```
//encryption subroutine
encrypt(data,key)
    {v0,v1} = data //break 32-bit data into 2*16-bit
    {k0,k1,k2,k3} = key //break 64-bit key into 4*16-bit
    sum = 0
    delta = 0x9e37 //(√5−1)×2^15
    for i:(0:15)
        sum = sum+delta
        v0 = v0 + (((v1<<4) + k0) XOR (v1 + sum) XOR ((v1>>5) + k1))
        v1 = v1 + (((v0<<4) + k2) XOR (v0 + sum) XOR ((v0>>5) + k3))
    data = {v0,v1} //combine 2*16-bit into 32-bit

//decryption subroutine
decrypt(data,key)
    {v0,v1} = data //break 32-bit data into 2*16-bit
    {k0,k1,k2,k3} = key //break 64-bit key into 4*16-bit
    sum = 0xE370
    delta = 0x9e37 //(√5−1)×2^15
    for i:(0:15)
        v1 = v1 - (((v0<<4) + k2) XOR (v0 + sum) XOR ((v0>>5) + k3))
        v0 = v0 - (((v1<<4) + k0) XOR (v1 + sum) XOR ((v1>>5) + k1))
        sum = sum - delta;
     data = {v0,v1} //combine 2*16-bit into 32-bit
```