

```

1 #include <stdio.h>
2 #include <stdlib.h>
3
4 #define MX (((z >> 5) ^ (z << 2)) + ((z >> 3) ^ (z << 4))) ^ ((sum ^ z) + (k[e] ^ z))
5
6 void xxtea_enc(unsigned long* v, unsigned long* k)
7 {
8     unsigned long z, sum, e, DELTA=0x9e3779b9;
9     unsigned int q;
10
11     q = 32; //6+52/2
12     sum = 0;
13     z = v[1];
14     do {
15         sum += DELTA;
16         e = (sum >> 2) & 3;
17         z = v[0] += MX;
18         z = v[1] += MX;
19
20         // printf("%2d,%08lX,%08lX:\n",q,v[0],v[1]);
21     } while (--q) ;
22 }
23
24 void xxtea_dec(unsigned long* v, unsigned long* k)
25 {
26     unsigned long z,sum, e, DELTA=0x9e3779b9;
27     unsigned int q;
28
29     q = 32; //6+52/4
30     sum = q * DELTA;
31     while (sum != 0)
32     {
33         e = (sum >> 2) & 3;
34
35         z = v[0];
36         v[1] -= MX;
37
38         z = v[1];
39         v[0] -= MX;
40
41         sum -= DELTA;
42     }
43 }
44
45 int main()
46 {
47     unsigned long v[2], k[4];
48
49     v[0] = 0x00000000;
50     v[1] = 0x00000000;
51     k[0] = 0x00000000;
52     k[1] = 0x00000000;
53     k[2] = 0x00000000;
54     k[3] = 0x00000000;
55     xxtea_enc(v,k);
56     printf("Encode => %08lX,%08lX\n",v[0],v[1]);
57     xxtea_dec(v,k);
58     printf("Decode => %08lX,%08lX\n",v[0],v[1]);
59
60
61     k[0] = 0x01020408;
62     k[1] = 0x10204080;
63     k[2] = 0xfffffcf8;
64     k[3] = 0xf0e0c080;
65     xxtea_enc(v,k);
66     printf("Encode => %08lX,%08lX\n",v[0],v[1]);

```

```
67  xxtea_dec(v,k);
68  printf("Decode => %08lX,%08lX\n",v[0],v[1]);
69
70  v[0] = 0xffffffff;
71  v[1] = 0xffffffff;
72  k[0] = 0x9e3779b9 ;
73  k[1] = 0x9b9773e9 ;
74  k[2] = 0xb979379e ;
75  k[3] = 0x6b695156 ;
76  xxtea_enc(v,k);
77  printf("Encode => %08lX,%08lX\n",v[0],v[1]);
78  xxtea_dec(v,k);
79  printf("Decode => %08lX,%08lX\n",v[0],v[1]);
80
81  v[0] = 0xffefcf8;
82  v[1] = 0xf0e0c080;
83  k[0] = 0x01020408;
84  k[1] = 0x10204080;
85  k[2] = 0xffefcf8;
86  k[3] = 0xf0e0c080;
87  xxtea_enc(v,k);
88  printf("Encode => %08lX,%08lX\n",v[0],v[1]);
89  xxtea_dec(v,k);
90  printf("Decode => %08lX,%08lX\n",v[0],v[1]);
91
92  return 0 ;
93 }
```