1.1.3 Section Review, Questions 1,3, 8, 12

1. Assemblers convert assembly source code into machine language and linkers combine this code into a single program.

3. A one-to-many relationship in a high-level language with assembly language means that a single statement in a high-level language (like C++) translates to multiple assembly or machine code instructions.

8. Type checking on pointer variables is stronger in C and C++ because, for instance, C++ does not allow a pointer of one type to be assigned to a pointer of another type while assembly has no such rules.

12.

mov eax,Y

mul eax,4

mov ebx,3

iadd ebx

mov X,eax

1.2.1 Section Review, Questions 2, 3, 10

2. Translated programs execute more quickly because program instructions execute directly on the hardware, rather than having to be decoded first in the case of interpreted programs.

3. True

10. They are translated into statements at the ISA level.

1.3.9 Section Review, Questions 2, 3, 5, 6, 7

2. a. 248

b. 202

c. 240

3. a. 10001

b. 101000000

c. 00011110

5. a. 7

b. 9

c. 15

6. a. 35DA

b. 3E88B8DF8732B

c. 3F28CB11E09C3

7. a. 10100100011010010011111110111100

b. 10110110100101111100011110100001

c. 101011001111011001010001100001

1.7.1 Short Answer, Questions 1-22 and 25

1. The bit on the left (2^8)
2. a. 53

b. 150

c. 204

1. a. 0110001010

b. 0110010110

c. 0100100001

1. 0110
2. a. 16 bits

b. 32 bits

c. 64 bits

d. 128 bits

1. a. 12 bits

b. 16 bits

c. 16 bits

1. a. 35DA

b. CEA3

c. FEDB

1. a. 1001001101111100111010100

b. 1101010110011011111101010010101

c. 11110110100110111101110000101010

1. a. 58

b. 447

c. 4097

1. a. 98

b. 1203

c. 671

1. a. FFE8

b. FEB5

1. a. FFEB

b. FFD3

1. a. +27641

b. -16093

1. a. +19666

b. -32208

1. a. -75

b. 42

c. -16

1. a. -128

b. -52  
 c. -73

1. a. 11111011

b. 11010110

c. 11110000

1. a. 10111000

b. 10011110

c. 11100110

1. a. AB2

b. 1106

1. a. B82

b. 1316

1. Hex: 42

Dec: 66

1. Hex: 47

Dec: 71

1. A B A ∨ B ¬(A ∨ B)

------------------------------------------------

F F F T

F T T F

T F T F

T T T F

1.7.2 Algorithm Workbench, Choose any 1 question