CMPU-224 Lab 2 Quiz

Spring 2025

Name: _____

This is a closed book, closed notes quiz. No electronic devices are allowed. You have until 3:30pm to complete the quiz. There are a total of 10 questions and 10 points.

Good Luck!

1. (1 point) Write the URL for the class website: https://cs224.cs.vassar.edu

2. (1 point) Convert the decimal (base-10) integer `37` to binary: 100101

   32 16 8 4 2 1
   1 0 0 1 0 1

3. (1 point) Convert the unsigned binary (base-2) integer `110010` to decimal: 50

   32 16 2 = 50

   32 16 8 4 2 1
   1 1 0 0 1 0

4. (1 point) Convert the binary integer `1001101010` to hexadecimal (base-16): 0x26A

5. (1 point) Convert the hexadecimal integer `0xC54` to binary: 110001010100

6. (1 point) Convert the decimal integer `-24` to a 8-bit sign and magnitude number.

   Give your answer in **hexadecimal**: 0x98

   1

   168421
   1001:1000
   1

7. (1 point) Convert the decimal integer `-24` to a 8-bit one's complement number.

   Give your answer in **hexadecimal**: 0xE7

   00011000
   1110:0111

8. (1 point) Convert the decimal integer `-24` to a 8-bit two's complement number.

   Give your answer in **hexadecimal**: 0xE8

   11100111
   \+ 1
   1110:1000

9. (1 point) Convert the unsigned base-3 number 1210_3 to a decimal number: 48

   27
   18
   3
   48

   27931
   1210

10. (1 point) What is the largest (most positive) 10-bit two's complement number?

    Give your answer in **hexadecimal**: 0x1FF

    01 1111 1111