```
###############################################################

  Block Cipher Modes of Operation

      Cipher Feedback (CFB)

###############################################################

CFB-TDES (Encryption)
---------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    456789AB CDEF0123
IV is
    F69F2445 DF4F9B17
Plaintext is
    6B
Segment Length = 1

  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   6C4A09AC 778EE140
    Plaintext     0
    Ciphertext    0
  Segment #2
    InputBlock    ED3E488B BE9F362E
    OutputBlock   2FBAD050 3CEB5412
    Plaintext     1
    Ciphertext    1
  Segment #3
    InputBlock    DA7C9117 7D3E6C5D
    OutputBlock   BE9A7EB4 DA9131E1
    Plaintext     1
    Ciphertext    0
  Segment #4
    InputBlock    B4F9222E FA7CD8BA
    OutputBlock   986D65A9 8F72D62F
    Plaintext     0
    Ciphertext    1
  Segment #5
    InputBlock    69F2445D F4F9B175
    OutputBlock   6D87A6C5 42C50EB6
```

```
    Plaintext     1
    Ciphertext    1
  Segment #6
    InputBlock    D3E488BB E9F362EB
    OutputBlock   EDD759BC 745036D7
    Plaintext     0
    Ciphertext    1
  Segment #7
    InputBlock    A7C91177 D3E6C5D7
    OutputBlock   DE45381C F86ADC5F
    Plaintext     1
    Ciphertext    0
  Segment #8
    InputBlock    4F9222EF A7CD8BAE
    OutputBlock   A41E3F9F 5329A6F5
    Plaintext     1
    Ciphertext    0

Ciphertext is
    5C

================================================================

CFB-TDES (Decryption)
----------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    456789AB CDEF0123
IV is
    F69F2445 DF4F9B17
Ciphertext is
    5C
Segment Length = 1

  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   6C4A09AC 778EE140
    Ciphertext    0
    Plaintext     0
  Segment #2
    InputBlock    ED3E488B BE9F362E
    OutputBlock   2FBAD050 3CEB5412
```

```
    Ciphertext    1
    Plaintext     1
  Segment #3
    InputBlock    DA7C9117 7D3E6C5D
    OutputBlock   BE9A7EB4 DA9131E1
    Ciphertext    0
    Plaintext     1
  Segment #4
    InputBlock    B4F9222E FA7CD8BA
    OutputBlock   986D65A9 8F72D62F
    Ciphertext    1
    Plaintext     0
  Segment #5
    InputBlock    69F2445D F4F9B175
    OutputBlock   6D87A6C5 42C50EB6
    Ciphertext    1
    Plaintext     1
  Segment #6
    InputBlock    D3E488BB E9F362EB
    OutputBlock   EDD759BC 745036D7
    Ciphertext    1
    Plaintext     0
  Segment #7
    InputBlock    A7C91177 D3E6C5D7
    OutputBlock   DE45381C F86ADC5F
    Ciphertext    0
    Plaintext     1
  Segment #8
    InputBlock    4F9222EF A7CD8BAE
    OutputBlock   A41E3F9F 5329A6F5
    Ciphertext    0
    Plaintext     1

Plaintext is
    6B

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  Block Cipher Modes of Operation

      Cipher Feedback (CFB)

################################################################
```

```
CFB-TDES (Encryption)
----------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    456789AB CDEF0123
IV is
    F69F2445 DF4F9B17
Plaintext is
    6BC1BEE2 2E409F96
Segment Length = 8

  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   6C4A09AC 778EE140
    Plaintext     6B
    Ciphertext    07
  Segment #2
    InputBlock    9F2445DF 4F9B1707
    OutputBlock   549B701C 6F79E12F
    Plaintext     C1
    Ciphertext    95
  Segment #3
    InputBlock    2445DF4F 9B170795
    OutputBlock   A54A6F7E D46328D6
    Plaintext     BE
    Ciphertext    1B
  Segment #4
    InputBlock    45DF4F9B 1707951B
    OutputBlock   90540AC2 76832F20
    Plaintext     E2
    Ciphertext    72
  Segment #5
    InputBlock    DF4F9B17 07951B72
    OutputBlock   B3FCFC0C 2B4792F2
    Plaintext     2E
    Ciphertext    9D
  Segment #6
    InputBlock    4F9B1707 951B729D
    OutputBlock   828C80DE A7E31594
    Plaintext     40
    Ciphertext    C2
