CSC 180, Lab 4, Part 1

Answer these questions on a separate sheet of paper. You can use code and tools to verify your answers, but you must show your work where specified to receive credit.

1. What is the decimal value of the binary number 101001 (you must show the addition of multiples of 2 to receive credit).

2. What is the binary value of the decimal number 25 (you must show quotients and remainders to receive credit).

3. What is the decimal value of the hexadecimal number F5B (you must show the addition of multiples of 16 to receive credit).

4. Find the sum of 14 (01110) and 5 (00101) in binary, and verify that your answer in binary is equivalent to 19 (you must show the addition to receive credit).

5. How many discrete values can be stored in 2 bytes of memory (you must show the math behind this calculation to receive credit)?

6. Suppose that an image requires 2MB of memory. How many images can be stored on a 1 GB flash drive? Recall that 1 MB = 1024^2 bytes and 1 GB = 1024^3 bytes (you must show the math behind this calculation to receive credit).

7. Find the two's complement of the binary number 1010, when 4 bits are used. Note that since 1010 is the binary value of 5, its two's complement would represent -5 (you must show the inverse and addition steps to receive credit).