# hw1

【共配置51分】

1.2 (1')

no.

1.4 (1')

ambiguity.

1.10 (4')

definiteness: each step is precisely stated

effective computability: each step can be carried out by a computer

finiteness: the procedure terminates

(三个点每点1', 简要解释1')

1.16 (3')

the number of opcodes, data types, addressing modes.

(此题参考课本描述, 只答operand是不对的, 答acceptable representations for operands是对的)

1.18 (2')

one. many.

2.4 (3')

$2^n$. (1')

$0 \sim 2^n - 1$. (2')

2.8 (6')

a. 0111 1111(bin). 127(dec). (2')

b. 1000 0000(bin). -128(dec). (2')

c. $2^{n-1} - 1$. (1')

d. $-2^{n-1}$. (1')
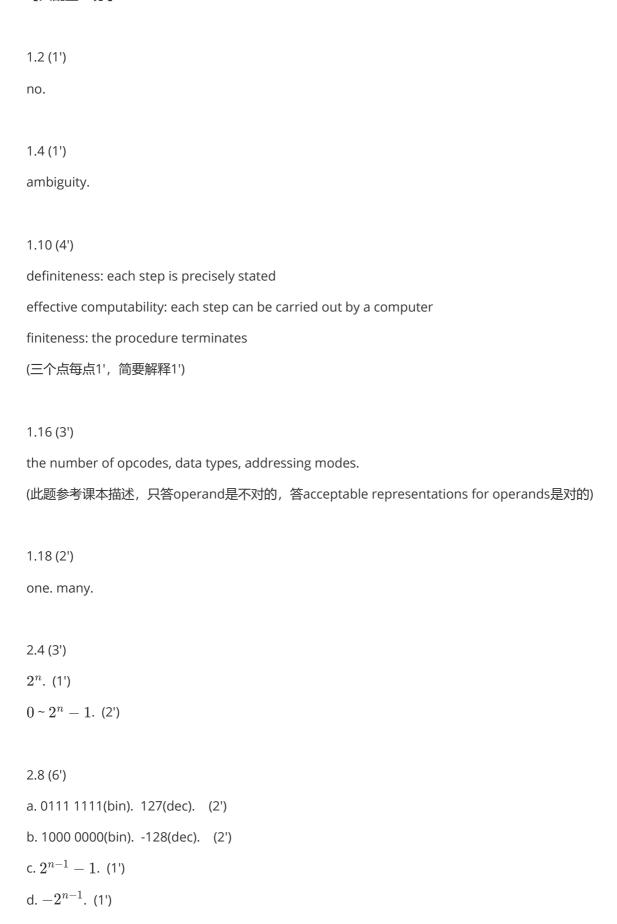
2.17 (8')

a. 1100(bin).  -4(dec).  (2')

b. 0101 0100(bin).  84(dec).  (2')

c. 0011(bin).  3(dec).  (2')

d. 11(bin).  -1(dec).  (2')


2.20 (15')

a. 1100(-4) + 0011(+3) = 1111(-1). no overflow.  (3') (计算正确1'，操作数和结果都用十进制表示1'，溢出判断1')

b. 1100(-4) + 0100(+4) = 0000(0). no overflow.  (3')

c. 0111(+7) + 0001(+1) = 1000(-8). overflow.  (3')

d. 1000(-8) - 0001(+1) = 0111(+7). overflow.  (3')

e. 0111(+7) + 1001(-7) = 0000(0). no overflow.  (3')


2.34 (8')

a. 0111  (2')

b. 0111  (2')

c. 1101  (2')

d. 0110  (2')