  Segment #7
```

```
    InputBlock    9B170795 1B729DC2
    OutputBlock   A5CB99BF 469D1281
    Plaintext     9F
    Ciphertext    3A
  Segment #8
    InputBlock    1707951B 729DC23A
    OutputBlock   2226EAE7 D45A1ED7
    Plaintext     96
    Ciphertext    B4

Ciphertext is
    07951B72 9DC23AB4

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CFB-TDES (Decryption)
----------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    456789AB CDEF0123
IV is
    F69F2445 DF4F9B17
Ciphertext is
    07951B72 9DC23AB4
Segment Length = 8

  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   6C4A09AC 778EE140
    Ciphertext    07
    Plaintext     6B
  Segment #2
    InputBlock    9F2445DF 4F9B1707
    OutputBlock   549B701C 6F79E12F
    Ciphertext    95
    Plaintext     C1
  Segment #3
    InputBlock    2445DF4F 9B170795
    OutputBlock   A54A6F7E D46328D6
    Ciphertext    1B
    Plaintext     BE
  Segment #4
```

```
    InputBlock    45DF4F9B 1707951B
    OutputBlock   90540AC2 76832F20
    Ciphertext    72
    Plaintext     E2
  Segment #5
    InputBlock    DF4F9B17 07951B72
    OutputBlock   B3FCFC0C 2B4792F2
    Ciphertext    9D
    Plaintext     2E
  Segment #6
    InputBlock    4F9B1707 951B729D
    OutputBlock   828C80DE A7E31594
    Ciphertext    C2
    Plaintext     40
  Segment #7
    InputBlock    9B170795 1B729DC2
    OutputBlock   A5CB99BF 469D1281
    Ciphertext    3A
    Plaintext     9F
  Segment #8
    InputBlock    1707951B 729DC23A
    OutputBlock   2226EAE7 D45A1ED7
    Ciphertext    B4
    Plaintext     96

Plaintext is
    6BC1BEE2 2E409F96

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  Block Cipher Modes of Operation

      Cipher Feedback (CFB)

##############################################################

CFB-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
Segment Length = 64

  Segment #1
    Plaintext     6BC1BEE2 2E409F96
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   6C4A09AC 778EE140
    Ciphertext    078BB74E 59CE7ED6
  Segment #2
    Plaintext     E93D7E11 7393172A
    InputBlock    078BB74E 59CE7ED6
    OutputBlock   9F5BA08D 8ACDB815
    Ciphertext    7666DE9C F95EAF3F
  Segment #3
    Plaintext     AE2D8A57 1E03AC9C
    InputBlock    7666DE9C F95EAF3F
    OutputBlock   47C0E1E3 7EF7FDCE
    Ciphertext    E9ED6BB4 60F45152
  Segment #4
    Plaintext     9EB76FAC 45AF8E51
    InputBlock    E9ED6BB4 60F45152
    OutputBlock   14E8F048 A8DE8749
    Ciphertext    8A5F9FE4 ED710918

Ciphertext is
    078BB74E 59CE7ED6 7666DE9C F95EAF3F
    E9ED6BB4 60F45152 8A5F9FE4 ED710918

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CFB-TDES (Decryption)
------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    456789AB CDEF0123
IV is
    F69F2445 DF4F9B17
```

```
Ciphertext is
    078BB74E 59CE7ED6 7666DE9C F95EAF3F
    E9ED6BB4 60F45152 8A5F9FE4 ED710918
Segment Length = 64

  Segment #1
    Ciphertext    078BB74E 59CE7ED6
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   6C4A09AC 778EE140
    Plaintext     6BC1BEE2 2E409F96
  Segment #2
    Ciphertext    7666DE9C F95EAF3F
    InputBlock    078BB74E 59CE7ED6
    OutputBlock   9F5BA08D 8ACDB815
    Plaintext     E93D7E11 7393172A
  Segment #3
    Ciphertext    E9ED6BB4 60F45152
    InputBlock    7666DE9C F95EAF3F
    OutputBlock   47C0E1E3 7EF7FDCE
    Plaintext     AE2D8A57 1E03AC9C
  Segment #4
    Ciphertext    8A5F9FE4 ED710918
    InputBlock    E9ED6BB4 60F45152
    OutputBlock   14E8F048 A8DE8749
    Plaintext     9EB76FAC 45AF8E51

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

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  Block Cipher Modes of Operation

      Cipher Feedback (CFB)

##############################################################

CFB-TDES (Encryption)
