

COL 100
Lab Assignment 6

SIMRAN MALIK
2020MT10854
ADITYA SINGH

Q:- ①

$$\begin{array}{r} 1) \quad 51 = 00110011 \\ 77 = +01001101 \\ \hline 10000000 \end{array}$$

10000000 \rightarrow ~~128~~ -128
(in Decimal)

$$\begin{array}{r} 00110011 \\ 00110011 \\ \hline 01001101 \\ 10000000 \end{array}$$

Here, in this case it is not giving correct ans as integer overflow occurs.

$$\begin{array}{r} 3) \quad 35 = 00100011 \\ 23 = 00010111 \end{array}$$

$$\begin{array}{r} \text{So } -23 = 11101000 \\ \quad \quad \quad +1 \\ \hline 11101001 \end{array}$$

$$\begin{array}{r} 35 = 00100011 \\ -23 = +11101001 \\ \hline 00001100 \end{array}$$

00001100 \rightarrow 12 in Decimal

$$2) \quad 53 = 00110101$$

~~112~~

$$112 = 01110000$$

$$\text{So } -112 = 10001111$$

$$\begin{array}{r} 10010000 \\ \text{So } 53 \\ -112 + 00110101 \\ \hline 10010000 \\ \hline 11000101 \end{array}$$

-59
in Decimal

$$4) \quad 87 = 01010111$$

$$12 = 00001100$$

$$\hline 01100011$$

99 in Decimal

$$5) \quad 75 = 01001011$$

$$-75 = 10110100$$

$$\hline +1 \\ \hline 10110101$$

$$-75 \quad 10110101$$

$$-54 + 11001010$$

$$\hline 01111111$$

This 1 can't be accommodated 127 in Decimal

$$54 = 00110110$$

$$-54 = 11001001$$

$$\hline +1 \\ \hline 11001010$$

This also gives wrong ans due to integer overflow.