

Round: Swap 01010100110111011001010001111000

111110111111101010001101101110111

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

111001110111101100101100111110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3030313131313030 After Initial Permutation: 00FF003C00FF0000

Left Half Right Half Sub Key

0000000101100111110011110001101

Round: 2 00000000101100111110011110001101

01101000011011000000010001101010

Round: 3 01101000011011000000010001101010

001100010000011111111100110100001

Round: 4 001100010000011111111100110100001

00101101001100111010011000001000

Round: 5 00101101001100111010011000001000

10010101001101100100011101001100

Round: 6 10010101001101100100011101001100

10001010011010100001100001100101

Round: 7 10001010011010100001100001100101

110010110001011011100110111111110

Round: 8 110010110001011011100110111111110

110001001001101111010101000110010

Round: 9 11000100100110111010101000110010

01001010100110001010000110000111

Round: 10 01001010100110001010000110000111

1111100111111110010000010111110100

Round: 11 1111100111111110010000010111110100

001111001111101111110110101110110

Round: 12 00111100111110111110110101110110

01001000010101010001000110111101

Round: 13 01001000010101010001000110111101

100000010011110111011111100111001

Round: 14 10000001001111011101111100111001

0110101100110111111001111111000110

000110110010100010001101001100110010000100010011

Round: 15 0110101100110111111001111111000110

00011010010101101100010001011000

Round: 16 00011010010101101100010001011000

10101110111111100101010101111100100

Round: Swap 1010111011111110010101010111100100

000110100101011011000100010111000

Data Being Encrypted: 3031313031313131 After Initial Permutation: 00FF00F600FF0000

Left Half Right Half Sub Key

000000001011001111110011101000111

Round: 2 00000000101100111110011101000111

011100000101111100000010001100011

Round: 3 01110000010111100000010001100011

00111101000101001111111111001111100

Round: 4 0011110100010100111111111100111100

111100101001110011110010111010100

Round: 5 111100101001110011110010111010100

1010111010011111110111011111101100

Round: 6 10101110100111111011101111101100

100000101000110111001001111111110

Round: 7 100000101000110111001001111111110

11010011010110111011010010011001

Round: 8 11010011011011011011010010011001

10100101101000010010011001100110

Round: 9 10100101101000010010011001100110

11110100011111011100001100111110

Round: 10 11110100011111011100001100111110

01111010010111011100001010000010

Round: 11 01111010010111011100001010000010

10100010100101101001110000001000

Round: 12 10100010100101101001110000001000

10101000000101000010010110101011

Round: 13 10101000000101000010010110101011

00010011010001110001100010101000

Round: 14 00010011010001110001100010101000

11010101101000101000100111000100

000110110010100010001101001100110010000100010011

Round: 15 11010101101000101000100111000100

00010001001000100010100100001101

Round: 16 00010001001000100010100100001101

11000001100100110100011101111011

Round: Swap 11000001100100110100011101111011

00010001001000100010100100001101

Data Being Encrypted: 3131313131313030 After Initial Permutation: 00FF003F00FF0000

Left Half Right Half Sub Key

0000000101100111110011110001110

Round: 2 00000000101100111110011110001110

01101000111011101000111001001000

Round: 3 01101000111011101000111001001000

1001101001001111110110100101011110

Round: 4 100110100100111110110100101011110

00010000010000001101011010010110

Round: 5 00010000010000001101011010010110

1111010010101011111100010101011111

Round: 6 1111010010101011111100010101011111

0010000101010110111110010101110000

Round: 7 00100001010101101111001010110000

000001101011001111001011010110101

Round: 8 00000110101100111100101101011001

11001101110011000100100100111101

Round: 9 11001101110011000100100100111101

110101100100111110011010100000110

Round: 10 110101100100111110011010100000110

00001000001110110110101000100000

Round: 11 00001000001110110110101000100000

101001100100111111101000001111010

Round: 12 101001100100111111101000001111010

100100010101011111010010110001101

Round: 13 10010001010101111010010110001101

111110000101110010011111101001101

Round: 14 11111000010111001001111101001101

00010001101100001110001100100000

000110110010100010001101001100110010000100010011

Round: 15 00010001101100001110001100100000

001011101111010001001111000101111

Round: 16 00101110111101000100111000101111

111011001011110000110001111011110

Round: Swap 111011001011110000110001111011110

00101110111101000100111000101111

Data Being Encrypted: 3030303030303020 After Initial Permutation: 007F000000FF0000 Left Half Right Half Sub Key 0000000001100111110011110110001

Round: 2 00000000001100111110011110110001

01100010011001110100100001001110

Round: 3 01100010011001110100100001001110

00011010001001001101010001101111

Round: 4 00011010001001001101010001101111

00100000010111011010010010011001

Round: 5 00100000010111011010010010011001

01111010010011001000010110110111

Round: 6 01111010010011001000010110110111

1100100111100111110001111100001110

Round: 7 11001001111001111000111100001110

00100011100001110010001010011001

Round: 8 00100011100001110010001010011001

10000011011010010011001100010000

Round: 9 10000011011010010011001100010000

10000111001111000001101101010011

Round: 10 10000111001111000001101101010011

1010001100111111001011011111001100

Round: 11 1010001100111111001011011111001100

10110011100101110001100001110001

Round: 12 10110011100101110001100001110001

001010010110110011011111100101010

Round: 13 001010010110110011011111100101010

01101011100111101011010001000000

Round: 14 01101011100111101011010001000000

11101001000001001110010101000111

000110110010100010001101001100110010000100010011

Round: 15 11101001000001001110010101000111

1011010111100010111101000100011000

Round: 16 101101011100010111101000100011000

01010111000101000101000111101011

Round: Swap 01010111000101000101000111101011

101101011100010111101000100011000

Data Being Encrypted: 3030303030303030 After Initial Permutation: 00FF000000FF0000

Left Half Right Half Sub Key

00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

011000100110111100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

1100111011010111100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 100111101111011001010000011111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

1100011111110110100111010111101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 000000000000100011111111000010011

1111011001100110101111011111111100

Round: 12 111101100110011010111011111111100

00001100100001101101011011000100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

00100100010111011110001000101110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 3031313131313131 After Initial Permutation: 00FF00FE00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001111

Round: 2 00000000101100111110011101001111

01110010010011000000010001000010

Round: 3 01110010010011000000010001000010

00110101000101011011000001100011

Round: 4 00110101000101011011000001100011

010110100100101010101011111001101

Round: 5 01011010010010101010101111001101

010011100001111110000101001011111

Round: 6 01001110000111110000101001011111

1110010111101010110011011011010101

Round: 7 11100101111010101100110110101001

000101001111100011001111011000011

Round: 8 00010100111100011001111011000011

001111011101100010101010111000001

Round: 9 001111011101100010101010101000001

01100100000011001000100101000000

Round: 10 01100100000011001000100101000000

011100111101001000001011111111001

Round: 11 011100111101001000001011111111001

011011100100111101000110111101111

Round: 12 01101110010011101000110111101111

00011010100010001001110010111101

Round: 13 00011010100010001001110010111101

11000001100011000010101110110011

Round: 14 11000001100011000010101110110011

010100001111011011011001101111100

000110110010100010001101001100110010000100010011

Round: 15 01010000111101101101100110111100

0011111100111111000000100110101101

Round: 16 001111100111111000000100110101101

11010010000000101011001110011010

Round: Swap 11010010000000101011001110011010

0011111100111111000000100110101101

Data Being Encrypted: 3131303131313131

After Initial Permutation: 00FF00FB00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001010

Round: 2 00000000101100111110011101001010

01110010110011001000011001100000

Round: 3 01110010110011001000011001100000

01101000011101001101110110000111

Round: 4 01101000011101001101110110000111

111111010011110010010011011101101

Round: 5 111111010011110010010011011101101

000110110111000101111110011010111

Round: 6 00011011011100010111110011010111

0111010100110011111001010111100111

Round: 7 011101010011001111001010111100111

00110110001001001011000011110010

Round: 8 00110110001001001011000011110010

000110010111111010010100010110000

Round: 9 000110010111111010010100010110000

0110111111111111100111111000011100

Round: 10 0110111111111111100111111000011100

001110100111111110010000101101111

Round: 11 001110100111111110010000101101111

001111111000000001100010000000001

Round: 12 001111111000000001100010000000001

11111111100000011111100000101011111

Round: 13 11111111100000011111100000101011111

001111100111010111101111101011110

Round: 14 00111110011101011110111101011110

111000010001011111110110000010011

000110110010100010001101001100110010000100010011

Round: 15 111000010001011111110110000010011

100110101000111111011100110011111

Round: 16 10011010100011111011100110011111

0101001001110101100111111001111110

Round: Swap 01010010011101011001111100111110

100110101000111111011100110011111

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

10011000110111001011101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

10101011011000111101111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 0111001110011100011011110110100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

001000000110101011110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 303030303030303030 After Initial Permutation: 00FF000000FF0000 Left Half Right Half Sub Key 00000000101100111110011110110001

Round: 2 00000000101100111110011110110001

01100010011011100000100001001010

Round: 3 01100010011011100000100001001010

00110010111000111100110100001111

Round: 4 001100101111000111100110100001111

10100101000111001000011101000001

Round: 5 10100101000111001000011101000001

10001111011010101000011101010101

Round: 6 10001111011010101000011101010101

110011101101011100110101111001000

Round: 7 11001110110101110011010111001000

10011110111101100101000001111111

Round: 8 10011110111101100101000001111111

11100111011110110010110011110011

Round: 9 11100111011110110010110011110011

110001111111011010011101011101000

Round: 10 110001111111011010011101011101000

000000000000100011111111000010011

Round: 11 0000000000000100011111111000010011

11110110011001101011110111111111100

Round: 12 111101100110011010111011111111100

000011001000011011010110110100100

Round: 13 00001100100001101101011011000100

10000100000100111100111010111111

Round: 14 10000100000100111100111010111111

11010010111001010001000110100110

000110110010100010001101001100110010000100010011

Round: 15 11010010111001010001000110100110

001001000101110111100010001011110

Round: 16 00100100010111011110001000101110

01010111101001110001101001001000

Round: Swap 01010111101001110001101001001000

00100100010111011110001000101110

Data Being Encrypted: 2030303030303030 After Initial Permutation: 00FE000000FF0000

Left Half Right Half Sub Key

00000000101100101110011110110001

Round: 2 00000000101100101110011110110001

11000010011010100001100001001010

Round: 3 11000010011010100001100001001010

10100011100000101100010110101101

Round: 4 10100011100000101100010110101101

01011001101001100000111100100001

Round: 5 01011001101001100000111100100001

011101101111100100010001101001001

Round: 6 01110110111100100010001101001001

100110100001011111111101010110100

Round: 7 100110100001011111111101010110100

01011101000000110011000100100100001

Round: 8 01011101000000110011000100100001

10110010000101110011001111100101

Round: 9 10110010000101110011001111100101

0010110111110001111111100010000111

Round: 10 001011011110001111111100010000111

00001101100001010110100011101011

Round: 11 00001101100001010110100011101011

11001001101000011110100010100000

Round: 12 11001001101000011110100010100000

00100000100001111001101010101000

Round: 13 00100000100001111001101010101000

000110010101111000000001110101011

Round: 14 000110010101111000000001110101011

110011110000111111110001000011101

000110110010100010001101001100110010000100010011

Round: 15 110011110000111111110001000011101

1111101010001010110101101000000001

Round: 16 11111010100010101101011000000001

01001111110001011110001111110010010

Round: Swap 010011111000101111000111110010010

1111101010001010110101101000000001

Data Being Encrypted: 3030313131313131 After Initial Permutation: 00FF00FC00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001101

Round: 2 00000000101100111110011101001101

01111010010011000000010001100010

Round: 3 01111010010011000000010001100010

01110101100111011011011001110000

Round: 4 01110101100111011011011001110000

01000100000100001101011110011000

Round: 5 01000100000100001101011110011000

10001111000110100110000001010011

Round: 6 10001111000110100110000001010011

100010001110110101011110000111100

Round: 7 100010001110110101011110000111100

10001110000010110011101110001001

Round: 8 10001110000010110011101110001001

100001111001101011110000101011011

Round: 9 10000111100110101110000101011011

10000011100110100001000110111101

Round: 10 10000011100110100001000110111101

10101110101000011110100011010010

Round: 11 10101110101000011110100011010010

11000000000110101100100001111101

Round: 12 11000000000110101100100001111101

0001111001101001010101010001001001

Round: 13 00011110011010010101010001001001

1001111011111100000100111110011100

Round: 14 1001111011111100000100111110011100

0110010010110101111010000111111100

000110110010100010001101001100110010000100010011

Round: 15 011001001011010111010000111111100

100101000000000111111000110010111

Round: 16 10010100000000011111000110010111

101010100111000110110100111111100

Round: Swap 10101010011100011011010011111100

10010100000000011111000110010111

Data Being Encrypted: 3131313131313131

After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

10011000110111001011101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

10101011011000111101111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 0111001110011100011011110110100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 00111000000010001001001001101110

001000000110101011110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313030 After Initial Permutation: 00FF003F00FF0000 Left Half Right Half Sub Key 00000000101100111110011110001110

Round: 2 00000000101100111110011110001110

01101000111011101000111001001000

Round: 3 01101000111011101000111001001000

1001101001001111110110100101011110

Round: 4 100110100100111110110100101011110

00010000010000001101011010010110

Round: 5 00010000010000001101011010010110

1111010010101011111100010101011111

Round: 6 1111010010101011111100010101011111

0010000101010110111110010101110000

Round: 7 001000010101011011110010101010000

000001101011001111001011010110101

Round: 8 00000110101100111100101101011001

11001101110011000100100100111101

Round: 9 11001101110011000100100100111101

110101100100111110011010100000110

Round: 10 110101100100111110011010100000110

00001000001110110110101000100000

Round: 11 00001000001110110110101000100000

1010011001001111111010000011111010

Round: 12 101001100100111111101000001111010

100100010101011111010010110001101

Round: 13 100100010101011111010010110001101

11111100001011110010011111101001101

Round: 14 111110000101111001001111101001101

00010001101100001110001100100000

000110110010100010001101001100110010000100010011

Round: 15 00010001101100001110001100100000

00101110111101000100111000101111

Round: 16 00101110111101000100111000101111

111011001011110000110001111011110

Round: Swap 111011001011110000110001111011110

00101110111101000100111000101111

Data Being Encrypted: 3020303030303030 After Initial Permutation: 00FD000000FF0000

Left Half Right Half Sub Key

00000000101100011110011110110001

Round: 2 00000000101100011110011110110001

111000100110111100001100000001010

Round: 3 11100010011011100001100000001010

00100011010100010100001110101111

Round: 4 00100011010100010100001110101111

10000101000011000100010001000011

Round: 5 1000010100001100010001000100011

000111000100101100110000000011011

Round: 6 00011100010010110011000000011011

01000101000101101000110100001101

Round: 7 01000101000101101000110100001101

111100010100110101111110111000011

Round: 8 11110001010011010111110111000011

0011111111010010111000111100010110

Round: 9 0011111111010010111000111100010110

0110110010011111101111110000000111

Round: 10 01101100100111110111110000000111

00010001000110101000101111000011

Round: 11 00010001000110101000101111000011

11000111010100001010001010011100

Round: 12 11000111010100001010001010011100

1111111101011100011010011111000110

Round: 13 11111110101110001101001111000110

01101111011011010011001010110111

Round: 14 01101111011011010011001010110111

11001111000001101000001010111001

000110110010100010001101001100110010000100010011

Round: 15 11001111000001101000001010111001

10100000111011001100111101110101

Round: 16 10100000111011001100111101110101

11001010011100110010011000011101

Round: Swap 11001010011100110010011000011101

10100000111011001100111101110101

Data Being Encrypted: 3030303131313131 After Initial Permutation: 00FF00F800FF0000