--------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
```

```
    23456789 ABCDEF01
Key3 is
    01234567 89ABCDEF
IV is
    F69F2445 DF4F9B17
Plaintext is
    6B
Segment Length = 1

  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   0A540720 EDD99653
    Plaintext     0
    Ciphertext    0
  Segment #2
    InputBlock    ED3E488B BE9F362E
    OutputBlock   5DB181E5 86EFE4EB
    Plaintext     1
    Ciphertext    1
  Segment #3
    InputBlock    DA7C9117 7D3E6C5D
    OutputBlock   646D31A0 DC8A7579
    Plaintext     1
    Ciphertext    1
  Segment #4
    InputBlock    B4F9222E FA7CD8BB
    OutputBlock   3BC130FD CEE8ACF5
    Plaintext     0
    Ciphertext    0
  Segment #5
    InputBlock    69F2445D F4F9B176
    OutputBlock   EADA0BA2 AEDA060E
    Plaintext     1
    Ciphertext    0
  Segment #6
    InputBlock    D3E488BB E9F362EC
    OutputBlock   A3F96AFE 9BD123FA
    Plaintext     0
    Ciphertext    1
  Segment #7
    InputBlock    A7C91177 D3E6C5D9
    OutputBlock   1B39FBE2 D035FFCA
    Plaintext     1
    Ciphertext    1
  Segment #8
    InputBlock    4F9222EF A7CD8BB3
```

```
    OutputBlock   AB282627 9BF068CC
    Plaintext     1
    Ciphertext    0

Ciphertext is
    66

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CFB-TDES (Decryption)
----------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    01234567 89ABCDEF
IV is
    F69F2445 DF4F9B17
Ciphertext is
    66
Segment Length = 1

  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   0A540720 EDD99653
    Ciphertext    0
    Plaintext     0
  Segment #2
    InputBlock    ED3E488B BE9F362E
    OutputBlock   5DB181E5 86EFE4EB
    Ciphertext    1
    Plaintext     1
  Segment #3
    InputBlock    DA7C9117 7D3E6C5D
    OutputBlock   646D31A0 DC8A7579
    Ciphertext    1
    Plaintext     1
  Segment #4
    InputBlock    B4F9222E FA7CD8BB
    OutputBlock   3BC130FD CEE8ACF5
    Ciphertext    0
    Plaintext     0
  Segment #5
    InputBlock    69F2445D F4F9B176
```

```
    OutputBlock   EADA0BA2 AEDA060E
    Ciphertext    0
    Plaintext     1
  Segment #6
    InputBlock    D3E488BB E9F362EC
    OutputBlock   A3F96AFE 9BD123FA
    Ciphertext    1
    Plaintext     0
  Segment #7
    InputBlock    A7C91177 D3E6C5D9
    OutputBlock   1B39FBE2 D035FFCA
    Ciphertext    1
    Plaintext     1
  Segment #8
    InputBlock    4F9222EF A7CD8BB3
    OutputBlock   AB282627 9BF068CC
    Ciphertext    0
    Plaintext     1

Plaintext is
    6B

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  Block Cipher Modes of Operation

      Cipher Feedback (CFB)

################################################################

CFB-TDES (Encryption)
----------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    01234567 89ABCDEF
IV is
    F69F2445 DF4F9B17
Plaintext is
    6BC1BEE2 2E409F96
Segment Length = 8
```

```
  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   0A540720 EDD99653
    Plaintext     6B
    Ciphertext    61
  Segment #2
    InputBlock    9F2445DF 4F9B1761
    OutputBlock   1945D01C C907BB02
    Plaintext     C1
    Ciphertext    D8
  Segment #3
    InputBlock    2445DF4F 9B1761D8
    OutputBlock   D35BBB58 8942DFDD
    Plaintext     BE
    Ciphertext    6D
  Segment #4
    InputBlock    45DF4F9B 1761D86D
    OutputBlock   784F700F C357E253
    Plaintext     E2
    Ciphertext    9A
  Segment #5
    InputBlock    DF4F9B17 61D86D9A
    OutputBlock   C0D6CB0C 186B591C
    Plaintext     2E
    Ciphertext    EE
  Segment #6
    InputBlock    4F9B1761 D86D9AEE
    OutputBlock   D6E571D3 C0FF2B27
    Plaintext     40
    Ciphertext    96
  Segment #7
    InputBlock    9B1761D8 6D9AEE96
    OutputBlock   0C42BEBD DB7CCFA3
    Plaintext     9F
    Ciphertext    93
  Segment #8
    InputBlock    1761D86D 9AEE9693
    OutputBlock   6B9A60FE B302F83F
