

Name _____

Recitation _____

COMP114, Homework #1.

Due Tuesday, January 22 at the beginning of class.

1. Convert the following numbers to the other formats

a. Decimal 2002 Binary _____ Hex 0x _____

b. Decimal _____ Binary 10110100101 Hex 0x _____

c. Decimal _____ Binary _____ Hex 0x 123

d. Decimal 114 Binary _____ Hex 0x _____

e. Decimal _____ Binary _____ Hex 0x 1ab

2. What is the result of the following arithmetic expressions

a. Binary (write answer as binary)

$$11001 + 111 = \underline{\hspace{2cm}}$$

$$10010 + 11 = \underline{\hspace{2cm}}$$

b. Hex

$$0x1c + 0xa = \underline{\hspace{2cm}}$$

3. Unicode (www.unicode.org) is a way to encode characters. Java uses the 16-bit Unicode format that is designed to represent a variety of international character sets. The code for a 'J' is 0x4a, for 'a' it's 0x61, and 'v' it's 0x76 (see www.unicode.org/charts/PDF/U0000.pdf).

a. What are the decimal and binary representations of the Unicode characters 'J', 'a', and 'v'?

Decimal

Binary

'J'

'a'

'v'