Left Half Right Half Sub Key

0000000101100111110011101001001

Round: 2 00000000101100111110011101001001

011100100100111100000110001100010

Round: 3 01110010010011100000110001100010

00100100011100011010010011101100

Round: 4 00100100011100011010010011101100

11111110100001111111110010000100101

Round: 5 111111010000111111110010000100101

01010011011100110001110110011001

Round: 6 01010011011100110001110110011001

10000100101110011100011011100100

Round: 7 10000100101110011100011011100100

111010111110010010000001001111000

Round: 8 11101011110010010000001001111000

000001000101001111111011001100011

Round: 9 00000100010100111111011001100011

0101110010001011110001111111001001

Round: 10 010111001000101110001111111001001

111011110001011000010111111100010

Round: 11 111011110001011000010111111100010

11111100010111100000111100011011010

Round: 12 11111000101110000011100011011010

11010110011001101001101100011101

Round: 13 11010110011001101001101100011101

110001011110100111101011110100110

Round: 14 110001011111010011110101110100110

010100100000000000000101111111110

000110110010100010001101001100110010000100010011

Round: 15 010100100000000000000101111111110

0010000101101011111100101111110100

Round: 16 0010000101101011111100101111110100

01011101010010000100011100011101

Round: Swap 01011101010010000100011100011101

0010000101101011111100101111110100

Data Being Encrypted: 3131313131313131

After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3031313131313131 After Initial Permutation: 00FF00FE00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001111

Round: 2 00000000101100111110011101001111

01110010010011000000010001000010

Round: 3 0111001001001100000001000100010

00110101000101011011000001100011

Round: 4 00110101000101011011000001100011

010110100100101010101011111001101

Round: 5 01011010010010101010101111001101

010011100001111110000101001011111

Round: 6 01001110000111110000101001011111

1110010111101010110011011011010101

Round: 7 1110010111101010110011011010101

000101001111100011001111011000011

Round: 8 00010100111100011001111011000011

001111011101100010101010111000001

Round: 9 001111011101100010101010101000001

01100100000011001000100101000000

Round: 10 01100100000011001000100101000000

011100111101001000001011111111001

Round: 11 011100111101001000001011111111001

011011100100111101000110111101111

Round: 12 01101110010011101000110111101111

00011010100010001001110010111101

Round: 13 00011010100010001001110010111101

110000011000110000101011110110011

Round: 14 11000001100011000010101110110011

010100001111011011011001101111100

000110110010100010001101001100110010000100010011

Round: 15 01010000111101101101100110111100

0011111100111111000000100110101101

Round: 16 001111100111111000000100110101101

11010010000000101011001110011010

Round: Swap 11010010000000101011001110011010

0011111100111111000000100110101101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000 Left Half Right Half Sub Key 00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131203030303030 After Initial Permutation: 00FB000300FF0000

Left Half Right Half Sub Key

000000001011011111110011110110010

Round: 2 000000001011011111110011110110010

11101010101011001001001001101000

Round: 3 11101010101011001001001001101000

00011101111001100011101001100010

Round: 4 00011101111001100011101001100010

00111011111100101111111111000100001

Round: 5 0011101111110010111111111000100001

11011110010010110110101000011011

Round: 6 11011110010010110110101000011011

11101010010100110001110111010111

Round: 7 11101010010100110001110111010111

100100110111111001100010001000111

Round: 8 100100110111111001100010001000111

011010000111111001101110101001000

Round: 9 01101000011111001101110101001000

011100011011111100010010000111101

Round: 10 01110001101111100010010000111101

1111010011110010101010100100110001

Round: 11 111101001111100101010100100110001

0001100110100011111000011011111101

Round: 12 00011001101000111100001101111101

00000011000100100111101101000001

Round: 13 00000011000100100111101101000001

110011101010011111101110000000100

Round: 14 11001110101001111101110000000100

111000101011001101101110000000001

000110110010100010001101001100110010000100010011

Round: 15 111000101011001101101110000000001

00010110011010101101001001101100

Round: 16 00010110011010101101001001101100

00100000000111101000101110010000

Round: Swap 00100000000111101000101110010000

00010110011010101101001001101100

Data Being Encrypted: 3030303031313131 After Initial Permutation: 00FF00F000FF0000

Left Half Right Half Sub Key

00000000101100111110011101000001

Round: 2 00000000101100111110011101000001

01111000010111000000110001100011

Round: 3 01111000010111000000110001100011

111011001111000000111111110100010

Round: 4 1110110011111000000111111110100010

11111001100011010000110101001111

Round: 5 11111001100011010000110101001111

100101011111001111111111011111100111

Round: 6 1001010111110011111111101111100111

10000001010000001010111011010000

Round: 7 10000001010000001010111011010000

1101000001011011111101001111111110

Round: 8 1101000001011011111101001111111110

100010001111000110101001111000111

Round: 9 100010001111000110101010111000111

010110110001010111101001010101101

Round: 10 01011011000101011101001010101101

10100001101110010100000111110110

Round: 11 10100001101110010100000111110110

111101111001101111111010100111011

Round: 12 111101111001101111111010100111011

00000010000101100001011010110011

Round: 13 00000010000101100001011010110011

111001001011001011010111110101010

Round: 14 111001001011001011010111110101010

00100001101100100110011001000100

000110110010100010001101001100110010000100010011

Round: 15 00100001101100100110011001000100

111100011001111001101110111111011

Round: 16 11110001100111100110111111111111

1101111111101111111001100110001100

Round: Swap 110111111110111111001100110001100

11110001100111100110111011111011

Data Being Encrypted: 3131313131313131

After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

000000001011001111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313130313131 After Initial Permutation: 00FF00EF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101011110

Round: 2 00000000101100111110011101011110

01110000110011001000011001100001

Round: 3 01110000110011001000011001100001

0110000001111111010011111110000001

Round: 4 0110000001111111010011111110000001

00110010100100110100010100001100

Round: 5 00110010100100110100010100001100

111011110011011011101111110111100

Round: 6 11101111001101101110111110111100

11101100000011000110000111100000

Round: 7 11101100000011000110000111100000

01101111111111010110000011011110010

Round: 8 011011111111101011000001101110010

1011000110011111110110010101010101

Round: 9 1011000110011111110110010101010101

10101011001110000001101101001101

Round: 10 10101011001110000001101101001101

00010001110000101001011000101001

Round: 11 00010001110000101001011000101001

11010010100001011010000011100110

Round: 12 11010010100001011010000011100110

0010110110101101101111000000010111

Round: 13 001011011011011011011100000010111

10101010111111111111001001011111101

Round: 14 1010101011111111111001001011111101

10110101001111011101001000010001

000110110010100010001101001100110010000100010011

Round: 15 10110101001111011101001000010001

00100110000001000010111100011110

Round: 16 00100110000001000010111100011110

111110110100010111110010011010011

Round: Swap 11111011010001011110010011010011

00100110000001000010111100011110

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000 Left Half Right Half Sub Key 00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

000100101111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131312030303030 After Initial Permutation: 00F7000700FF0000

Left Half Right Half Sub Key

000000001011101111110011110110110

Round: 2 00000000101110111110011110110110

111011101010111101001001100001000

Round: 3 11101110101011101001001100001000

110011011101001001111101000111111

Round: 4 11001101110100100111101000111111

010101111011001110101111111010101

Round: 5 010101111011001110101111111010101

000011100111111100000010011110111

Round: 6 000011100111111100000010011110111

01001111011000001110011010011010

Round: 7 01001111011000001110011010011010

001100100101100110011101111110110

Round: 8 001100100101100110011101111110110

10011101000100010010100110110100

Round: 9 10011101000100010010100110110100

1011111111100101011111010100000001

Round: 10 1011111111100101011111010100000001

11110101011010001101000001011011

Round: 11 11110101011010001101000001011011

110110001100001101111111000101100

Round: 12 110110001100001101111111000101100

01111101010011110110100010010010010

Round: 13 0111110101001110110100010010010

101110101111111010001110101001001

Round: 14 101110101111111010001110101001001

10000100000010100011110101010101

000110110010100010001101001100110010000100010011

Round: 15 10000100000010100011110101010101

001101111100011001001101000001110

Round: 16 00110111100011001001101000001110

11110011111110101001101111111100000

Round: Swap 11110011111110101001101111111100000

001101111100011001001101000001110

Data Being Encrypted: 3030303030313131 After Initial Permutation: 00FF00E000FF0000

Left Half Right Half Sub Key

00000000101100111110011101010001

Round: 2 00000000101100111110011101010001

011100100100111100000110001000010

Round: 3 01110010010011100000110001000010

00100100011100011010000011110101

Round: 4 00100100011100011010000011110101

111101010011111010100000000100111

Round: 5 111101010011110101000000000100111

001001110111110001011000111011110

Round: 6 00100111011110001011000111011110

101000010001111111010110111011100

Round: 7 101000010001111111010110111011100

01010001010100010011101001000010

Round: 8 01010001010100010011101001000010

0111001011111100101010101110000101

Round: 9 011100101111110010101010110000101

1010110000001100010101010101011111

Round: 10 10101100000011000101010101011011

011111011001101101100000101111100

Round: 11 011111011001101101100000101111100

11110101100001000101001110100100

Round: 12 11110101100001000101001110100100

01011111100101111000111110100001110

Round: 13 0101111110010111100011110100001110

11010011011001110101100110011011

Round: 14 11010011011001110101100110011011

00101001000110111011100111101101

000110110010100010001101001100110010000100010011

Round: 15 00101001000110111011100111101101

00101010101001111111010110110100110

Round: 16 00101010101111111010110110100110

0100110010011111111100011101110101

Round: Swap 010011001001111111100011101110101

001010101001111111010110110100110

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

10011000110111001011101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

10101011011000111101111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 0111001110011100011011110110100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 00111000000010001001001001101110

001000000110101011110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000 Left Half Right Half Sub Key 00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313120303030 After Initial Permutation: 00EF000F00FF0000

Left Half Right Half Sub Key

00000000101000111110011110111110

Round: 2 00000000101000111110011110111110

111001101010110110010111101101001

Round: 3 11100110101011011001011101101001

0111011111100010010100100101011111

Round: 4 0111011111100010010100100101011111

10100010001000100011111010101001

Round: 5 10100010001000100011111010101001

01011100000011101001101000001000

Round: 6 01011100000011101001101000001000

111000001000100101111110001000111

Round: 7 111000001000100101111110001000111

0001100011001010010111111111000101

Round: 8 0001100011001010010111111111000101

00100011010111100110111111111001100

Round: 9 0010001101011110011011111111001100

101101000010001011111001010100110

Round: 10 101101000010001011110010101010110

01000111010001111011100000001110

Round: 11 01000111010001111011100000001110

01001001000001011000110000000010

Round: 12 01001001000001011000110000000010

000010101011111011101000110100110

Round: 13 00001010101111011101000110100110

10110010000011001010010000001000

Round: 14 10110010000011001010010000001000

001110011011001110110110111111001

000110110010100010001101001100110010000100010011

Round: 15 001110011011001110110110111111001

00111100101100100100001110011011

Round: 16 00111100101100100100001110011011

01010010000111001100010010100010

Round: Swap 01010010000111001100010010100010

00111100101100100100001110011011

Data Being Encrypted: 3030303030303131 After Initial Permutation: 00FF00C000FF0000

Left Half Right Half Sub Key

00000000101100111110011101110001

Round: 2 00000000101100111110011101110001

01110000010011100000100001000010

Round: 3 01110000010011100000100001000010

00110100011100011100000011001101

Round: 4 00110100011100011100000011001101

10111100001001011000111010010101

Round: 5 10111100001001011000111010010101

11001110010110011001110000100010

Round: 6 11001110010110011001110000100010

00111111010010011011110100111110110

Round: 7 00111110100100110111010011110110

1110101011111101111101001101110100

Round: 8 1110101011111101111101001101110100

00101010000000000001110111101101

Round: 9 00101010000000000001110111101101

001110101010010010000101111110000

Round: 10 001110101010010010000101111110000

111000111100111001010111110110010

Round: 11 1110001111001111001010111110110010

11111110010000011010110100100101

Round: 12 11111110010000011010110100100101

10111111111111111101000001111101001

Round: 13 10111111111111111101000001111101001

0011111101001111100000111001110110

Round: 14 00111110100111100000111001110110

01010110110100000110100110111001

000110110010100010001101001100110010000100010011

Round: 15 01010110110100000110100110111001

1001010011110010001111110101110110

Round: 16 10010100111001000111110101110110

0101111111010000000110101010101011

Round: Swap 010111111101000000011010101010111

1001010011110010001111110101110110

Data Being Encrypted: 3131313131313131

After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

10011000110111001011101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

10101011011000111101111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 0111001110011100011011110110100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

001000000110101011110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000 Left Half Right Half Sub Key 00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131203030 After Initial Permutation: 00DF001F00FF0000

Left Half Right Half Sub Key

00000000100100111110011110101110

Round: 2 00000000100100111110011110101110

011011001111111101000111101001001

Round: 3 0110110011111111010001111101001001

000001000101010011101111111000000

Round: 4 000001000101010011101111111000000

111000011000100111110000001101010

Round: 5 11100001100010011110000001101010

11101101110111010011110111001101

Round: 6 11101101110111010011110111001101

10110110101111111100001010011111000

Round: 7 1011011010111111100001010011111000

011101110111111111111110000000000111

Round: 8 0111011101111111110111000000000111

01100111101011001011011010011101

Round: 9 01100111101011001011011010011101

01001011100111001000010000010110

Round: 10 01001011100111001000010000010110

0011111101010000100001111111100101

Round: 11 001111101010000100001111111100101

00011010011000100110001101000111

Round: 12 00011010011000100110001101000111

01001011010011011101010110010001

Round: 13 0100101101001101110101010010001

01110001100110100000000001100001

Round: 14 01110001100110100000000001100001

01100000110101010100000101100110

000110110010100010001101001100110010000100010011

Round: 15 01100000110101010100000101100110

01111000000011001000101111000010

Round: 16 01111000000011001000101111000010

00010110100011001100010011011001

Round: Swap 00010110100011001100010011011001

01111000000011001000101111000010

Data Being Encrypted: 3030303030303031 After Initial Permutation: 00FF008000FF0000

Left Half Right Half Sub Key

0000000101100111110011100110001

Round: 2 00000000101100111110011100110001

011100100101111100000110001000011

Round: 3 011100100101111100000110001000011

00101100001100001011101111010011

Round: 4 00101100001100001011101111010011

10001001011010000111101101110001

Round: 5 10001001011010000111101101110001

0011110011011111101101100101111111

Round: 6 001111001101111101101100101111111

00010100110011010001101010000000

Round: 7 00010100110011010001101010000000

011100010111110010011010011000101

Round: 8 011100010111110010011010011000101

01110100101111100111111110110111100

Round: 9 0111010010111110011111111011011100

101000010010101011111110000101100

Round: 10 101000010010101011111110000101100

011110100101000111110011110001100

Round: 11 01111010010100011110011110001100

111100111110011111011011010011011

Round: 12 11110011111001111011011010011011

1110100111111001111111010010001001

Round: 13 111010011111100111111010010001001

01000111011010011010000111011111

Round: 14 01000111011010011010000111011111

001100010000011111100011101001110

000110110010100010001101001100110010000100010011

Round: 15 00110001000001111100011101001110

01100011110011000110011010000110

Round: 16 01100011110011000110011010000110

00100001000100100000101100001100

Round: Swap 00100001000100100000101100001100

01100011110011000110011010000110

Data Being Encrypted: 3131313131313131

After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000

Left Half Right Half Sub Key

00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

10011000110111001011101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

10101011011000111101111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 0111001110011100011011110110100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

