Assignment - II

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1's compliment:

1's compliment of a binary number is another binary number obtained by tossing all bits in it.

i.e transforming the data 0 bit to 1 and the 1 bit to 0. In the 1's compliment format, the positive numbers remain unchanged.

The negative numbers are obtained by testing the 1's complement of positive counterparts.

For example +9 will be represented as 00001001 in eight bit notation and -9 will be represented as 11110110 which is the 1's complement of 00001001.

Examples:

* 1's complement of "0111" is "1000".
* 1's complement of "1100" is "0011".

2's complement:

2's complement of a binary number is 1 added to the 1's complement of the binary number. In this 2's complement representation of binary numbers, the MSB represents the sign with a '0' used for plus sign and '1' is used for minus sign.

This remaining bits are used for representing magnitude. positive magnitudes are represented in the same way as in the case of sign bit (or) 1's complement representation.

Negative magnitudes are represented by the 2's complement of their positive counter parts.

Example:

* 2's complement of "0011" is "1101".
* 2's complement of "1100" is "0011".