

No.
Date

王思正

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第 1 = +108056.004 王思正

1. top:

cmp N, 0

jb next

mov eax, A

cmp N, eax

jle next

cmp N, -8

jle L2

mov eax, B

cmp N, eax

jle L1

mov eax, C

cmp N, eax

jne L2

L1:

add N, 1

jmp top

L2:

add N, 3

jmp top

next:

2. top:

mov eax, int1

cmp int2, eax

jb next

add ebx, 2

cmp ebx, int2

jbe L2

L1:

mov ebx, 0

jmp top

L2:

mov ebx, int1

jmp top

next:

3. low 8 bits (FF 00)h

AND AX, (11111111 00000000)b

4.

op1	op2	diff	CF	OF	SF	ZF	signed	unsigned
F9	F6	03	0	0	0	0	op1 > op2	op1 > op2
F6	F9	F0	1	0	1	0	op1 < op2	op1 < op2
15	F6	1F	1	0	0	0	op1 > op2	op1 < op2
F6	15	E1	0	0	1	0	op1 < op2	op1 > op2

F9 1111 1001 - 1
F6 1111 0110
15 0001 0101

- 5.
- OP TAB: 儲存 Mnemonic 及其 opcode 值, 靜態 (symbol)
 - SYM TAB: 儲存 Label name 及其 address 值, 動態建立
 - LOC TR: 看 Location 記到了哪裡

- 6.
- EX DEF: 定義其它 section 可以用到自己的哪個 symbol
 - EX REF: 定義那些將會用到屬於其它 section 的 symbol

7. Duplicate: pass 1 => 在作 SYM TAB 時, 重複宣告了一個 symbol
Undefined: pass 2 => 在作 object code 時查表查不到 => 未定義

8.

4000 LDX

4003 LDB

4006 A

4009 J

400C J

400F STA

4012 RMB

4015 JMPESW

5785 RETN

5788 INTD

578B IRESW

(a) 04 5788

(b) 00 5788

(c) 18 015

(d) 2C 5785

(e) 38 4006

(f) 0C 578B

(g) 00 0000

20013 1000 bytes

11600

16 375

11 25

1

2005

1770

5003

No.
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IMI

9. (a)

RETADR - (PC)

$$30 - 03 = 2D$$

$$op = 14 = 00010100 \quad ni \times bpe \quad 110010 \quad 02Dh$$

$$17202D \times$$

(b)

LENGTH - PC

$$33 - 6 = 02D$$

$$op = 68$$

$$ni \times bpe \quad 010010 \quad 02D$$

$$69202D \times$$

(c)

$$op = 48$$

$$RDREU \quad 01036$$

$$ni \times bpe \quad 110010 \quad 4B$$

$$101036 \times$$

(d)

$$op = 3C$$

CLUP - PC

$$ni \times bpe \quad 110010$$

$$161 - 1A = -20 \quad 110100 \quad 16 \quad 11101100$$

F E C

$$3F2FEC \times$$

(e)

(BUFFER) PC

$$36 - 20 = 16$$

$$op = 0C$$

$$ni \times bpe \quad 110010 \quad 01h$$

$$0F2016 \times$$

(f)

(LENGTH) PC

$$33 - 26 = 0D$$

$$op = 0C$$

$$ni \times bpe \quad 110010 \quad 00h$$

$$0F200D \times$$

(g)

RETADR - PC

$$30 - 2D = 03$$

$$op = 3C$$

$$ni \times bpe \quad 100010$$

$$003$$

$$3E2003 \times$$

Indirect

block	start	length
0	0000	11
1	0066	B
2	0071	1000

(a) $NPREG - PC \rightarrow \text{high block 0}$
 $27 - 6 = 21$

op = 48 $\begin{matrix} ni \times b \times pc \\ 110010 \end{matrix}$ 4B2021*

(b) $RETADR - PC$
 $\text{block 1} + 0$
 $66 - 27 = 3F$

op = 3C $\begin{matrix} ni \times b \times pc \\ 100010 \end{matrix}$ 3E203F*

(c) $MAXLEN = 10000 \rightarrow \text{block 0}$

op = 74 $\begin{matrix} ni \times b \times pc \\ 010001 \end{matrix}$ 75101000*

(d) $BUFFER - PC$
 $\text{block 2} + 0$
 $71 - 42 = 2F$

op = 54 $\begin{matrix} ni \times b \times pc \\ 111010 \end{matrix}$ 57A02F*

(e) $LENGTH - PC$
 $\text{block 1} + 3$
 $66 - 52 = 14$

op = 74 $\begin{matrix} ni \times b \times pc \\ 110010 \end{matrix}$ 772017*

(f) $WLOOP - PC$
 $\text{block 0} + 3$

$52 - 63 = -11$
 $-11 \rightarrow 17 \dots 10001$
 $16 \dots 1111$

op = 38 $\begin{matrix} ni \times b \times pc \\ 110010 \end{matrix}$ 3B2FEF*

11.

(a)

OP SUB

RDPREC

=> in EXTREF => 外面的 => 未知 先填 0

OP = 48

ni x bpc
11 0001

48 100000

(b)

OP STX

LENGTH => in EXTREF => 先填 0

OP = 10

ni x bpc
11 0001

131 000000

(c)

+ LDCH

BUFFER

x => in EXTREF => 填 0

OP = 50

ni x bpc
11 1001

539 000000

(a): $M_{A000004A05A} + RDPREC$

(b): $M_{A000021A05A} + LENGTH$

(c): $M_{A00000DA05A} + BUFFER$

↑

针对要修改的位置 (byte)

只要改 5 个

(address)

将确切的位置填上去

=> 形成完整 object code

↑
给 loader 做