192210055.

* Fundamentals of computing *

① 1's and 2's complement.

1's complement :- The one's complement of a Binary number is found by changing all 0's to 1's and all 1's to 0's.

Ex:- (i) 0110110100l

It's 1st (1's) complement is 1001001 0110.

(ii) 11100010.

1's compliment is 00011101

(iii) 00011001

1's complement is 11100110.

* 2's complement :- The 2's complement of a binary number is found by first taking the 1's compliment and then adding 1 to the result.

Examples :-

(i) 00011010.

→ Step 1 :- Find 1's complement.

= 11100101

⌐ Step 2 :- adding 1

11100101

, 1
_____

11100110

⌐ Step 3 :- 11100110 it is 2's complement.

(ii) 11011000 O .

→ Step 1 :- Find its 1's complement.

= 00100111 1

→ Step 2 :- Adding 1

00100111 1

1
_____

00101 0000
_____

→ Step 3 :- 001010000 it is 2's complement.