0001001011111001001011111100011111

Round: 11 000100101111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

001000000110101011110100010110011

000110110010100010001101001100110010000100010011

Round: 15 001000000110101011110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131313131 After Initial Permutation: 00FF00FF00FF0000 Left Half Right Half Sub Key 00000000101100111110011101001110

Round: 2 00000000101100111110011101001110

01111010110011101000111001000000

Round: 3 01111010110011101000111001000000

100110001101110010111101101001010

Round: 4 10011000110111001011101101001010

11001111010110011100111000010111

Round: 5 11001111010110011100111000010111

11110101100001011011101001001111

Round: 6 11110101100001011011101001001111

101010110110001111011111101101000

Round: 7 10101011011000111101111101101000

01110011100111000110111101101100

Round: 8 01110011100111000110111101101100

00101101000000001001110110001101

Round: 9 00101101000000001001110110001101

01000010110101100010110011101100

Round: 10 01000010110101100010110011101100

000100101111100100101111111000111111

Round: 11 0001001011111001001011111100011111

0111001000011111110001011111110110

Round: 12 0111001000011111110001011111110110

000000110110101010111100110010111

Round: 13 000000110110101010111100110010111

00111000000010001001000101101110

Round: 14 0011100000001000100100101101110

00100000011010101110100010110011

000110110010100010001101001100110010000100010011

Round: 15 00100000011010101110100010110011

111110010001111111101100001010101

Round: 16 111110010001111111101100001010101

00110011111011101111111100000111100

Round: Swap 001100111110111011111110000011100

111110010001111111101100001010101

Data Being Encrypted: 3131313131312D2D After Initial Permutation: 003FC0FF00FFC000

Left Half Right Half Sub Key

101000000111011100110111111001110

Round: 2 10100000011101110011011111001110

01101011000100100001001110100101

Round: 3 01101011000100100001001110100101

001101101110011001000110101111101

Round: 4 00110110111001100100011010111101

1101110101100110111110000111101110

Round: 5 110111010110011011111000011101110

11001101010000101110111000000001

Round: 6 11001101010000101110111000000001

01011001000100001111010000100110

Round: 7 01011001000100001111010000100110

01110001001110001001101110001011

Round: 8 01110001001110001001101110001011

101111110011001010000000111010011

Round: 9 101111110011001010000000111010011

100011110010111111011001010010011

Round: 10 10001111001011111011001010010011

11011010101010100110111010000010

Round: 11 110110101010101010110111010000010

110010010010100001010111110011001

Round: 12 11001001001010000101011110011001

10101010110101100001101100101111

Round: 13 10101010110101100001101100101111

10111001101001011101101000010100

Round: 14 10111001101001011101101000010100

0101111110010010101111010100100010

000110110010100010001101001100110010000100010011

Round: 15 01011111001001010111101010010010

001111110010010100011101000001010

Round: 16 00111110010010100011101000001010

11000000010100101011011101000011

Round: Swap 110000000101001011011101101000011

001111110010010100011101000001010

Hasil enkrip dalam bentuk biner =

Hasil enkrip dalam bentuk hexa =

705EF227649A6918705EF227649A6918068FEBDB31F66D71705EF227649A6918 705EF227649A691856FD4CF48980C8BD705EF227649A6918F21D0A954357CED 16C70B5FB415E7865705EF227649A69181B5C2F6913B67AE8705EF227649A691 8B0BB420779C4F6B1EB4BF26AB9AE4C5A705EF227649A691862E508F8BD074 F5D705EF227649A69186E45F327C61A8B21F8117AEDC1D324CF705EF227649A 691841923D788D894B54705EF227649A69183DB67FF8318B453E08A628F30CA6 438B705EF227649A6918A29562F366F822D3705EF227649A69183DB67FF8318B 453EF59E56E2ECBBF8E0705EF227649A6918506BF855264CBAD1705EF227649 A6918705EF227649A6918CACDC1897A31542B705EF227649A6918BA8A7499FF A3F3B4705EF227649A6918705EF227649A691840BCCBB080E2F307705EF22764 9A6918ED41F003DE816DA9705EF227649A6918C49E2B2510C8A822E27037BD EFD49E9C6C70B5FB415E7865705EF227649A691856FD4CF48980C8BD705EF22 7649A6918E27037BDEFD49E9CEB4BF26AB9AE4C5A705EF227649A69181B5C 2F6913B67AE8705EF227649A69183A4287419F5D19CFD8737A96B6FC722F705 EF227649A691862E508F8BD074F5D705EF227649A6918C49E2B2510C8A8226F5 C020214E45C09705EF227649A691841923D788D894B54705EF227649A6918AB9

8AD28432B3E4FBE9D9923F2E00FCC705EF227649A6918A29562F366F822D370
5EF227649A6918705EF227649A6918E0FA46A7086AEB7CD8737A96B6FC722F5
06BF855264CBAD1705EF227649A6918F8117AEDC1D324CFF7B6C9FACA9A41
476F5C020214E45C09BA8A7499FFA3F3B4705EF227649A691804E079D6B2553
B5DDF35060B91294550068FEBDB31F66D71ED41F003DE816DA9705EF227649
A69180ED5A2ABE5A660473EE737AFDF1950AEE27037BDEFD49E9C705EF227
649A691856FD4CF48980C8BD3A4287419F5D19CFE27037BDEFD49E9CE27037
BDEFD49E9C068FEBDB31F66D711B5C2F6913B67AE8ED244F7143AA7E0AE2
7037BDEFD49E9C0ED5A2ABE5A66047E27037BDEFD49E9C04BC923699622A0
DD67A797FF68ADAF7E27037BDEFD49E9C59CBBE4A43CC5545E27037BDEF
D49E9CD4CEB62ADCD551793DB67FF8318B453EE27037BDEFD49E9CE27037
BDEFD49E9CE27037BDEFD49E9C0A6B9492F2A14C274D43EE49CE3E6BB0E2
7037BDEFD49E9CE27037BDEFD49E9CE27037BDEFD49E9CE27037BDEFD
49E9C05BF84AA9C8C7144

3. Bagaimana proses dan hasil dekripsi pada setiap fase?

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

100001000001001111001111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 068FEBDB31F66D71 After Initial Permutation: ECB863DE2EF44E2F

Left Half Right Half Sub Key

Round: 1 001011101111010001001111000101111

00010001101100001110001100100000

Round: 2 00010001101100001110001100100000

111110000101110010011111101001101

Round: 3 11111000010111001001111101001101

100100010101011111010010110001101

Round: 4 100100010101011111010010110001101

101001100100111111101000001111010

Round: 5 101001100100111111101000001111010

00001000001110110110101000100000

Round: 6 00001000001110110110101000100000

110101100100111110011010100000110

Round: 7 110101100100111110011010100000110

11001101110011000100100100111101

Round: 8 11001101110011000100100100111101

00000110101100111100101101011001

Round: 9 00000110101100111100101101011001

0010000101010110111110010101110000

Round: 10 00100001010101101111001010110000

1111010010101011111100010101011111

Round: 11 1111010010101011111100010101011111

00010000010000001101011010010110

Round: 12 00010000010000001101011010010110

1001101001001111110110100101011110

Round: 13 100110100100111110110100101011110

01101000111011101000111001001000

Round: 14 01101000111011101000111001001000

00000000101100111110011110001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110001110

0000000111111111000000000000000000

000000001111111110000000000111111

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

100001000001001111001111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Sub Key

Round: 4 000011001000011011010110110100100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000001000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

100111101111011001010000011111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

0000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

110100101111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

1100111011010111100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

000000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 56FD4CF48980C8BD After Initial Permutation: 4F8B8F92FA8AD601 Left Half Right Half Sub Key

Round: 1 11111010100010101101011000000001

110011110000111111110001000011101

Round: 2 110011110000111111110001000011101

000110010101111000000001110101011

Round: 3 000110010101111000000001110101011

00100000100001111001101010101000

Round: 4 00100000100001111001101010101000

11001001101000011110100010100000

Round: 5 11001001101000011110100010100000

00001101100001010110100011101011

Round: 6 00001101100001010110100011101011

0010110111110001111111100010000111

Round: 7 0010110111110001111111100010000111

101100100001011100110011111100101

Round: 8 10110010000101110011001111100101

01011101000000110011000100100100001

Round: 9 01011101000000110011000100100001

100110100001011111111101010110100

Round: 10 100110100001011111111101010110100

011101101111100100010001101001001

Round: 11 01110110111100100010001101001001

01011001101001100000111100100001

Round: 12 01011001101001100000111100100001

10100011100000101100010110101101

Round: 13 10100011100000101100010110101101

11000010011010100001100001001010

Round: 14 11000010011010100001100001001010

00000000101100101110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100101110011110110001

00000001111111110000000000000000000

00000001111111100000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 000011001000011011010110110100100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 1100111011011110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101110001111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: F21D0A954357CED1 After Initial Permutation: F1AB6ABAC9014675

Left Half Right Half Sub Key

Round: 1 11001001000000010100011001110101

101001111110100100000101101001001

Round: 2 10100111110100100000101101001001

10001000100010101011001010011000

Round: 3 10001000100010101011001010011000

001110110010100100000000000000110

Round: 4 001110110010100100000000000000110

110101110110001100111110001001100

Round: 5 11010111011000110011110001001100

1010011000111111000100011111101000

Round: 6 101001100011111000100011111101000

110011011101101101010011111000010

Round: 7 11001101110110110101001111000010

101100101111110110101010101000101

Round: 8 10110010111110110101010101000101

10101000010001101001111011110000

Round: 9 10101000010001101001111011110000

0100101111011101101111101101111110

Round: 10 010010111101110110111110110111110

100001010011001000101111001111001

Round: 11 10000101001100100010111001111001

11100110111000001110101100000011

Round: 12 11100110111000001110101100000011

1010100011111110010011011111011010

Round: 13 1010100011111110010011011111011010

01111010110011101000011001000000

Round: 14 01111010110011101000011001000000

00000000101100111110011101010110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101010110

00000001111111110000000000000000000

000000001111111110000000011100111

Data Being Encrypted: 6C70B5FB415E7865 After Initial Permutation: FB6EA59C0CCF6928

Left Half Right Half

Round: 1 00001100110011110110100100101000

10100100100011100010100000010100

Round: 2 10100100100011100010100000010100

10110100010100110000011010001101

Round: 3 10110100010100110000011010001101

000101100001100010001011101111110

Round: 4 00010110000110001000101110111110

0001100001010010110101010100010110

Round: 5 00011000010100101101010100010110

000100101010000100001010111111000

Round: 6 000100101010000100001010111111000

000110110010110011111110001000111

Round: 7 000110110010110011111110001000111

00011110000111101100001111101010

Round: 8 00011110000111101100001111101010

11110110101110110110001000011101

Round: 9 11110110101110110110001000011101

11110101101011011111100001001111000

Sub Key

Round: 10 11110101101101101111100001001111000

10101101011110000101001010101011000

Round: 11 101011010111000010100101010101000

011001001100100111111100100011010

Round: 12 011001001100100111111100100011010

011010101100111111101010001000010

Round: 13 011010101100111111101010001000010

01100010111011001000001001001000

Round: 14 01100010111011001000001001001000

0000000101100111110011110110000

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110000

00000001111111110000000000000000000

00000001111111111000000000000000001

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

100001000001001111001111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

1100111011010111100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 1B5C2F6913B67AE8 After Initial Permutation: CA73261DA0ECCF75

Left Half Right Half

Round: 1 10100000111011001100111101110101

110011110000011010000010101111001

Round: 2 11001111000001101000001010111001

0110111101101101001100101010110111

Round: 3 01101111011011010011001010110111

11111111010111100011010011111000110

Round: 4 111111110101110001101001111000110

11000111010100001010001010011100

Round: 5 11000111010100001010001010011100

000100010001101010001011111000011

Sub Key

Round: 6 00010001000110101000101111000011

0110110010011111101111110000000111

Round: 7 01101100100111110111110000000111

00111111110100101111000111100010110

Round: 8 0011111111010010111000111100010110

111100010100110101111110111000011

Round: 9 111100010100110101111110111000011

01000101000101101000110100001101

Round: 10 01000101000101101000110100001101

000111000100101100110000000011011

Round: 11 00011100010010110011000000011011

10000101000011000100010001000011

Round: 12 1000010100001100010001000100011

00100011010100010100001110101111

Round: 13 00100011010100010100001110101111

111000100110111100001100000001010

Round: 14 11100010011011100001100000001010

00000000101100011110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100011110011110110001

0000000111111111000000000000000000

0000000111111101000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half

Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

100001000001001111001111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 000011001000011011010110110100100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

100111101111011001010000011111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: B0BB420779C4F6B1 After Initial Permutation: 74D3689AE3D3124E

Left Half Right Half Sub Key

Round: 1 11100011110100110001001001001110

11010100101001000000111001011111

Round: 2 11010100101001000000111001011111

11110110100100011100111110010101

Round: 3 11110110100100011100111110010101

01001000100001100111010100100000

Round: 4 01001000100001100111010100100000

01011100010010001010111011101100

Round: 5 01011100010010001010111011101100

001100010001001000110110101010111

Round: 6 00110001000100100011011010100111

01000001100101011110101111010101

Round: 7 01000001100101011110101111010101

010101111111000101011001000010010

Round: 8 010101111111000101011001000010010

10100011000111000001000111110110

Round: 9 10100011000111000001000111110110

11000101101110000001010011111010

Round: 10 11000101101110000001010011111010

011001000010011111000100110000000

Round: 11 01100100001001111000100110000000

10011101010010110101100001111101

Round: 12 10011101010010110101100001111101

1010110001110000101111111111010000

Round: 13 101011000111000010111111111010000

011100100101111000000110001100011

Round: 14 011100100101111000000110001100011

00000000101100111110011100110011

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011100110011

000000001111111110000000000000000000

00000000111111111000000010000010

Data Being Encrypted: EB4BF26AB9AE4C5A After Initial Permutation: CF946013353DFBAF Left Half Right Half Sub Key

Round: 1 00110101001111011111110111011111

01100001011011011010000011110011

Round: 2 01100001011011011010000011110011

00100000000101110000010111001110

Round: 3 00100000000101110000010111001110

11000111000000000011010100011011

Round: 4 1100011100000000001101010101011

011000001100101011111110001010000

Round: 5 011000001100101011111110001010000

000100100001001001010111111100010

Round: 6 0001001000010010010111111100010

01100000101101001001000011110001

Round: 7 01100000101101001001000011110001

10100000001011100110100011110010

Round: 8 10100000001011100110100011110010

1001000011101111110010010010111110

Round: 9 100100001110111110010010010111110

10011110001100100110110011110011

Round: 10 10011110001100100110110011110011

01100000011000011110011111010000

Round: 11 01100000011000011110011111010000

011011011011011000010100010100000

Round: 12 01101101101011000010100010100000

00101000010001111001000001000010

Round: 13 00101000010001111001000001000010

011010101111011001000001001101000

Round: 14 01101010111011001000001001101000

00000000101100111110011110110010

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110010

00000001111111110000000000000000000

000000001111111110000000000000011

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 1100111011011110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101110001111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: 62E508F8BD074F5D After Initial Permutation: CB98F2F21A1BDC61

