Computer Logic 3

1. Why do we use 2's complement binary representation?

   _____

2. Binary Arithmetic

   a. Represent the decimal number 95 in an 8-bit register.

      _____

   b. Represent the decimal number -120 in 8-bit two's complement.

      _____

   Working:

3. Given a 9-bit register:

   a. What is the range of unsigned binary numbers that can be represented in this register? Give answer in both binary and decimal.

      _____

      _____

   b. What is the range of two's complement numbers that can be represented in such a register? Give answer in both binary and decimal

      _____

      _____

   c. Explain why the largest decimal number using 8-bit register in two's complement is 127 and not 128.

      _____