    Plaintext     96
    Ciphertext    FD

Ciphertext is
    61D86D9A EE9693FD

============================================================
```

```
CFB-TDES (Decryption)
---------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    01234567 89ABCDEF
IV is
    F69F2445 DF4F9B17
Ciphertext is
    61D86D9A EE9693FD
Segment Length = 8

  Segment #1
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   0A540720 EDD99653
    Ciphertext    61
    Plaintext     6B
  Segment #2
    InputBlock    9F2445DF 4F9B1761
    OutputBlock   1945D01C C907BB02
    Ciphertext    D8
    Plaintext     C1
  Segment #3
    InputBlock    2445DF4F 9B1761D8
    OutputBlock   D35BBB58 8942DFDD
    Ciphertext    6D
    Plaintext     BE
  Segment #4
    InputBlock    45DF4F9B 1761D86D
    OutputBlock   784F700F C357E253
    Ciphertext    9A
    Plaintext     E2
  Segment #5
    InputBlock    DF4F9B17 61D86D9A
    OutputBlock   C0D6CB0C 186B591C
    Ciphertext    EE
    Plaintext     2E
  Segment #6
    InputBlock    4F9B1761 D86D9AEE
    OutputBlock   D6E571D3 C0FF2B27
    Ciphertext    96
    Plaintext     40
```

```
  Segment #7
    InputBlock    9B1761D8 6D9AEE96
    OutputBlock   0C42BEBD DB7CCFA3
    Ciphertext    93
    Plaintext     9F
  Segment #8
    InputBlock    1761D86D 9AEE9693
    OutputBlock   6B9A60FE B302F83F
    Ciphertext    FD
    Plaintext     96

Plaintext is
    6BC1BEE2 2E409F96

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#################################################################

  Block Cipher Modes of Operation

      Cipher Feedback (CFB)

#################################################################

CFB-TDES (Encryption)
-----------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    01234567 89ABCDEF
IV is
    F69F2445 DF4F9B17
Plaintext is
    6BC1BEE2 2E409F96 E93D7E11 7393172A
    AE2D8A57 1E03AC9C 9EB76FAC 45AF8E51
Segment Length = 64

  Segment #1
    Plaintext     6BC1BEE2 2E409F96
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   0A540720 EDD99653
    Ciphertext    6195B9C2 C39909C5
  Segment #2
```

```
    Plaintext     E93D7E11 7393172A
    InputBlock    6195B9C2 C39909C5
    OutputBlock   C7CE6D77 08C97185
    Ciphertext    2EF31366 7B5A66AF
  Segment #3
    Plaintext     AE2D8A57 1E03AC9C
    InputBlock    2EF31366 7B5A66AF
    OutputBlock   C6ABF8F4 87394679
    Ciphertext    688672A3 993AEAE5
  Segment #4
    Plaintext     9EB76FAC 45AF8E51
    InputBlock    688672A3 993AEAE5
    OutputBlock   C524754E 0B4DC20D
    Ciphertext    5B931AE2 4EE24C5C

Ciphertext is
    6195B9C2 C39909C5 2EF31366 7B5A66AF
    688672A3 993AEAE5 5B931AE2 4EE24C5C

================================================================

CFB-TDES (Decryption)
----------------------------------------------------------------

Key1 is
    01234567 89ABCDEF
Key2 is
    23456789 ABCDEF01
Key3 is
    01234567 89ABCDEF
IV is
    F69F2445 DF4F9B17
Ciphertext is
    6195B9C2 C39909C5 2EF31366 7B5A66AF
    688672A3 993AEAE5 5B931AE2 4EE24C5C
Segment Length = 64

  Segment #1
    Ciphertext    6195B9C2 C39909C5
    InputBlock    F69F2445 DF4F9B17
    OutputBlock   0A540720 EDD99653
    Plaintext     6BC1BEE2 2E409F96
  Segment #2
    Ciphertext    2EF31366 7B5A66AF
    InputBlock    6195B9C2 C39909C5
    OutputBlock   C7CE6D77 08C97185
```

```
    Plaintext     E93D7E11 7393172A
  Segment #3
    Ciphertext    688672A3 993AEAE5
    InputBlock    2EF31366 7B5A66AF
    OutputBlock   C6ABF8F4 87394679
    Plaintext     AE2D8A57 1E03AC9C
  Segment #4
    Ciphertext    5B931AE2 4EE24C5C
    InputBlock    688672A3 993AEAE5
    OutputBlock   C524754E 0B4DC20D
    Plaintext     9EB76FAC 45AF8E51

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

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```