Left Half Right Half Sub Key

Round: 1 00011010000110111101110001100001

0001001001010101010000100001010010

Round: 2 00010010010101010000100001010010

01100100100011000111010011110010

Round: 3 01100100100011000111010011110010

00000111101100001110111101000101

Round: 4 00000111101100001110111101000101

01001011101000100010001000010011

Round: 5 0100101110100010001000100010011

00010001010110001101010110101111

Round: 6 00010001010110001101010110101111

0111111100010100011111110001000100

Round: 7 011111100010100011111110001000100

11010001101001000000010010011001

Round: 8 11010001101001000000010010011001

00000011110000101111101100011011

Round: 9 00000011110000101111101100011011

10100001000011011001101101001100

Round: 10 10100001000011011001101101001100

01110011100011000101100001000010

Round: 11 01110011100011000101100001000010

00010110010010000111000100000110

Round: 12 00010110010010000111000100000110

00100011010001100100011010101111

Round: 13 00100011010001100100011010101111

111000100010111100001100001001010

Round: 14 11100010001011100001100001001010

000000001011011111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 000000001011011111110011110110001

00000001111111110000000000000000000

000000011111011000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half

Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 00001100100001101101011011000100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: 6E45F327C61A8B21 After Initial Permutation: 17241BCE548D617D

Left Half Right Half Sub Key

Round: 1 01010100100011010110000101111101

10111101001001100100001011111010

Round: 2 10111101001001100100001011111010

101110110101010001010111111011000

Round: 3 10111011010101000101011111011000

10010101100111010110100011111111

Round: 4 10010101100111010110100011111111

10101110010110110000010111010010

Round: 5 10101110010110110000010111010010

111111110010011001001010101110011

Round: 6 111111111001001100100101010110011

1100010100100101111101000111110100

Round: 7 11000101001001011110100011110100

11010001000111101001010001011011

Round: 8 11010001000111101001010001011011

000011111100000011011011010001111

Round: 9 000011111100000011011011010001111

101100000000101011001110110110110

Round: 10 10110000000010101100111011010110

00001111011101100010011000110000

Round: 11 00001111011101100010011000110000

011000011100000011111110000010111

Round: 12 011000011100000011111110000010111

01110011001011111111111110110010001

Round: 13 0111001100101111111111110110010001

011010100110110000000000001001010

Round: 14 011010100110110000000000001001010

0000000101100111110011110110101

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110101

00000001111111110000000000000000000

00000001111111110000000000000100

Data Being Encrypted: F8117AEDC1D324CF After Initial Permutation: BD27C8BAB94D8DA4

Left Half Right Half

Round: 1 10111001010011011000110110100100

1011100010100001011101111111110100

Round: 2 101110001010000101110111111110100

10100110100100011000011011000100

Round: 3 10100110100100011000011011000100

00101100001110010000000010111000

Round: 4 00101100001110010000000010111000

011000011111110110011001001001100

Round: 5 011000011111110110011001001001100

00100000001000010010001101100100

Sub Key

Round: 6 00100000001000010010001101100100

01101111110000100101101101000111000

Round: 7 01101111100001001011011000111000

10011001010000000000011000010011

Round: 8 10011001010000000000011000010011

10000000110111111000110100111001

Round: 9 100000000110111111000110100111001

1110101111110110000101111100011101

Round: 10 111010111110110000101111100011101

00111000001111010010001101010100

Round: 11 00111000001111010010001101010100

11000100010011111100001111001111110

Round: 12 110001000100111111000011100111110

011000100010101111111011100111001

Round: 13 01100010001010111111011100111001

011010100110110000000110001001011

Round: 14 01101010011011000000110001001011

00000000101100111110011110111111

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110111111

0000000111111111000000000000000000

0000000011111111100000000000001110

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

100001000001001111001111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Sub Key

Round: 4 00001100100001101101011011000100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

100111101111011001010000011111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 41923D788D894B54 After Initial Permutation: C98E9475320C7C42

Left Half Right Half Sub Key

Round: 1 00110010000011000111110001000010

100111100001111111011001110000001

Round: 2 100111100001111111011001110000001

00101010001110010010001011101000

Round: 3 00101010001110010010001011101000

110100111111101000100110001101011

Round: 4 110100111111101000100110001101011

11101111010101011000000101001101

Round: 5 11101111010101011000000101001101

01100100011100100100111011110110

Round: 6 01100100011100100100111011110110

10001000000100111010010101100010

Round: 7 10001000000100111010010101100010

00110011100110100101101110011101

Round: 8 00110011100110100101101110011101

1000011101000000010111111111101100

Round: 9 100001110100000001011111111101100

01111111001010101010111110000000101

Round: 10 01111111001010101010111110000000101

011000010001101100011111110000011

Round: 11 011000010001101100011111110000011

000110110010000010001011111101000

Round: 12 000110110010000010001011111101000

011100010101001001100010101011110

Round: 13 011100010101001001100010101011110

11100110001011100001100100001010

Round: 14 11100110001011100001100100001010

00000000101110111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101110111110011110110001

000000001111111110000000000000000000

000000011110111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 000011001000011011010110110100100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 3DB67FF8318B453E After Initial Permutation: 4C9FC7752A9FADA6

Left Half Right Half Sub Key

Round: 1 00101010101111111010110110110110

00101001000110111011100111101101

Round: 2 00101001000110111011100111101101

11010011011001110101100110011011

Round: 3 11010011011001110101100110011011

0101111110010111100011110100001110

Round: 4 010111110010111100011110100001110

11110101100001000101001110100100

Round: 5 11110101100001000101001110100100

011111011001101101100000101111100

Round: 6 011111011001101101100000101111100

1010110000001100010101010101011111

Round: 7 10101100000011000101010101011011

0111001011111100101010101110000101

Round: 8 0111001011111100101010101010000101

01010001010100010011101001000010

Round: 9 01010001010100010011101001000010

101000010001111111010110111011100

Round: 10 10100001000111111010110111011100

001001110111100010110001110111110

Round: 11 00100111011110001011000111011110

111101010011111010100000000100111

Round: 12 1111010100111110101000000000100111

00100100011100011010000011110101

Round: 13 00100100011100011010000011110101

011100100100111100000110001000010

Round: 14 01110010010011100000110001000010

00000000101100111110011101010001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101010001

00000001111111110000000000000000000

0000000111111111000000011100000

Data Being Encrypted: 08A628F30CA6438B After Initial Permutation: 480832C8AA2E95EA

Left Half Right Half Sub Key

Round: 1 1010101000101111010010101111101010

00010111001100100000111001011101

Round: 2 00010111001100100000111001011101

111110111010111110000101000000011

Round: 3 11111011101011110000101000000011

100101111111100010011000111000001

Round: 4 100101111111100010011000111000001

011001101011111110110000100011100

Round: 5 01100110101111110110000100011100

10000100101000110010101101101100

Round: 6 10000100101000110010101101101100

10010111100001011110001011100101

Round: 7 10010111100001011110001011100101

101101110000010000110000000000001

Round: 8 101101110000010000110000000000001

11001110011100110100001110000111

Round: 9 11001110011100110100001110000111

00000011011100110001001010000111

Round: 10 00000011011100110001001010000111

1011011111111001111110100101100111

Round: 11 1011011111111001111110100101100111

01001100100110110111001010001011

Round: 12 01001100100110110111001010001011

00100100011011001000101101000110

Round: 13 00100100011011001000101101000110

011010001111111101000011001101001

Round: 14 011010001111111101000011001101001

00000000101100111110011110101000

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110101000

00000001111111110000000000000000000

000000001111111110000000000011001

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 00001100100001101101011011000100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: A29562F366F822D3 After Initial Permutation: BCAA128AAB7D20DD

Left Half Right Half

Round: 1 101010110111111010010000011011101

10001011010000011010100101001101

Round: 2 1000101101000001101010010101101

00110010100100001010111001010100

Round: 3 00110010100100001010111001010100

011011011011100100010010111101000

Round: 4 011011011011100100010010111101000

11010001010011000101000001000011

Round: 5 11010001010011000101000001000011

11011011100101101100010000010100

Round: 6 11011011100101101100010000010100

010100000010001110111001111111101

Round: 7 010100000010001110111001111111101

01010101001001010011001100110111

Sub Key

Round: 8 01010101001001010011001100110111

1011101010011010000101010101000001

Round: 9 10111010100110100001010101000001

0100010100011101111111100100111100

Round: 10 010001010001110111111110010011100

110101110101101111110111001110110

Round: 11 110101110101101111110111001110110

110001100110110010111100011110010

Round: 12 11000110011011001011100011110010

11010000000011100111011010101111

Round: 13 11010000000011100111011010101111

111001100010111110001100101001010

Round: 14 11100110001011111000110010101010

00000000101000111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101000111110011110110001

00000001111111110000000000000000000

000000011101111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000100011111111000010011

110001111111011010011101011101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 001100101111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 3DB67FF8318B453E After Initial Permutation: 4C9FC7752A9FADA6

Left Half Right Half

Round: 1 00101010101111111010110110100110

00101001000110111011100111101101

Round: 2 00101001000110111011100111101101

11010011011001110101100110011011

Round: 3 11010011011001110101100110011011

0101111110010111100011110100001110

Sub Key

Round: 4 0101111110010111100011110100001110

11110101100001000101001110100100

Round: 5 11110101100001000101001110100100

011111011001101101100000101111100

Round: 6 011111011001101101100000101111100

10101100000011000101010101011011

Round: 7 10101100000011000101010101011011

0111001011111100101010101110000101

Round: 8 0111001011111100101010101010000101

01010001010100010011101001000010

Round: 9 01010001010100010011101001000010

101000010001111111010110111011100

Round: 10 101000010001111111010110111011100

00100111011110001011000111011110

Round: 11 00100111011110001011000111011110

111101010011111010100000000100111

Round: 12 111101010011111010100000000100111

00100100011100011010000011110101

Round: 13 00100100011100011010000011110101

011100100100111100000110001000010

Round: 14 01110010010011100000110001000010

00000001011001111110011101010001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101010001

0000000111111111000000000000000000

000000011111111110000000011100000

Data Being Encrypted: F59E56E2ECBBF8E0 After Initial Permutation: DD671721FBF9722E

Left Half Right Half Sub Key

Round: 1 11111011111111001011110010001011110

10011100010010000010010110100101

Round: 2 10011100010010000010010110100101

111111111111110100110110010011101

Round: 3 111111111111110100110110010011101

10010001110101010001111001101000

Round: 4 10010001110101010001111001101000

01110110000111101111010001111000

Round: 5 01110110000111101111010001111000

00001001010110011001000010011001

Round: 6 000010010110110011001000010011001

10001000010100001001010000011110

Round: 7 10001000010100001001010000011110

111000111001010110100001111111110

Round: 8 111000111001010110100001111111110

01110000110110110010010100100111

Round: 9 01110000110110110010010100100111

01100111100110100000100110011011

Round: 10 01100111100110100000100110011011

111000101000111111110101000100001

Round: 11 111000101000111111110101000100001

101100000010100011111100011011100

Round: 12 10110000001010001111100011011100

00001100010011101010000111101110

Round: 13 00001100010011101010000111101110

011010001111111101000101001101000

Round: 14 011010001111111101000101001101000

00000000101100111110011110000010

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110000010

0000000111111111000000000000000000

000000001111111110000000000110011

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 000011001000011011010110110100100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 506BF855264CBAD1 After Initial Permutation: AFCD388AC4566652

Left Half Right Half Sub Key

Round: 1 11000100010101100110011001010010

10111001001010100001011011101001

Round: 2 10111001001010100001011011101001

01000101001100011100001110110100

Round: 3 01000101001100011100001110110100

0011111101011011001101011110001000

Round: 4 001111101011011001101011110001000

01000011101010010100110000111001

Round: 5 01000011101010010100110000111001

11010000110001111101100011010111

Round: 6 11010000110001111101100011010111

11100101000010110011011010110001

Round: 7 11100101000010110011011010110001

010100110110101000101010111111111

Round: 8 01010011011010100010101011111111

01010010101100101110101110100001

Round: 9 01010010101100101110101110100001

10101101101001101111000011010101

Round: 10 1010110110100110111000011010101

001010110100111111001101101000111

Round: 12 00101011010011111001101101000111

011000001101101111100110100000111

Round: 13 01100000110110111100110100000111

011001100110111100000100101001010

Round: 14 0110011001101110000010010101010

0000000100100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000100100111110011110110001

00000001111111110000000000000000000

00000001101111100000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

11001110110101110011010111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011011000100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 100111101111011001010000011111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

CACDC1897A31542B Data Being Encrypted: After Initial Permutation: 577042AE0FB09B91

> Left Half Right Half Sub Key

Round: 1 00001111101100001001101110010001

111100000101111100101110101001100

Round: 2 11110000010111100101110101001100

10001011110110100000111001010110

Round: 3 10001011110110100000111001010110

1001101111110001101101111000001111

Round: 4 100110111111000110110111000001111

010110100000111110100011001000100

Round: 5 01011010000011110100011001000100

010011010110110100111001101111101

Round: 6 01001101011011010011100110111101

01011101000011001000110100100000

Round: 7 01011101000011001000110100100000

0000011111010110101111111110001101

Round: 8 0000011111010110101111111110001101

01011000001010100011110100110100

Round: 9 01011000001010100011110100110100

101011111101000011101001100101011

Round: 10 101011111101000011101001100101011

10100001001110100111010101000000

Round: 11 10100001001110100111010101000000

011011101111000111111100100100011

Round: 12 011011101111000111111100100100011

011010001100111111101000000001100

Round: 13 011010001100111111101000000001100

01100010111011001000001001101000

Round: 14 01100010111011001000001001101000

0000000010110011111100111111111111

000110110010100010001101001100110010000100010011

Round: 15 000000001011001111100111111111110

00000001111111110000000000000000000

000000001111111110000000001001111

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Sub Key

Round: 6 0000000000000100011111111000010011

110001111111011010011101011101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: BA8A7499FFA3F3B4 After Initial Permutation: 54DD9478FBF51B73

Left Half Right Half

Round: 1 111110111111101010001101101110011

00101001011001101011000111010110

Round: 2 00101001011001101011000111010110

00010011011111011110110010000001

Round: 3 00010011011111011110110010000001

01100011101000110000001100111011

Sub Key

Round: 4 01100011101000110000001100111011

10010100100101101100010100111011

Round: 5 10010100100101101100010100111011

10110000111011000110010010111000

Round: 6 10110000111011000110010010111000

00100100000100010011000111011010

Round: 7 00100100000100010011000111011010

1111011111101000001111110110000010

Round: 8 11110111110100000111110110000010

0101100010001101011011111111011101

Round: 9 010110001000110101101111111011101

10001100111101001101100110101111

Round: 10 100011001111010011011011011111

00101010110011101100001000110011

Round: 11 00101010110011101100001000110011

101000001111100001001101101110100

Round: 12 1010000011110000100110110110100

11011011111101001110101010100101111

Round: 13 1101101111110100111101010101011111

011001100110111110000100001001110

Round: 14 011001100110111110000100001001110

00000000111100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000111100111110011110110001

