challenge 0x01

<f>:

0: mov eax,DWORD PTR [esp+0x4]

4: bswap eax

6: mov edx,eax

8: and eax,0xf0f0f0f

d: and edx,0xf0f0f0f0

13: shr edx,0x4

16: shl eax,0x4

19: or eax,edx

1b: mov edx,eax

1d: and eax,0x33333333

22: and edx,0xcccccccc

28: shr edx,0x2

2b: shl eax,0x2

2e: or eax,edx

30: mov edx,eax

32: and eax,0x55555555

37: and edx,0xaaaaaaaa

3d: add eax,eax

3f: shr edx,1

41: or eax,edx

43: ret

challenge 0x02

<f>:

0: rev w0, w0

4: and w1, w0, #0xf0f0f0f

8: and w0, w0, #0xf0f0f0f0

c: lsl w1, w1, #4

10: orr w0, w1, w0, lsr #4

14: and w1, w0, #0x33333333

18: and w0, w0, #0xcccccccc

1c: lsl w1, w1, #2

20: orr w1, w1, w0, lsr #2

24: and w0, w1, #0xaaaaaaaa

28: and w1, w1, #0x55555555

2c: add w1, w1, w1

30: orr w0, w1, w0, lsr #1

34: ret

challenge 0x03

f PROC

ROR r0,r0,#16

MVN r1,#0xff00

AND r1,r1,r0,LSR #8

BIC r0,r0,#0xff00

ORR r0,r1,r0,LSL #8

LDR r1,|L0.124|

AND r2,r1,r0,LSR #4

AND r0,r0,r1

LDR r1,|L0.128|

ORR r0,r2,r0,LSL #4

AND r2,r1,r0,LSR #2

AND r0,r0,r1

ORR r0,r2,r0,LSL #2

EOR r1,r1,r1,LSL #1

AND r2,r1,r0,LSR #1

AND r0,r0,r1

ORR r0,r2,r0,LSL #1

BX lr

ENDP

|L0.124|

DCD 0xff0f0f0f

|L0.128|

DCD 0x33333333

challenge 0x04

f PROC

MOVS r1,#0x10

RORS r0,r0,r1

LDR r2,|L0.88|

LSRS r1,r0,#8

ANDS r0,r0,r2

ANDS r1,r1,r2

LSLS r0,r0,#8

LDR r2,|L0.92|

ORRS r1,r1,r0

LSRS r0,r1,#4

ANDS r1,r1,r2

ANDS r0,r0,r2

LSLS r1,r1,#4

LDR r2,|L0.96|

ORRS r0,r0,r1

LSRS r1,r0,#2

ANDS r0,r0,r2

ANDS r1,r1,r2

LSLS r0,r0,#2

LDR r2,|L0.100|

ORRS r1,r1,r0

LSRS r0,r1,#1

ANDS r1,r1,r2

ANDS r0,r0,r2

LSLS r1,r1,#1

ORRS r0,r0,r1

BX lr

ENDP

|L0.88|

DCD 0x00ff00ff

|L0.92|

DCD 0x0f0f0f0f

|L0.96|

DCD 0x33333333

|L0.100|

DCD 0x55555555

challenge 0x03

f:

sll $2,$4,16

srl $4,$4,16

or $2,$2,$4

li $3,-16777216 # 0xffffffffff000000

li $4,16711680 # 0xff0000

ori $3,$3,0xff00

ori $4,$4,0xff

and $4,$2,$4

and $2,$2,$3

srl $2,$2,8

sll $4,$4,8

or $4,$4,$2

li $3,-252706816 # 0xfffffffff0f00000

li $2,252641280 # 0xf0f0000

ori $3,$3,0xf0f0

ori $2,$2,0xf0f

and $2,$4,$2

and $4,$4,$3

srl $4,$4,4

sll $2,$2,4

or $2,$2,$4

li $3,858980352 # 0x33330000

li $4,-859045888 # 0xffffffffcccc0000

ori $4,$4,0xcccc

ori $3,$3,0x3333

and $3,$2,$3

and $2,$2,$4

srl $2,$2,2

sll $3,$3,2

or $3,$3,$2

li $4,-1431699456 # 0xffffffffaaaa0000

li $2,1431633920 # 0x55550000

ori $4,$4,0xaaaa

ori $2,$2,0x5555

and $2,$3,$2

and $3,$3,$4

srl $3,$3,1

sll $2,$2,1

j $31

or $2,$2,$3