Assignment-I (submission date: 2020/10/7)

1. Subtract using 2's complement method:
   a. $(1111101)_2 - (100101)_2$
   b. $(10011000)_2 - (1001100)_2$

2. Use r's complement method to subtract the following.
   a. $(100)_2 - (110000)_2$
   b. $(7850)_{10} - (7650)_{10}$
   c. $(1010)_2 - (1000)_2$
   d. $(1000)_2 - (1010)_2$

3. Perform the following operation:
   a. $(211)_x = (125)_8$,find value of x.
   b. $(10101)_{gray} = (?)_2$
   c. $(756)_8 = (?)_{16}$
   d. $(256)_{10} = (?)_8$
   e. $(11011.11)_2 = (?)_{10}$
   f. $(3ACD)_{16} = (?)_{16}$
   g. $(777)_8 = (?)_{10} = (?)_{16}$
   h. $(7845)_{10} - (3499)_{10}$ (using $_{r-1}$ complement method)
   i. $(101101)_2 - (11010000)_2$ (using $_{r-1}$ complement method)
   j. $(100010)_2 - (10101)_2$ (using user's complement)
   k. $(3857)_{10} - (1250)_{10}$ (using user's complement)

4. Explain gray code and its application.

5. What do you mean by alphanumeric code. Excess 3 code are called self complementing code. Explain it.

6. Describe 1's complement and 2's complement method of subtraction of binary numbers.