0000000111111111000000000000000000

00000001011111110000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

1100111011010111100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

0011001011110001111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

000000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 000011001000011011010110110100100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 40BCCBB080E2F307 After Initial Permutation: 654A82C47E6A06E4

Left Half Right Half Sub Key

Round: 1 011111110011010100000011011100100

111111110000100101001111100100110

Round: 2 1111111110000100101001111100100110

111111001000000001111111100110110

Round: 3 111111001000000001111111100110110

1001001010111100101001111110101100

Round: 4 100100101011110010100111110101100

010011010101001111000101110010110

Round: 5 0100110101010111000101110010110

10000101001110010011101100100000

Round: 6 10000101001110010011101100100000

1000001001111100001101000101011110

Round: 7 10000010011110000110100010101110

011010010101001111111001100001111

Round: 8 011010010101010111111001100001111

00100011100000001100101000010111

Round: 9 00100011100000001100101000010111

10110000100110110100011110011001

Round: 10 10110000100110110100011110011001

00110001011111111110110110010011111

Round: 11 0011000101111111110110110010011111

11110101101001111010110010100010

Round: 12 11110101101001111010110010100010

01110100101100011001001010010011

Round: 13 01110100101100011001001010010011

01111000010011000000100001000010

Round: 14 01111000010011000000100001000010

00000000101100111110011100111111

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011100111111

00000001111111110000000000000000000

00000001111111110000000010001110

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

11001110110101110011010111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: ED41F003DE816DA9 After Initial Permutation: 571451EBB5C5D118

Left Half Right Half S

Round: 1 101101011100010111101000100011000

11101001000001001110010101000111

Round: 2 11101001000001001110010101000111

01101011100111101011010001000000

Round: 3 01101011100111101011010001000000

001010010110110011011111100101010

Round: 4 001010010110110011011111100101010

10110011100101110001100001110001

Round: 5 101100111100101110001100001110001

1010001100111111001011011111001100

Round: 6 101000110011111001011011111001100

10000111001111000001101101010111

Round: 7 10000111001111000001101101010011

10000011011010010011001100010000

Round: 8 10000011011010010011001100010000

00100011100001110010001010011001

Round: 9 00100011100001110010001010011001

11001001111100111110001111100001110

Sub Key

Round: 10 11001001111001111000111100001110

01111010010011001000010110110111

Round: 11 01111010010011001000010110110111

00100000010111011010010010011001

Round: 12 00100000010111011010010010011001

00011010001001001101010001101111

Round: 13 00011010001001001101010001101111

01100010011001110100100001001110

Round: 14 01100010011001110100100001001110

0000000001100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000001100111110011110110001

00000001111111110000000000000000000

0000000011111111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

100001000001001111001111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: C49E2B2510C8A822 After Initial Permutation: 21120B0C63CC6686

Left Half Right Half Sub Key

Round: 1 01100011110011000110011010000110

001100010000011111100011101001110

Round: 2 00110001000001111100011101001110

01000111011010011010000111011111

Round: 3 01000111011010011010000111011111

1110100111111001111111010010001001

Round: 4 1110100111111001111111010010001001

111100111110011111011011010011011

Round: 5 111100111110011111011011010011011

0111101001010001111100111110001100

Round: 6 01111010010100011110011110001100

101000010010101011111110000101100

Round: 7 101000010010101011111110000101100

01110100101111100111111110110111100

Round: 8 0111010010111110011111111011011100

01110001011110010011010011000101

Round: 9 01110001011110010011010011000101

00010100110011010001101010000000

Round: 10 00010100110011010001101010000000

0011110011011111101101100101111111

Round: 11 00111100110111110110110010111111

10001001011010000111101101110001

Round: 12 10001001011010000111101101110001

00101100001100001011101111010011

Round: 13 00101100001100001011101111010011

011100100101111100000110001000011

Round: 14 011100100101111100000110001000011

00000000101100111110011100110001

000110110010100010001101001100110010000100010011

Round: 15 0000000010110011111001110011

0000000111111111000000000000000000

0000000111111111000000010000000

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Round: 1 111110010001111111101100001010101

Right Half

001000000110101011110100010110011

Left Half

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Sub Key

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

10011000110111001011101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

0000000111111111000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: 6C70B5FB415E7865 After Initial Permutation: FB6EA59C0CCF6928

Left Half Right Half Sub Key

Round: 1 00001100110011110110100100101000

10100100100011100010100000010100

Round: 2 10100100100011100010100000010100

10110100010100110000011010001101

Round: 3 10110100010100110000011010001101

000101100001100010001011101111110

Round: 4 00010110000110001000101110111110

00011000010100101101010100010110

Round: 5 00011000010100101101010100010110

000100101010000100001010111111000

Round: 6 00010010101000010000101011111000

000110110010110011111110001000111

Round: 7 000110110010110011111110001000111

00011110000111101100001111101010

Round: 8 00011110000111101100001111101010

11110110101110110110001000011101

Round: 9 11110110101110110110001000011101

11110101101011011111100001001111000

Round: 10 11110101101101101111100001001111000

10101101011110000101001010101011000

Round: 11 101011010111000010100101010101000

011001001100100111111100100011010

Round: 12 011001001100100111111100100011010

011010101100111111101010001000010

Round: 13 011010101100111111101010001000010

01100010111011001000001001001000

Round: 14 01100010111011001000001001001000

00000000101100111110011110110000

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110000

000000001111111110000000000000000000

00000000111111111000000000000000001

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 000011001000011011010110110100100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 56FD4CF48980C8BD After Initial Permutation: 4F8B8F92FA8AD601

Left Half Right Half Sub Key

Round: 1 111110101000101011010110000000001

110011110000111111110001000011101

Round: 2 110011110000111111110001000011101

000110010101111000000001110101011

Round: 3 000110010101111000000001110101011

00100000100001111001101010101000

Round: 4 00100000100001111001101010101000

11001001101000011110100010100000

Round: 5 11001001101000011110100010100000

00001101100001010110100011101011

Round: 6 00001101100001010110100011101011

0010110111110001111111100010000111

Round: 7 001011011110001111111100010000111

10110010000101110011001111100101

Round: 8 10110010000101110011001111100101

01011101000000110011000100100100001

Round: 9 01011101000000110011000100100001

100110100001011111111101010110100

Round: 10 100110100001011111111101010110100

011101101111100100010001101001001

Round: 11 01110110111100100010001101001001

01011001101001100000111100100001

Round: 12 01011001101001100000111100100001

10100011100000101100010110101101

Round: 13 10100011100000101100010110101101

11000010011010100001100001001010

Round: 14 11000010011010100001100001001010

00000000101100101110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100101110011110110001

00000001111111110000000000000000000

000000011111110000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 100111101111011001010000011111111

11001110110101110011010111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 001000000110101011110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

101010110110001111011111101101000

Sub Key

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: EB4BF26AB9AE4C5A After Initial Permutation: CF946013353DFBAF

> Left Half Right Half Sub Key

Round: 1 00110101001111011111101110101111

01100001011011011010000011110011

Round: 2 01100001011011011010000011110011

00100000000101110000010111001110

Round: 3 00100000000101110000010111001110

11000111000000000011010100011011

Round: 4 1100011100000000001101010101011

011000001100101011111110001010000

Round: 5 011000001100101011111110001010000

000100100001001001010111111100010

Round: 6 0001001000010010010111111100010

01100000101101001001000011110001

Round: 7 01100000101101001001000011110001

10100000001011100110100011110010

Round: 8 10100000001011100110100011110010

1001000011101111110010010010111110

Round: 9 100100001110111110010010010111110

10011110001100100110110011110011

Round: 10 10011110001100100110110011110011

01100000011000011110011111010000

Round: 11 01100000011000011110011111010000

011011011011011000010100010100000

Round: 12 01101101101101000010100010100000

00101000010001111001000001000010

Round: 13 00101000010001111001000001000010

011010101111011001000001001101000

Round: 14 01101010111011001000001001101000

00000000101100111110011110110010

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110010

00000001111111110000000000000000000

000000001111111110000000000000011

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

100111101111011001010000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: 1B5C2F6913B67AE8 After Initial Permutation: CA73261DA0ECCF75

Right Half

Round: 1 10100000111011001100111101110101

110011110000011010000010101111001

Left Half

Round: 2 11001111000001101000001010111001

01101111011011010011001010110111

Round: 3 01101111011011010011001010110111

1111111101011100011010011111000110

Sub Key

Round: 4 111111110101110001101001111000110

11000111010100001010001010011100

Round: 5 11000111010100001010001010011100

00010001000110101000101111000011

Round: 6 00010001000110101000101111000011

0110110010011111101111110000000111

Round: 7 011011001001111101111100000000111

0011111111010010111000111100010110

Round: 8 00111111110100101111000111100010110

111100010100110101111110111000011

Round: 9 111100010100110101111110111000011

01000101000101101000110100001101

Round: 10 01000101000101101000110100001101

000111000100101100110000000011011

Round: 11 000111000100101100110000000011011

10000101000011000100010001000011

Round: 12 10000101000011000100010001000011

00100011010100010100001110101111

Round: 13 00100011010100010100001110101111

11100010011011100001100000001010

Round: 14 11100010011011100001100000001010

00000000101100011110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100011110011110110001

0000000111111111000000000000000000

0000000111111101000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

11000111111101101001111010111101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

000000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 3A4287419F5D19CF After Initial Permutation: AA71B4FC9401F197 Left Half Right Half Sub Key

Round: 1 10010100000000011111000110010111

0110010010110101111010000111111100

Round: 2 011001001011010111010000111111100

1001111011111100000100111110011100

Round: 3 1001111011111100000100111110011100

00011110011010010101010001001001

Round: 4 00011110011010010101010001001001

11000000000110101100100001111101

Round: 5 11000000000110101100100001111101

101011101010000111110100011010010

Round: 6 10101110101000011110100011010010

10000011100110100001000110111101

Round: 7 10000011100110100001000110111101

100001111001101011110000101011011

Round: 8 100001111001101011110000101011011

10001110000010110011101110001001

Round: 9 10001110000010110011101110001001

100010001110110101011110000111100

Round: 10 100010001110110101011110000111100

10001111000110100110000001010011

Round: 11 10001111000110100110000001010011

01000100000100001101011110011000

Round: 12 01000100000100001101011110011000

01110101100111011011011001110000

Round: 13 01110101100111011011011001110000

01111010010011000000010001100010

Round: 14 01111010010011000000010001100010

00000000101100111110011101001101

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001101

00000001111111110000000000000000000

0000000011111111100000000111111100

Data Being Encrypted: D8737A96B6FC722F After Initial Permutation: 677FB88239F6A5DE

Left Half Right Half Sub Key

Round: 1 00111001111101101010010111011110

1100101100100010011111111110010110

Round: 2 1100101100100010011111111110010110

000101000111110110000101010101011

Round: 3 00010100011111011000010101010011

110000111111100101100000011010111

Round: 4 110000111111100101100000011010111

10011001100101010011000001001100

Round: 5 10011001100101010011000001001100

100110111110000000001001001101011

Round: 6 10011011110000000001001001101011

001100110010110011110111011111111

Round: 7 00110011001011001111011101111111

1010011111110000100011011111100000

Round: 8 1010011111110000100011011111100000

00010011001010011100010101100101

Round: 9 00010011001010011100010101100101

000001001111111010110100010110000

Round: 10 000001001111111010110100010110000

00110100000100000110110111000001

Round: 11 00110100000100000110110111000001

00100101100101101010011010001010

Round: 12 00100101100101101010011010001010

101010100100011111001010000000110

Round: 13 10101010010001111001010000000110

011010101111011101000001001001000

Round: 14 01101010111011101000001001001000

00000000101100111110011110110110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110110

00000001111111110000000000000000000

0000000011111111100000000000000111

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 100111101111011001010000011111111

11001110110101110011010111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 62E508F8BD074F5D After Initial Permutation: CB98F2F21A1BDC61

Left Half Right Half Sub Key

Round: 1 00011010000110111101110001100001

0001001001010101010000100001010010

Round: 2 00010010010101010000100001010010

01100100100011000111010011110010

Round: 3 01100100100011000111010011110010

00000111101100001110111101000101

Round: 4 00000111101100001110111101000101

01001011101000100010001000010011

Round: 5 0100101110100010001000100010011

00010001010110001101010110101111

Round: 6 00010001010110001101010110101111

0111111100010100011111110001000100

Round: 7 011111100010100011111110001000100

11010001101001000000010010011001

Round: 8 11010001101001000000010010011001

00000011110000101111101100011011

Round: 9 00000011110000101111101100011011

10100001000011011001101101001100

Round: 10 10100001000011011001101101001100

01110011100011000101100001000010

Round: 11 01110011100011000101100001000010

00010110010010000111000100000110

Round: 12 00010110010010000111000100000110

00100011010001100100011010101111

Round: 13 00100011010001100100011010101111

111000100010111100001100001001010

Round: 14 111000100010111100001100001001010

000000001011011111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 000000001011011111110011110110001

00000001111111110000000000000000000

00000001111101100000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

100001000001001111001111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: C49E2B2510C8A822 After Initial Permutation: 21120B0C63CC6686

Left Half Right Half Sub Key

Round: 1 01100011110011000110011010000110

001100010000011111100011101001110

Round: 2 00110001000001111100011101001110

01000111011010011010000111011111

Round: 3 01000111011010011010000111011111

1110100111111001111111010010001001

Round: 4 1110100111111001111111010010001001

111100111110011111011011010011011

Round: 5 111100111110011111011011010011011

011110100101000111110011110001100

Round: 6 01111010010100011110011110001100

101000010010101011111110000101100

Round: 7 101000010010101011111110000101100

01110100101111100111111110110111100

Round: 8 0111010010111110011111111011011100

01110001011110010011010011000101

Round: 9 01110001011110010011010011000101

00010100110011010001101010000000

Round: 10 00010100110011010001101010000000

0011110011011111101101100101111111

Round: 11 00111100110111110110110010111111

10001001011010000111101101110001

Round: 12 10001001011010000111101101110001

00101100001100001011101111010011

Round: 13 00101100001100001011101111010011

011100100101111100000110001000011

Round: 14 011100100101111100000110001000011

00000000101100111110011100110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011100110001

0000000111111111000000000000000000

0000000111111111000000010000000

Data Being Encrypted: 6F5C020214E45C09 After Initial Permutation: 635273812021C30D

Left Half Right Half

Round: 1 00100000001000011100001101

10010011101001111011110010110010

Round: 2 10010011101001111011110010110010

01000001000100000010100001010000

Round: 3 01000001000100000010100001010000

00001001000100111110110111001111

Sub Key

Round: 4 00001001000100111110110111001111

10010111101110000001110100101000

Round: 5 10010111101110000001110100101000

00001010110011100000100110101111

Round: 6 00001010110011100000100110101111

0000011111111001001111000011110011

Round: 7 0000011111111001001111000011110011

1111010101111100101111010110001101

Round: 8 111101010111110010111010110001101

11011110001111011101101001001111

Round: 9 11011110001111011101101001001111

100000001001100101010011111110000

Round: 10 10000000100110010101011111110000

00111100111010001010110011000110

Round: 11 00111100111010001010110011000110

0011000001101010101001101010100011

Round: 12 001100000110101010101010101010101

01100000111011010101101001000100

Round: 13 01100000111011010101101001000100

01100010111011001000011001101001

Round: 14 01100010111011001000011001101001

00000000101100111110011110111110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110111110

0000000111111111000000000000000000

000000001111111110000000000001111

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

11000111111101101001111010111101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

