

Homework1

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1.9

Yes, they are, provided they can be organised into a series of unambiguous logical statements.

1.11

Open a folder, find the file, and do something.

1.16

Storage system, data types, register, addressing modes.

1.18

A single microarchitecture usually implements only one ISA, but a ISA can have many microarchitecture to exist for it.

2.8

- (a) binary: 0111 1111, decimal: 127.
- (b) binary: 1000 0000, decimal: -128.
- (c) $2^{n-1} - 1$
- (d) -2^{n-1}

2.14

- (a) 1100
- (b) 1010
- (c) 1111
- (d) 01011
- (e) 10000

2.22

$$16384 + 16384 = -32768$$

2.24

$$32768 + 32768 = 0$$

2.27

The problem is that the two positive number adds to a negative number because overflow.

2.34

- (a) 0111
- (b) 0111
- (c) 1101
- (d) 0110