Assignment 2

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1's complement.

1's complement of a binary number is another binary number obtained by toggling all bits in it i.e transforming the 0 bit to 1 and the 1 bit to 0. In the 1's complement format, the positive numbers remain unchanged. The negative numbers are obtained by taking the 1's complement of positive counter parts.

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 a binary number is 1 added to the to the 1's complement of the binary number. In the 2's complement representation of binary number, the MSB represents the sign with a '0' used for plus sign and a '1' used for a minus sign. The remaining bits are used for representing magnitude, positive magnitudes are represented in the same way as in the are represented in case of sign-bit or 1's complement representation Negative magnitudes are represented by the 2's complement of their positive counter parts.

Examples:

* 2's complement of "0111" is "1001".
* 2's complement of "1100" is "0100".