1100111011010111100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

000000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 41923D788D894B54 After Initial Permutation: C98E9475320C7C42 Left Half Right Half Sub Key

Round: 1 00110010000011000111110001000010

100111100001111111011001110000001

Round: 2 100111100001111111011001110000001

00101010001110010010001011101000

Round: 3 00101010001110010010001011101000

110100111111101000100110001101011

Round: 4 110100111111101000100110001101011

11101111010101011000000101001101

Round: 5 11101111010101011000000101001101

01100100011100100100111011110110

Round: 6 01100100011100100100111011110110

10001000000100111010010101100010

Round: 7 10001000000100111010010101100010

00110011100110100101101110011101

Round: 8 00110011100110100101101110011101

1000011101000000010111111111101100

Round: 9 1000011101000000010111111111101100

01111111001010101010111110000000101

Round: 10 01111111001010101010111110000000101

011000010001101100011111110000011

Round: 11 011000010001101100011111110000011

00011011001000001000101111101000

Round: 12 000110110010000010001011111101000

011100010101001001100010101011110

Round: 13 011100010101001001100010101011110

11100110001011100001100100001010

Round: 14 11100110001011100001100100001010

00000000101110111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101110111110011110110001

00000001111111110000000000000000000

000000011110111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 100111101111011001010000011111111

1100111011010111100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101110001111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: AB98AD28432B3E4F After Initial Permutation: 9042C4B5076DEFF1

Left Half Right Half Sub Key

Round: 1 00000111011011011111111111110001

10000110111001001001110001000110

Round: 2 10000110111001001001110001000110

1011011110101111100000111100100000

Round: 3 10110111101011110000011100100000

01111110010001001111100111111000000

Round: 4 0111110010001001111100111111000000

1111101010010011010101010101011101

Round: 5 11111010100100110101010101011101

0001110111111100010111110000000010

Round: 6 0001110111111100010111110000000010

101111000010100011001111100100101

Round: 7 10111100001010001100111100100101

101011111100001100000000100101100

Round: 8 101011111100001100000000100101100

01011111100111000101000110110100001

Round: 9 01011111001110001010001101100001

001100001101101111101100001101000

Round: 10 00110000110110111101100001101000

11000011010000010100100000110010

Round: 11 11000011010000010100100000110010

11011100100100110110100010111001

Round: 12 11011100100100110110100010111001

01100100101100011011011010000100

Round: 13 01100100101100011011011010000100

01111000010011000000110001100010

Round: 14 01111000010011000000110001100010

0000000101100111110011100100001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011100100001

00000001111111110000000000000000000

00000001111111111000000010010010000

Data Being Encrypted: BE9D9923F2E00FCC After Initial Permutation: B017C34EB739C759

Left Half Right Half

Round: 1 10110111001110011100011101011001

110111100111000011011111100100101

Round: 2 11011110011100001101111100100101

00000100001110100001110000111101

Round: 3 00000100001110100001110000111101

10111010110100011000111001000101

Round: 4 10111010110100011000111001000101

1001010111101011100111111111101011

Round: 5 1001010111101011100111111111101011

10000111100001101100000010010111

Round: 6 100001111100001101100000010010111

1000000011111011101010100110100

Round: 7 10000000011111011101010100110100

011010101111101100010110011101000

Round: 8 01101010111101100010110011101000

101100111011111110010010001000111

Round: 9 101100111011111110010010001000111

11101000000100000111110111100101

Round: 10 11101000000100000111110111100101

1111101011010110110100001001101111

Round: 11 1111101011010110110100001001101111

00001010000001101111100000001101

Round: 12 00001010000001101111100000001101

000101100100110010101111111001000

Round: 13 000101100100110010101111111001000

011010001111111101000111001001001

Round: 14 011010001111111101000111001001001

00000000101100111110011110101110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110101110

00000001111111110000000000000000000

0000000011111111100000000000011111

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: A29562F366F822D3 After Initial Permutation: BCAA128AAB7D20DD

Left Half Right Half

Round: 1 101010110111111010010000011011101

10001011010000011010100101001101

Round: 2 1000101101000001101010010101101

00110010100100001010111001010100

Round: 3 00110010100100001010111001010100

011011011011100100010010111101000

Round: 4 011011011011100100010010111101000

11010001010011000101000001000011

Round: 5 11010001010011000101000001000011

11011011100101101100010000010100

Round: 6 11011011100101101100010000010100

010100000010001110111001111111101

Round: 7 010100000010001110111001111111101

01010101001001010011001100110111

Round: 8 01010101001001010011001100110111

1011101010011010000101010101000001

Round: 9 10111010100110100001010101000001

010001010001110111111110010011100

Round: 10 010001010001110111111110010011100

110101110101101111110111001110110

Round: 11 110101110101101111110111001110110

11000110011011001011100011110010

Round: 12 11000110011011001011100011110010

11010000000011100111011010101111

Round: 13 11010000000011100111011010101111

111001100010111110001100101001010

Round: 14 11100110001011111000110010101010

00000000101000111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101000111110011110110001

0000000111111111000000000000000000

000000011101111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 000011001000011011010110110100100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

100111101111011001010000011111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

110100101111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

1100111011010111100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

0011001011110001111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

000000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: E0FA46A7086AEB7C After Initial Permutation: E7828C484BEBF26E Left Half Right Half Sub Key

Round: 1 0100101111110101111111001001101110

1110010111110010010100011001111111

Round: 2 11100101111001001010001100111111

101111010000110011111110000111111

Round: 3 101111010000110011111110000111111

10101001110001110010001101001001

Round: 4 10101001110001110010001101001001

00011101101000100100110110110111

Round: 5 00011101101000100100110110110111

11000110000010011011000100111000

Round: 6 11000110000010011011000100111000

0011111001100100110111110010010000

Round: 7 001111001100100110111110010010000

000111101010101111100111101110111

Round: 8 00011110101010111110011110111

00010000100001010000011101101101

Round: 9 00010000100001010000011101101101

10000000110000001100010010011010

Round: 10 10000000110000001100010010011010

01010001000001110101110111000000

Round: 11 01010001000001110101110111000000

110110000110111110010100001001110

Round: 12 11011000011011110010100001001110

11001100100001101110000111101000

Round: 13 11001100100001101110000111101000

011000001111111001000101001101000

Round: 14 011000001111111001000101001101000

00000000101100111110011110000110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110000110

00000001111111110000000000000000000

000000001111111110000000000110111

Data Being Encrypted: D8737A96B6FC722F After Initial Permutation: 677FB88239F6A5DE

Left Half Right Half Sub Key

Round: 1 00111001111101101010010111011110

1100101100100010011111111110010110

Round: 2 1100101100100010011111111110010110

0001010001111110110000101010101011

Round: 3 000101000111110110000101010101011

110000111111100101100000011010111

Round: 4 110000111111100101100000011010111

10011001100101010011000001001100

Round: 5 10011001100101010011000001001100

100110111110000000001001001101011

Round: 6 10011011110000000001001001101011

001100110010110011110111011111111

Round: 7 00110011001011001111011101111111

1010011111110000100011011111100000

Round: 8 1010011111110000100011011111100000

00010011001010011100010101100101

Round: 9 00010011001010011100010101100101

000001001111111010110100010110000

Round: 10 000001001111111010110100010110000

00110100000100000110110111000001

Round: 11 00110100000100000110110111000001

00100101100101101010011010001010

Round: 12 00100101100101101010011010001010

101010100100011111001010000000110

Round: 13 10101010010001111001010000000110

011010101111011101000001001001000

Round: 14 01101010111011101000001001001000

00000000101100111110011110110110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110110

00000001111111110000000000000000000

0000000011111111100000000000000111

Data Being Encrypted: 506BF855264CBAD1 After Initial Permutation: AFCD388AC4566652

Left Half Right Half Sub Key

Round: 1 11000100010101100110011001010010

10111001001010100001011011101001

Round: 2 10111001001010100001011011101001

01000101001100011100001110110100

Round: 3 01000101001100011100001110110100

0011111101011011001101011110001000

Round: 4 001111101011011001101011110001000

01000011101010010100110000111001

Round: 5 01000011101010010100110000111001

11010000110001111101100011010111

Round: 6 11010000110001111101100011010111

11100101000010110011011010110001

Round: 7 11100101000010110011011010110001

010100110110101000101010111111111

Round: 8 01010011011010100010101011111111

01010010101100101110101110100001

Round: 9 01010010101100101110101110100001

101011011010011011110000110101001

Round: 10 1010110110100110111000011010101

001010110100111111001101101000111

Round: 12 00101011010011111001101101000111

011000001101101111100110100000111

Round: 13 01100000110110111100110100000111

01100110011011100000100101001010

Round: 14 0110011001101110000010010101010

0000000100100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000100100111110011110110001

00000001111111110000000000000000000

0000000110111111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

00001100100001101101011011000100

Round: 4 00001100100001101101011011000100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

1100011111110110100111010111101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: F8117AEDC1D324CF After Initial Permutation: BD27C8BAB94D8DA4

Left Half Right Half

Round: 1 10111001010011011000110110100100

1011100010100001011101111111110100

Round: 2 101110001010000101110111111110100

10100110100100011000011011000100

Round: 3 10100110100100011000011011000100

00101100001110010000000010111000

Round: 4 00101100001110010000000010111000

011000011111110110011001001001100

Round: 5 011000011111110110011001001001100

001000000100001001001101101100100

Round: 6 00100000001000010010001101100100

01101111110000100101101101000111000

Round: 7 01101111100001001011011000111000

10011001010000000000011000010011

Round: 8 10011001010000000000011000010011

100000000110111111000110100111001

Round: 9 10000000011011111000110100111001

1110101111110110000101111100011101

Round: 10 111010111110110000101111100011101

00111000001111010010001101010100

Round: 11 00111000001111010010001101010100

1100010001001111110000111100111110

Round: 12 1100010001001111110000111100111110

011000100010101111111011100111001

Round: 13 01100010001010111111011100111001

01101010011011000000110001001011

Round: 14 01101010011011000000110001001011

00000000101100111110011110111111

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110111111

00000001111111110000000000000000000

00000000111111111100000000000001110

Data Being Encrypted: F7B6C9FACA9A4147 After Initial Permutation: DD2B83C53F0B3CBB

Left Half Right Half

Sub Key

Round: 1 00111111100001011001111100101111011

110101111001000111111000000011111

Round: 2 1101011110010001111110000000011111

011111100000100011011000101101101

Round: 3 01111100000100011011000101101101

00111001100110100010000111011111

Round: 4 00111001100110100010000111011111

01010001010010000101110111011100

Round: 5 01010001010010000101110111011100

001111010111000111111110101100001

Round: 6 001111010111000111111110101100001

01010011100111011101001111001000

Round: 7 01010011100111011101001111001000

11001110001100001001010000011000

Round: 8 11001110001100001001010000011000

11010011101110001101000111100010

Round: 9 11010011101110001101000111100010

011111100111110010111100011111110111

Round: 10 01111100111100101110001111110111

111010011010011111100010010011101

Round: 11 111010011010011111100010010011101

0110111111010011001100101011111000

Round: 12 011011111010011001100101011111000

0110010011111100110100110111100010

Round: 13 011001001111100110100110111100010

011110100100111100000110001100010

Round: 14 01111010010011100000110001100010

00000000101100111110011101010111

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101010111

0000000111111111000000000000000000

0000000011111111110000000011100110

Data Being Encrypted: 6F5C020214E45C09 After Initial Permutation: 635273812021C30D

Left Half Right Half

Round: 1 00100000001000011100001100001101

10010011101001111011110010110010

Round: 2 10010011101001111011110010110010

01000001000100000010100001010000

Round: 3 01000001000100000010100001010000

00001001000100111110110111001111

Round: 4 00001001000100111110110111101111

10010111101110000001110100101000

Round: 5 10010111101110000001110100101000

00001010110011100000100110101111

Round: 6 00001010110011100000100110101111

0000011111111001001111000011110011

Round: 7 0000011111111001001111000011110011

1111010101111100101111010110001101

Round: 8 111101010111110010111010110001101

11011110001111011101101001001111

Round: 9 11011110001111011101101001001111

100000001001100101010011111110000

Round: 10 10000000100110010101011111110000

00111100111010001010110011000110

Round: 11 00111100111010001010110011000110

0011000001101010101001101010100011

Round: 12 001100000110101010101010101010101

01100000111011010101101001000100

Round: 13 01100000111011010101101001000100

01100010111011001000011001101001

Round: 14 01100010111011001000011001101001

00000000101100111110011110111110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110111110

0000000111111111000000000000000000

000000001111111110000000000001111

Data Being Encrypted: BA8A7499FFA3F3B4 After Initial Permutation: 54DD9478FBF51B73

Left Half Right Half

Round: 1 111110111111101010001101101110011

00101001011001101011000111010110

Round: 2 00101001011001101011000111010110

00010011011111011110110010000001

Round: 3 00010011011111011110110010000001

01100011101000110000001100111011

Round: 4 01100011101000110000001100111011

10010100100101101100010100111011

Round: 5 10010100100101101100010100111011

101100001110110001100100101111000

Round: 6 10110000111011000110010010111000

00100100000100010011000111011010

Round: 7 00100100000100010011000111011010

1111011111101000001111110110000010

Round: 8 1111011111101000001111110110000010

Round: 9 010110001000110101101111111011101

10001100111101001101100110101111

Round: 10 100011001111010011011011011111

00101010110011101100001000110011

Round: 11 00101010110011101100001000110011

1010000011110000100110110110110100

Round: 12 1010000011110000100110110110100

11011011111101001110101010100101111

Round: 13 11011011111010011101010100101111

011001100110111110000100001001110

Round: 14 011001100110111110000100001001110

00000000111100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000111100111110011110110001

000000001111111110000000000000000000

0000000101111111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E Left Half Right Half Sub Key

Round: 1 00100100010111011110001000101110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 000011001000011011010110110100100

1111011001100110101110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 11000111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101111000111100110100001111

Round: 13 00110010111000111100110100001111

01100010011011100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 04E079D6B2553B5D After Initial Permutation: AEFCA9E41A56C458

Left Half Right Half Sub Key

Round: 1 00011010010101101100010001011000

0110101100110111111001111111000110

Round: 2 0110101100110111111001111111000110

100000010011110111011111100111001

Round: 3 10000001001111011101111100111001

0100100001010101010001000110111101

Round: 4 01001000010101010001000110111101

001111001111101111101101011110110

Round: 5 00111100111110111110110101110110

1111100111111110010000010111110100

Round: 6 1111100111111110010000010111110100

01001010100110001010000110000111

Round: 7 01001010100110001010000110000111

11000100100110111010101000110010

Round: 8 11000100100110111010101000110010

110010110001011011100110111111110

Round: 9 11001011000101101110011011111110

10001010011010100001100001100101

Round: 10 10001010011010100001100001100101

10010101001101100100011101001100

Round: 11 10010101001101100100011101001100

00101101001100111010011000001000

Round: 12 00101101001100111010011000001000

001100010000011111111100110100001

Round: 13 001100010000011111111100110100001

01101000011011000000010001101010

Round: 14 01101000011011000000010001101010

00000000101100111110011110001101

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110001101

00000001111111110000000000000000000

000000001111111110000000000111100

Data Being Encrypted: DF35060B91294550 After Initial Permutation: C193477B1122290D

