Covers sections 9.5-9.9

Written Homework

zyBook Exercises are labeled in the text with an "E" in the title bar. You do not have to copy the questions for any of the written homework in your solutions that you turn in.

1) zyBook exercise 9.5.1, Parts c, d, e, f

2) zyBook exercise 9.5.2, Parts c, d, e, f

3) Compute the decimal representation for each of the following numbers.

   (a) $(1101011)_2$

   (b) $(561)_7$

   (c) $(2AF)_{16}$

   (d) $(220101)_3$

   (e) $(3A9)_{11}$

   (f) $(60011)_8$

4) A number N is given below in decimal format. Compute the representation of N in the indicated base.

   (a) $N = 187$, binary

   (b) $N = 334$, hex

   (c) $N = 155$, base 7

   (d) $N = 582$, base 5

   (e) $N = 77$, base 3

5) Give a binary representation for each number given below in hex. Drop the leading zeroes in your binary representation.

   (a) F3

   (b) 5B1E

   (c) 1FF32

6) Give a hexadecimal representation for each number given below in binary.

   (a) 11

   (b) 10101

   (c) 1101011000110001111

7) zyBook exercise 9.6.6

8) zyBook exercise 9.7.1

9) Compute the values of each of the following expressions. You should not need a calculator.

   (a) $(63)^{49} \mod 11$

   (b) $(40)^{21} \mod 7$

   (c) $(46)^{43} \mod 11$

   (d) $(32)^{45} \mod 9$

10) zyBook exercise 9.9.1

11) zyBook exercise 9.9.2

Challenge Activities (marked with a "C" in the title bar)

1) Challenge Activity 9.6.1