

5.13

- a. 0001011010100000
- b. 1001011011111111
0001011011100001
0001001010000011
- c. 0001001001100000

d. 不能。NZP三个寄存器只会有1个为1, 因为一个数只会为正数、负数或0当中的一种情况, 不会同时为两者。

e. AND R2, R2, #0; R2 ← 0

5.15

R₁ = X3121

R₂ = X4566

R₃ = XABCD

R₄ = XABCD

5.16

a. LD, PC相对寻址, 偏移可以在 $\pm 2^8$ 的地址。

b. LDI, 间接寻址, 可以访问到整个内存的任意地方。

c. LDR, 基址偏移寻址, 可以在基址的基础上连续偏移。

5.25

0011000000000000
1001001011111111
0001001001100001
0001001010000001
0000010000000011
0000001000000100
0001001011100000
1111000000100101
0101001001100000
1111000000100101
0001001010100000
1111000000100101

6.9

0011000000000000
0010000000000101
0010001000000101
1111000000100001
0001001001111111
0000001111111101
1111000000100101
0000000001011010
0000000001100100

6.12

a. 0011000000000000
1111000000100000
1111000000100001
1111000000100101

b. 0011000000000000
0010100000001110
0010011000001111
0010001000001101
1001001001111111
0001001001100001
1111000000100000
0001010000000001
0000010000000011
0111000011000000
0001011011100001
0000111111111010
0111100011000000
0010000000000100
1111000000100010
1111000000100101
0000000000000000
0000000000001010
0011001100110011

6.18

0011000000000000
1010000000001011
1010001000001011
0101010010100000
1001001001111111
0001001001100001
0001000000000001
0000100000000100
0001010010100001
1011000000001110
1011010000000100
0000111111111010
1111000000100101
0100000000000000
0100000000000001
0101000000000000
0101000000000001

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7.1

101001111111110

7.4

Symbol	Address
Test	x301F
Finish	x3027
Save3	x3029
Save2	x302A

7.5

a. 计算 M0 和 M1 指向的内存单元的值的乘积. 并将结果放到 RESULT 指向的内存。

b. x200C

7.11

```
.ORIG x3000
TRAP x23
AND R3, R3, #0
ADD R3, R3, #9
LD R4, TONUMBER
LD R5, ISHEXNUM
LD R1, DEC
ADD R1, R1, R0
BRz GETNUMS
LD R1, HEX
ADD R1, R1, R0
BRnp FINISH
ADD R3, R3, #6
GETNUMS TRAP x23
ST R0, CHAR1
TRAP x23
ST R0, CHAR2
LEA R6, CHAR1
AND R2, R2, #0
ADD R2, R2, #2
AND R0, R0, #0
LOOP ADD R1, R3, #0
ADD R7, R0, #0
LPCUR ADD R0, R0, R7
ADD R1, R1, #-1
BRp LPCUR
LDR R1, R6, #0
ADD R1, R1, R4
ADD R0, R0, R1
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```

        ADD R1, R1, R5
        BRn DONECUR
DONECUR ADD R0, R0, #-7
        ADD R6, R6, #1
        ADD R2, R2, #-1
        BRp LOOP
        AND R2, R2, #0
        ADD R2, R2, #8
        LEA R3, BINEND
        LD R4, ZEROCHAR
        AND R5, R5, #0
        ADD R5, R5, #1
STLP    AND R1, R0, R5
        BRp ONENUM
        ADD R1, R4, #0
        BRnzp STORCH
ONENUM  ADD R1, R4, #1
STORCH  ADD R5, R5, R5
        STR R1, R3, #-1
        ADD R3, R3, #-1
        ADD R2, R2, #-1
        BRp STLP
        LEA R0, BINARY
        TRAP x22
FINISH  HALT
CHAR1   .FILL x0
CHAR2   .FILL x0
ZEROCHAR .FILL x30
ISHEXNUM .FILL x-11
TONUMBER .FILL x-30
HEX     .FILL x-78
DEC     .FILL x-23
BINARY  .BLKW 8
BINEND  .FILL x0
        .END

```