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Block Cipher Modes of Operation

Cipher Block Chaining (CBC)

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CBC-TDES (Encryption)

Key1 is

01234567 89ABCDEF

Key2 is

23456789 ABCDEF01

Key3 is

456789AB CDEF0123

IV is

F69F2445 DF4F9B17

Plaintext is

6BC1BEE2 2E409F96 E93D7E11 7393172A

AE2D8A57 1E03AC9C 9EB76FAC 45AF8E51

Block #1

Plaintext 6BC1BEE2 2E409F96

InputBlock 9D5E9AA7 F10F0481

OutputBlock 2079C3D5 3AA763E1

Ciphertext 2079C3D5 3AA763E1

Block #2

Plaintext E93D7E11 7393172A

InputBlock C944BDC4 493474CB

OutputBlock 93B79E25 69AB5262

Ciphertext 93B79E25 69AB5262

Block #3

Plaintext AE2D8A57 1E03AC9C

InputBlock 3D9A1472 77A8FEFE

OutputBlock 51657048 1F25B50F

Ciphertext 51657048 1F25B50F

Block #4

Plaintext 9EB76FAC 45AF8E51

InputBlock CFD21FE4 5A8A3B5E

OutputBlock 73C0BDA8 5C8E0DA7

Ciphertext 73C0BDA8 5C8E0DA7

Ciphertext is
2079C3D5 3AA763E1 93B79E25 69AB5262
51657048 1F25B50F 73C0BDA8 5C8E0DA7

=====
CBC-TDES (Decryption)

Key1 is
01234567 89ABCDEF

Key2 is
23456789 ABCDEF01

Key3 is
456789AB CDEF0123

IV is
F69F2445 DF4F9B17

Ciphertext is
2079C3D5 3AA763E1 93B79E25 69AB5262
51657048 1F25B50F 73C0BDA8 5C8E0DA7

Block #1
Ciphertext 2079C3D5 3AA763E1
InputBlock 2079C3D5 3AA763E1
OutputBlock 9D5E9AA7 F10F0481
Plaintext 6BC1BEE2 2E409F96

Block #2
Ciphertext 93B79E25 69AB5262
InputBlock 93B79E25 69AB5262
OutputBlock C944BDC4 493474CB
Plaintext E93D7E11 7393172A

Block #3
Ciphertext 51657048 1F25B50F
InputBlock 51657048 1F25B50F
OutputBlock 3D9A1472 77A8FEFE
Plaintext AE2D8A57 1E03AC9C

Block #4
Ciphertext 73C0BDA8 5C8E0DA7
InputBlock 73C0BDA8 5C8E0DA7
OutputBlock CFD21FE4 5A8A3B5E
Plaintext 9EB76FAC 45AF8E51

Plaintext is

6BC1BEE2 2E409F96 E93D7E11 7393172A
AE2D8A57 1E03AC9C 9EB76FAC 45AF8E51

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Block Cipher Modes of Operation

Cipher Block Chaining (CBC)

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CBC-TDES (Encryption)

Key1 is

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Key2 is

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Key3 is

01234567 89ABCDEF

IV is

F69F2445 DF4F9B17

Plaintext is

6BC1BEE2 2E409F96 E93D7E11 7393172A
AE2D8A57 1E03AC9C 9EB76FAC 45AF8E51

Block #1

Plaintext	6BC1BEE2 2E409F96
InputBlock	9D5E9AA7 F10F0481
OutputBlock	7401CE1E AB6D003C
Ciphertext	7401CE1E AB6D003C

Block #2

Plaintext	E93D7E11 7393172A
InputBlock	9D3CB00F D8FE1716
OutputBlock	AFF84BF4 7B36CC21
Ciphertext	AFF84BF4 7B36CC21

Block #3

Plaintext	AE2D8A57 1E03AC9C
InputBlock	01D5C1A3 653560BD

OutputBlock 54F0238F 9FFECD8F
Ciphertext 54F0238F 9FFECD8F

Block #4

Plaintext 9EB76FAC 45AF8E51
InputBlock CA474C23 DA5143DE
OutputBlock 6ACF1183 92B45581
Ciphertext 6ACF1183 92B45581

Ciphertext is

7401CE1E AB6D003C AFF84BF4 7B36CC21
54F0238F 9FFECD8F 6ACF1183 92B45581

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CBC-TDES (Decryption)

Key1 is

01234567 89ABCDEF

Key2 is

23456789 ABCDEF01

Key3 is

01234567 89ABCDEF

IV is

F69F2445 DF4F9B17

Ciphertext is

7401CE1E AB6D003C AFF84BF4 7B36CC21
54F0238F 9FFECD8F 6ACF1183 92B45581

Block #1

Ciphertext 7401CE1E AB6D003C
InputBlock 7401CE1E AB6D003C
OutputBlock 9D5E9AA7 F10F0481
Plaintext 6BC1BEE2 2E409F96

Block #2

Ciphertext AFF84BF4 7B36CC21
InputBlock AFF84BF4 7B36CC21
OutputBlock 9D3CB00F D8FE1716
Plaintext E93D7E11 7393172A

Block #3

Ciphertext 54F0238F 9FFECD8F
InputBlock 54F0238F 9FFECD8F

OutputBlock 01D5C1A3 653560BD
Plaintext AE2D8A57 1E03AC9C

Block #4

Ciphertext 6ACF1183 92B45581
InputBlock 6ACF1183 92B45581
OutputBlock CA474C23 DA5143DE
Plaintext 9EB76FAC 45AF8E51

Plaintext is

6BC1BEE2 2E409F96 E93D7E11 7393172A
AE2D8A57 1E03AC9C 9EB76FAC 45AF8E51