Left Half Right Half Sub Key

Round: 1 00010001001000100010100100001101

11010101101000101000100111000100

Round: 2 11010101101000101000100111000100

00010011010001110001100010101000

Round: 3 00010011010001110001100010101000

10101000000101000010010110101011

Round: 4 10101000000101000010010110101011

10100010100101101001110000001000

Round: 5 10100010100101101001110000001000

01111010010111011100001010000010

Round: 6 01111010010111011100001010000010

1111010001111110111000011001111110

Round: 7 1111010001111110111000011001111110

10100101101000010010011001100110

Round: 8 10100101101000010010011001100110

11010011010110111011010010011001

Round: 9 110100110110110111011010010011001

100000101000110111001001111111110

Round: 10 100000101000110111001001111111110

1010111010011111110111011111101100

Round: 11 10101110100111111101110111101100

11110010100111100111100101111010100

Round: 12 11110010100111001110010111010100

0011110100010100111111111100111100

Round: 13 001111010001010011111111100111100

011100000101111100000010001100011

Round: 14 01110000010111100000010001100011

00000000101100111110011101000111

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101000111

00000001111111110000000000000000000

0000000011111111110000000011110110

Data Being Encrypted: 068FEBDB31F66D71 After Initial Permutation: ECB863DE2EF44E2F

Left Half Right Half

Round: 1 001011101111010001001111000101111

00010001101100001110001100100000

Round: 2 00010001101100001110001100100000

111110000101110010011111101001101

Round: 3 111110000101111001001111101001101

100100010101011111010010110001101

Round: 4 10010001010101111010010110001101

1010011001001111111010000011111010

Round: 5 101001100100111111101000001111010

00001000001110110110101000100000

Round: 6 00001000001110110110101000100000

110101100100111110011010100000110

Round: 7 110101100100111110011010100000110

11001101110011000100100100111101

Round: 8 11001101110011000100100100111101

000001101011001111100101101011001

Round: 9 00000110101100111100101101011001

0010000101010110111110010101110000

Round: 10 00100001010101101111001010110000

1111010010101011111100010101011111

Round: 11 1111010010101011111100010101011111

00010000010000001101011010010110

Round: 12 00010000010000001101011010010110

1001101001001111110110100101011110

Round: 13 100110100100111110110100101011110

01101000111011101000111001001000

Round: 14 01101000111011101000111001001000

00000000101100111110011110001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110001110

00000001111111110000000000000000000

000000001111111110000000000111111

Data Being Encrypted: ED41F003DE816DA9 After Initial Permutation: 571451EBB5C5D118

Left Half Right Half

Round: 1 101101011100010111101000100011000

11101001000001001110010101000111

Round: 2 11101001000001001110010101000111

011010111100111101011010001000000

Round: 3 01101011100111101011010001000000

001010010110110011011111100101010

Round: 4 001010010110110011011111100101010

10110011100101110001100001110001

Round: 5 101100111100101110001100001110001

1010001100111111001011011111001100

Round: 6 10100011001111100101101111001100

10000111001111000001101101010111

Round: 7 10000111001111000001101101010011

10000011011010010011001100010000

Round: 8 10000011011010010011001100010000

00100011100001110010001010011001

Round: 9 00100011100001110010001010011001

11001001111001111000111100001110

Round: 10 11001001111001111000111100001110

01111010010011001000010110110111

Round: 11 01111010010011001000010110110111

00100000010111011010010010011001

Round: 12 00100000010111011010010010011001

00011010001001001101010001101111

Round: 13 00011010001001001101010001101111

01100010011001110100100001001110

Round: 14 01100010011001110100100001001110

0000000001100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000001100111110011110110001

00000001111111110000000000000000000

0000000011111111000000000000000000

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half

Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 00001100100001101101011011000100

11110110011001101011110111111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000100011111111000010011

110001111111011010011101011101000

Round: 7 110001111111011010011101011101000

111001110111101100101100111110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 10011110111101100101000001111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

00110010111000111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

0000000111111111000000000000000000

00000001111111110000000000000000000

Data Being Encrypted: 0ED5A2ABE5A66047 After Initial Permutation: D202B39A3E7C09AD

Left Half Right Half

Round: 1 001111100111111000000100110101101

010100001111011011011001101111100

Round: 2 010100001111011011011001101111100

110000011000110000101011110110011

Round: 3 11000001100011000010101110110011

00011010100010001001110010111101

Round: 4 000110101000100010011110010111101

01101110010011101000110111101111

Round: 5 01101110010011101000110111101111

011100111101001000001011111111001

Round: 6 011100111101001000001011111111001

01100100000011001000100101000000

Round: 7 01100100000011001000100101000000

001111011101100010101010111000001

Round: 8 00111101110110001010101011000001

000101001111100011001111011000011

Round: 9 00010100111100011001111011000011

1110010111101010110011011011010101

Round: 10 11100101111101010110011011010101

010011100001111110000101001011111

Round: 11 01001110000111110000101001011111

010110100100101010101011111001101

Round: 12 01011010010010101010101111001101

00110101000101011011000001100011

Round: 13 001101010101011011011000001100011

01110010010011000000010001000010

Round: 14 0111001001001100000001000100010

00000000101100111110011101001111

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001111

0000000111111111000000000000000000

0000000011111111100000000111111110

Data Being Encrypted: 3EE737AFDF1950AE After Initial Permutation: 52759F3E9A8FB99F

Left Half Right Half Sub Key

Round: 1 10011010100011111011100110011111

111000010001011111110110000010011

Round: 2 111000010001011111110110000010011

0011111001110101111101111101011110

Round: 3 00111110011101011110111101011110

11111111100000011111100000101011111

Round: 4 11111111100000011111100000101011111

001111111000000001100010000000001

Round: 5 001111111000000001100010000000001

001110100111111110010000101101111

Round: 6 001110100111111110010000101101111

011011111111111111001111110000111100

Round: 7 0110111111111111100111111000011100

000110010111111010010100010110000

Round: 8 000110010111111010010100010110000

00110110001001001011000011110010

Round: 9 00110110001001001011000011110010

011101010011001111001010111100111

Round: 10 011101010011001111001010111100111

000110110111000101111110011010111

Round: 11 00011011011100010111110011010111

1111111010011110010010011011101101

Round: 12 11111101001110010010011011101101

01101000011101001101110110000111

Round: 13 01101000011101001101110110000111

01110010110011001000011001100000

Round: 14 01110010110011001000011001100000

00000000101100111110011101001010

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001010

000000001111111110000000000000000000

000000001111111110000000011111011

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855 Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

10011000110111001011101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: 705EF227649A6918 After Initial Permutation: 57A71A48245DE22E

Left Half Right Half Sub Key

Round: 1 001001000101110111100010001011110

11010010111001010001000110100110

Round: 2 11010010111001010001000110100110

10000100000100111100111010111111

Round: 3 10000100000100111100111010111111

000011001000011011010110110100100

Round: 4 000011001000011011010110110100100

1111011001100110101111011111111100

Round: 5 111101100110011010111011111111100

000000000000100011111111000010011

Round: 6 0000000000000111111111000010011

110001111111011010011101011101000

Round: 7 110001111111011010011101011101000

11100111011110110010110011110011

Round: 8 11100111011110110010110011110011

10011110111101100101000001111111

Round: 9 100111101111011001010000011111111

110011101101011100110101111001000

Round: 10 11001110110101110011010111001000

10001111011010101000011101010101

Round: 11 10001111011010101000011101010101

10100101000111001000011101000001

Round: 12 10100101000111001000011101000001

001100101110001111100110100001111

Round: 13 00110010111000111100110100001111

011000100110111100000100001001010

Round: 14 01100010011011100000100001001010

00000000101100111110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110110001

00000001111111110000000000000000000

0000000111111111000000000000000000

Data Being Encrypted: 56FD4CF48980C8BD After Initial Permutation: 4F8B8F92FA8AD601

Left Half Right Half Sub Key

Round: 1 11111010100010101101011000000001

110011110000111111110001000011101

Round: 2 110011110000111111110001000011101

000110010101111000000001110101011

Round: 3 000110010101111000000001110101011

00100000100001111001101010101000

Round: 4 00100000100001111001101010101000

11001001101000011110100010100000

Round: 5 11001001101000011110100010100000

00001101100001010110100011101011

Round: 6 00001101100001010110100011101011

0010110111110001111111100010000111

Round: 7 001011011110001111111100010000111

10110010000101110011001111100101

Round: 8 10110010000101110011001111100101

01011101000000110011000100100100001

Round: 9 01011101000000110011000100100001

100110100001011111111101010110100

Round: 10 100110100001011111111101010110100

011101101111100100010001101001001

Round: 11 01110110111100100010001101001001

01011001101001100000111100100001

Round: 12 01011001101001100000111100100001

10100011100000101100010110101101

Round: 13 10100011100000101100010110101101

11000010011010100001100001001010

Round: 14 11000010011010100001100001001010

00000000101100101110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100101110011110110001

00000001111111110000000000000000000

00000001111111100000000000000000000

Data Being Encrypted: 3A4287419F5D19CF After Initial Permutation: AA71B4FC9401F197

Left Half Right Half

Round: 1 10010100000000011111000110010111

0110010010110101111010000111111100

Round: 2 011001001011010111010000111111100

1001111011111100000100111110011100

Round: 3 100111101111110000010011110011100

00011110011010010101010001001001

Round: 4 00011110011010010101010001001001

11000000000110101100100001111101

Round: 5 11000000000110101100100001111101

101011101010000111110100011010010

Round: 6 10101110101000011110100011010010

10000011100110100001000110111101

Round: 7 10000011100110100001000110111101

100001111001101011110000101011011

Round: 8 100001111001101011110000101011011

10001110000010110011101110001001

Round: 9 10001110000010110011101110001001

100010001110110101011110000111100

Round: 10 100010001110110101011110000111100

10001111000110100110000001010011

Round: 11 10001111000110100110000001010011

01000100000100001101011110011000

Round: 12 01000100000100001101011110011000

01110101100111011011011001110000

Round: 13 01110101100111011011011001110000

01111010010011000000010001100010

Round: 14 01111010010011000000010001100010

00000000101100111110011101001101

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001101

00000001111111110000000000000000000

00000000111111111100000000111111100

E27037BDEFD49E9C Data Being Encrypted: After Initial Permutation: 33EEFC1CF91FD855

> Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 000100101111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

000000001011001111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half

Round: 1 111110010001111111101100001010101

001000000110101011110100010110011

Round: 2 001000000110101011110100010110011

00111000000010001001000101101110

Round: 3 0011100000001000100100101101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

101010110110001111011111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

0000000111111111000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: 068FEBDB31F66D71 After Initial Permutation: ECB863DE2EF44E2F

Left Half Right Half

Round: 1 001011101111010001001111000101111

00010001101100001110001100100000

Round: 2 00010001101100001110001100100000

111110000101110010011111101001101

Round: 3 11111000010111001001111101001101

100100010101011111010010110001101

Round: 4 10010001010101111010010110001101

101001100100111111101000001111010

Round: 5 101001100100111111101000001111010

00001000001110110110101000100000

Round: 6 00001000001110110110101000100000

110101100100111110011010100000110

Round: 7 110101100100111110011010100000110

11001101110011000100100100111101

Round: 8 11001101110011000100100100111101

000001101011001111001011010110101

Round: 9 000001101011100111100101101011001

0010000101010110111110010101110000

Round: 10 00100001010101101111001010110000

1111010010101011111100010101011111

Round: 11 1111010010101011111100010101011111

00010000010000001101011010010110

Round: 12 00010000010000001101011010010110

1001101001001111110110100101011110

Round: 13 100110100100111110110100101011110

01101000111011101000111001001000

Round: 14 01101000111011101000111001001000

0000000101100111110011110001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011110001110

0000000111111111000000000000000000

000000001111111110000000000111111

Data Being Encrypted: 1B5C2F6913B67AE8 After Initial Permutation: CA73261DA0ECCF75

Left Half Right Half Sub Key

Round: 1 10100000111011001100111101110101

110011110000011010000010101111001

Round: 2 11001111000001101000001010111001

01101111011011010011001010110111

Round: 3 01101111011011010011001010110111

111111101011100011010011111000110

Round: 4 111111110101110001101001111000110

11000111010100001010001010011100

Round: 5 11000111010100001010001010011100

00010001000110101000101111000011

Round: 6 00010001000110101000101111000011

0110110010011111101111110000000111

Round: 7 01101100100111111011111100000000111

0011111111010010111000111100010110

Round: 8 0011111111010010111000111100010110

111100010100110101111110111000011

Round: 9 111100010100110101111110111000011

01000101000101101000110100001101

Round: 10 01000101000101101000110100001101

000111000100101100110000000011011

Round: 11 000111000100101100110000000011011

10000101000011000100010001000011

Round: 12 1000010100001100010001000100011

00100011010100010100001110101111

Round: 13 00100011010100010100001110101111

11100010011011100001100000001010

Round: 14 11100010011011100001100000001010

00000000101100011110011110110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100011110011110110001

000000001111111110000000000000000000

0000000111111101000000000000000000

Data Being Encrypted: ED244F7143AA7E0A After Initial Permutation: 5D48471D216BE5F4 Left Half Right Half Sub Key

Round: 1 0010000101101011111100101111110100

010100100000000000000101111111111

Round: 2 010100100000000000000101111111110

11000101111010011110101110100110

Round: 3 11000101111010011110101110100110

11010110011001101001101100011101

Round: 4 11010110011001101001101100011101

11111000101110000011100011011010

Round: 5 11111000101110000011100011011010

111011110001011000010111111100010

Round: 6 111011110001011000010111111100010

0101110010001011110001111111001001

Round: 7 010111001000101110001111111001001

000001000101001111111011001100011

Round: 8 00000100010100111111011001100011

111010111110010010000001001111000

Round: 9 11101011110010010000001001111000

10000100101110011100011011100100

Round: 10 10000100101110011100011011100100

01010011011100110001110110011001

Round: 11 01010011011100110001110110011001

111111010000111111110010000100101

Round: 12 111111010000111111110010000100101

00100100011100011010010011101100

Round: 13 00100100011100011010010011101100

011100100100111100000110001100010

Round: 14 01110010010011100000110001100010

00000000101100111110011101001001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001001

00000001111111110000000000000000000

0000000011111111110000000011111000

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 0011100000001000100100101101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

101010110110001111011111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

000000001111111110000000011111111

Data Being Encrypted: 0ED5A2ABE5A66047 After Initial Permutation: D202B39A3E7C09AD

Left Half Right Half Sub Key

Round: 1 001111100111111000000100110101101

010100001111011011011001101111100

Round: 2 01010000111101101101100110111100

11000001100011000010101110110011

Round: 3 11000001100011000010101110110011

00011010100010001001110010111101

Round: 4 00011010100010001001110010111101

011011100100111101000110111101111

Round: 5 01101110010011101000110111101111

011100111101001000001011111111001

Round: 6 011100111101001000001011111111001

01100100000011001000100101000000

Round: 7 01100100000011001000100101000000

001111011101100010101010111000001

Round: 8 001111011101100010101010101000001

000101001111100011001111011000011

Round: 9 00010100111100011001111011000011

111001011110101011001101101010101

Round: 10 1110010111101010110011011010101

010011100001111110000101001011111

Round: 11 010011100001111110000101001011111

010110100100101010101011111001101

Round: 12 01011010010010101010101111001101

00110101000101011011000001100011

Round: 13 00110101000101011011000001100011

01110010010011000000010001000010

Round: 14 0111001001001100000001000100010

00000000101100111110011101001111

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001111

00000001111111110000000000000000000

0000000011111111100000000111111110

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 001000000110101011110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

