EE1001 Part 2 - Tutorial 2

1. Find the 9's, 10's, 1's (8-bit) and 2's (8-bit) complement of decimal numbers: 27 and 73.

2. Find the decimal value of the following 8-bit 2's complement numbers:

   (a) 10011000, (b) 00011101, (c) 11111010, (e) 01100101

3. Express the following decimal numbers in 6-bit 2's complement representation:

   (a) -16, (b) 13, (c) -3, (d) -10, (e) 26, (f) -42

4. Convert decimal numbers 104 and 45 to 8-bit unsigned binary number and find the sum and check for its correctness.

5. Convert decimal numbers 104 and -45 to 8-bit 2's complement number and find the sum and check for its correctness.

6. Represent the following decimal numbers in 8-bit 2's complement numbers and use ***addition*** to perform the following arithmetic operation, and check for the correctness of the answers:

   (a) 44+45, (b) 104+32, (c) -39+92, (d) -17-63, (e) -103-69

7. Express two BCD numbers 585 and 367 in binary format and perform binary addition. Find the sum and express the result in BCD format.

8. Express two decimal numbers 13 and 11 in 4-bit unsigned binary number and perform binary multiplication to find the product.

9. Find the quotient and remainder for 101110010 ÷ 1001.

10. Find the result of 101110010 ÷ 1001 with 6 fractional digits.