101010110110001111011111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

000000001111111110000000011111111

Data Being Encrypted: 04BC923699622A0D After Initial Permutation: 201E8B90166AD26C

Left Half Right Half Sub Key

Round: 1 00010110011010101101001001101100

111000101011001101101110000000001

Round: 2 11100010101100110110111000000001

110011101010011111101110000000100

Round: 3 11001110101001111101110000000100

00000011000100100111101101000001

Round: 4 00000011000100100111101101000001

000110011010001111100001101111101

Round: 5 00011001101000111100001101111101

1111010011110010101010100100110001

Round: 6 1111010011110010101010100100110001

011100011011111100010010000111101

Round: 7 011100011011111100010010000111101

011010000111111001101110101001000

Round: 8 01101000011111001101110101001000

10010011011111001100010001000111

Round: 9 10010011011111001100010001000111

11101010010100110001110111010111

Round: 10 11101010010100110001110111010111

11011110010010110110101000011011

Round: 11 11011110010010110110101000011011

00111011111100101111111111000100001

Round: 12 0011101111110010111111111000100001

00011101111001100011101001100010

Round: 13 00011101111001100011101001100010

11101010101011001001001001101000

Round: 14 11101010101011001001001001101000

000000001011011111110011110110010

000110110010100010001101001100110010000100010011

Round: 15 00000000101101111110011110110010

00000001111111110000000000000000000

00000000111110110000000000000011

Data Being Encrypted: D67A797FF68ADAF7 After Initial Permutation: DFDF998CF19E6EFB

Left Half Right Half Sub Key

Round: 1 111100011001111001101111111111111

00100001101100100110011001000100

Round: 2 00100001101100100110011001000100

111001001011001011010111110101010

Round: 3 111001001011001011010111110101010

00000010000101100001011010110011

Round: 4 00000010000101100001011010110011

111101111001101111111010100111011

Round: 5 111101111001101111111010100111011

10100001101110010100000111110110

Round: 6 10100001101110010100000111110110

010110110001010111101001010101101

Round: 7 010110110001010111101001010101101

10001000111100011010100111000111

Round: 8 100010001111000110101010111000111

1101000001011011111101001111111110

Round: 9 1101000001011011111101001111111110

10000001010000001010111011010000

Round: 10 1000000101000000101111011010000

100101011111001111111111011111100111

Round: 11 1001010111110011111111101111100111

11111001100011010000110101001111

Round: 12 11111001100011010000110101001111

1110110011111000000111111110100010

Round: 13 111011001111000000111111110100010

01111000010111000000110001100011

Round: 14 01111000010111000000110001100011

00000000101100111110011101000001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101000001

0000000111111111000000000000000000

0000000011111111110000000011110000

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Round: 1 111110010001111111101100001010101

Right Half

001000000110101011110100010110011

Left Half

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

10011000110111001011101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

0000000111111111000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: 59CBBE4A43CC5545 After Initial Permutation: FB45E4D326042F1E

Left Half Right Half Sub Key

Round: 1 00100110000001000010111100011110

101101010011111011101001000010001

Round: 2 10110101001111011101001000010001

1010101011111111111001001011111101

Round: 3 1010101011111111111001001011111101

0010110110110110110111100000010111

Round: 4 001011011011011011011100000010111

11010010100001011010000011100110

Round: 5 11010010100001011010000011100110

00010001110000101001011000101001

Round: 6 00010001110000101001011000101001

10101011001110000001101101001101

Round: 7 10101011001110000001101101001101

101100011001111111011001010100101

Round: 8 1011000110011111110110010101010101

01101111111111010110000011011110010

Round: 9 011011111111101011000001101110010

11101100000011000110000111100000

Round: 10 11101100000011000110000111100000

11101111001101101110111111111111100

Round: 11 11101111001101101110111110111100

00110010100100110100010100001100

Round: 12 00110010100100110100010100001100

0110000001111111010011111110000001

Round: 13 0110000001111111010011111110000001

01110000110011001000011001100001

Round: 14 01110000110011001000011001100001

00000000101100111110011101011110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101011110

000000001111111110000000000000000000

000000001111111110000000011101111

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855 Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

10011000110111001011101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: D4CEB62ADCD55179 After Initial Permutation: F3F537E0378C9A0E

Left Half Right Half Sub Key

Round: 1 00110111100011001001101000001110

10000100000010100011110101010101

Round: 2 10000100000010100011110101010101

101110101111111010001110101001001

Round: 3 101110101111111010001110101001001

01111101010011110110100010010010010

Round: 4 0111110101001110110100010010010

110110001100001101111111000101100

Round: 5 110110001100001101111111000101100

11110101011010001101000001011011

Round: 6 11110101011010001101000001011011

1011111111100101011111010100000001

Round: 7 1011111111100101011111010100000001

10011101000100010010100110110100

Round: 8 10011101000100010010100110110100

001100100101100110011101111110110

Round: 9 001100100101100110011101111110110

01001111011000001110011010011010

Round: 10 01001111011000001110011010011010

000011100111111100000010011110111

Round: 11 000011100111111100000010011110111

010101111011001110101111111010101

Round: 12 010101111011001110101111111010101

110011011101001001111101000111111

Round: 13 11001101110100100111101000111111

111011101010111101001001100001000

Round: 14 111011101010111101001001100001000

000000001011101111110011110110110

000110110010100010001101001100110010000100010011

Round: 15 00000000101110111110011110110110

0000000111111111000000000000000000

00000001111011100000000000000111

Data Being Encrypted: 3DB67FF8318B453E After Initial Permutation: 4C9FC7752A9FADA6

Left Half Right Half Sub Key

Round: 1 001010101001111111010110110100110

00101001000110111011100111101101

Round: 2 00101001000110111011100111101101

11010011011001110101100110011011

Round: 3 11010011011001110101100110011011

0101111110010111100011110100001110

Round: 4 010111110010111100011110100001110

11110101100001000101001110100100

Round: 5 11110101100001000101001110100100

011111011001101101100000101111100

Round: 6 011111011001101101100000101111100

10101100000011000101010101011111

Round: 7 10101100000011000101010101011011

0111001011111100101010101110000101

Round: 8 0111001011111100101010101101000101

01010001010100010011101001000010

Round: 9 01010001010100010011101001000010

101000010001111111010110111011100

Round: 10 10100001000111111010110111011100

001001110111100010110001110111110

Round: 11 00100111011110001011000111011110

111101010011111010100000000100111

Round: 12 111101010011111010100000000100111

00100100011100011010000011110101

Round: 13 00100100011100011010000011110101

01110010010011100000110001000010

Round: 14 01110010010011100000110001000010

00000000101100111110011101010001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101010001

00000001111111110000000000000000000

000000001111111110000000011100000

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half Sub

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 001000000110101011110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

101010110110001111011111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

000000001111111110000000011111111

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half S

Round: 1 111110010001111111101100001010101

001000000110101011110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

000000001011001111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half

Round: 1 111110010001111111101100001010101

001000000110101011110100010110011

Round: 2 001000000110101011110100010110011

00111000000010001001000101101110

Round: 3 0011100000001000100100101101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101

101010110110001111011111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

0000000111111111000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: 0A6B9492F2A14C27 After Initial Permutation: 521CC4A23CB2439B

Left Half Right Half

Round: 1 00111100101100100100001110011011

001110011011001110110110111111001

Round: 2 001110011011001110110110111111001

10110010000011001010010000001000

Round: 3 10110010000011001010010000001000

000010101011111011101000110100110

Round: 4 00001010101111011101000110100110

01001001000001011000110000000010

Round: 5 01001001000001011000110000000010

01000111010001111011100000001110

Round: 6 010001110100011110111000000001110

101101000010001011111001010100110

Round: 7 101101000010001011110010101010110

00100011010111100110111111111001100

Round: 8 0010001101011110011011111111001100

0001100011001010010111111111000101

Round: 9 000110001100101010111111111000101

111000001000100101111110001000111

Round: 10 11100000100010010111110001000111

01011100000011101001101000001000

Round: 11 01011100000011101001101000001000

10100010001000100011111010101001

Round: 12 1010001000100010001111101010101

0111011111100010010100100101011111

Round: 13 01110111110001001010010010101111

111001101010110110010111101101001

Round: 14 11100110101011011001011101101001

00000000101000111110011110111110

000110110010100010001101001100110010000100010011

Round: 15 00000000101000111110011110111110

0000000111111111000000000000000000

00000000111011110000000000001111

Data Being Encrypted: 4D43EE49CE3E6BB0 After Initial Permutation: 5FA0354B94E47D76

Left Half Right Half Sub Key

Round: 1 100101001111001000111110101110110

010101101101000000110100110111001

Round: 2 01010110110100000110100110111001

0011111101001111100000111001110110

Round: 3 00111110100111100000111001110110

1011111111111111101000001111101001

Round: 4 10111111111111111101000001111101001

11111111001000001101011010100100101

Round: 5 111111110010000011010110100100101

111000111100111001010111110110010

Round: 6 111000111100111001010111110110010

001110101010010010000101111110000

Round: 7 001110101010010010000101111110000

00101010000000000001110111101101

Round: 8 00101010000000000001110111101101

11101010111111011111010011011110100

Round: 9 11101010111110111101001101110100

0011111101001001101111010011110110

Round: 10 00111110100100110111010011110110

11001110010110011001110000100010

Round: 11 11001110010110011001110000100010

10111100001001011000111010010101

Round: 12 10111100001001011000111010010101

00110100011100011100000011001101

Round: 13 00110100011100011100000011001101

01110000010011100000100001000010

Round: 14 01110000010011100000100001000010

00000000101100111110011101110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101110001

000000001111111110000000000000000000

000000001111111110000000011000000

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855 Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

10011000110111001011101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 0011100000001000100100101101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

101010110110001111011111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

000000001111111110000000011111111

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 001000000110101011110100010110011

00111000000010001001000101101110

Round: 3 0011100000001000100100101101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

00000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: 094A74B9C180871F After Initial Permutation: 168CC4D9780C8BC2

Left Half Right Half

Round: 1 01111000000011001000101111000010

01100000110101010100000101100110

Round: 2 01100000110101010100000101100110

01110001100110100000000001100001

Round: 3 011100011001101000000000001100001

01001011010011011101010110010001

Round: 4 01001011010011011101010110010001

00011010011000100110001101000111

Round: 5 00011010011000100110001101000111

001111101010000100001111111100101

Round: 6 001111101010000100001111111100101

01001011100111001000010000010110

Round: 7 01001011100111001000010000010110

01100111101011001011011010011101

Round: 8 01100111101011001011011010011101

011101110111111111111110000000000111

Round: 9 0111011101111111110111000000000111

10110110101111111100001010011111000

Round: 10 1011011010111111100001010011111000

11101101110111010011110111001101

Round: 11 11101101110111010011110111001101

11100001100010011110000001101010

Round: 12 11100001100010011110000001101010

000001000101010011101111111000000

Round: 13 000001000101010011101111111000000

01101100111111111010001111101001001

Round: 14 011011001111111101000111101001001

00000001001001111110011110101110

000110110010100010001101001100110010000100010011

Round: 15 00000000100100111110011110101110

00000001111111110000000000000000000

0000000110111110000000000011111

Data Being Encrypted: C49E2B2510C8A822 After Initial Permutation: 21120B0C63CC6686

Left Half Right Half S

Round: 1 01100011110011000110011010000110

001100010000011111100011101001110

Round: 2 00110001000001111100011101001110

01000111011010011010000111011111

Round: 3 01000111011010011010000111011111

1110100111111001111111010010001001

Round: 4 1110100111111001111111010010001001

111100111110011111011011010011011

Round: 5 111100111110011111011011010011011

011110100101000111110011110001100

Round: 6 01111010010100011110011110001100

101000010010101011111110000101100

Round: 7 101000010010101011111110000101100

01110100101111100111111110110111100

Round: 8 0111010010111110011111111011011100

01110001011110010011010011000101

Round: 9 01110001011110010011010011000101

00010100110011010001101010000000

Round: 10 00010100110011010001101010000000

00111100110111110110110010111111

Round: 11 00111100110111110110110010111111

10001001011010000111101101110001

Round: 12 10001001011010000111101101110001

00101100001100001011101111010011

Round: 13 00101100001100001011101111010011

011100100101111100000110001000011

Round: 14 011100100101111100000110001000011

0000000101100111110011100110001

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011100110001

00000001111111110000000000000000000

00000001111111111000000010000000

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 001000000110101011110100010110011

00111000000010001001000101101110

Round: 3 0011100000001000100100101101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 000100101111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101

101010110110001111011111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

100110001101110010111101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

0000000111111111000000000000000000

0000000011111111100000000111111111

Left Half

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Round: 1 111110010001111111101100001010101

Right Half

001000000110101011110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 0111001110011100011011110110100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

10011000110111001011101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

0000000111111111000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: E27037BDEFD49E9C After Initial Permutation: 33EEFC1CF91FD855

Left Half Right Half Sub Key

Round: 1 111110010001111111101100001010101

00100000011010101110100010110011

Round: 2 00100000011010101110100010110011

00111000000010001001000101101110

Round: 3 00111000000010001001001001101110

000000110110101010111100110010111

Round: 4 000000110110101010111100110010111

0111001000011111110001011111110110

Round: 5 0111001000011111110001011111110110

0001001011111001001011111100011111

Round: 6 0001001011111001001011111100011111

01000010110101100010110011101100

Round: 7 01000010110101100010110011101100

00101101000000001001110110001101

Round: 8 00101101000000001001110110001101

01110011100111000110111101101100

Round: 9 01110011100111000110111101101100

10101011011000111101111101101000

Round: 10 10101011011000111101111101101000

11110101100001011011101001001111

Round: 11 11110101100001011011101001001111

11001111010110011100111000010111

Round: 12 11001111010110011100111000010111

10011000110111001011101101001010

Round: 13 10011000110111001011101101001010

01111010110011101000111001000000

Round: 14 01111010110011101000111001000000

00000000101100111110011101001110

000110110010100010001101001100110010000100010011

Round: 15 00000000101100111110011101001110

000000001111111110000000000000000000

0000000011111111100000000111111111

Data Being Encrypted: 05BF84AA9C8C7144 After Initial Permutation: C052B7433E4A3A0A Left Half Right Half Sub Key

Round: 1 00111110010010100011101000001010

0101111110010010101111010100100010

Round: 2 010111110010010101111010100100010

10111001101001011101101000010100

Round: 3 10111001101001011101101000010100

10101010110101100001101100101111

Round: 4 10101010110101100001101100101111

110010010010100001010111110011001

Round: 5 11001001001010000101011110011001

1101101010101010101101111010000010

Round: 6 1101101010101010110111010000010

100011110010111111011001010010011

Round: 7 10001111001011111011001010010011

101111110011001010000000111010011

Round: 8 101111110011001010000000111010011

01110001001110001001101110001011

Round: 9 01110001001110001001101110001011

01011001000100001111010000100110

Round: 10 01011001000100001111010000100110

11001101010000101110111000000001

Round: 11 110011010100001011101110000000001

110111010110011011111000011101110

Round: 12 110111010110011011111000011101110

001101101110011001000110101111101

Round: 13 00110110111001100100011010111101

01101011000100100001001110100101

Round: 14 01101011000100100001001110100101

10100000011101110011011111001110

000110110010100010001101001100110010000100010011

Round: 15 10100000011101110011011111001110

00000001111111111110000000000000000

0000000000111111111000000111111111

4. Bagaimana hasil image, setelah ciphertext dikembalikan menjadi plaintext?

