# Lab Week 10 – Hex Input & Output

## Objectives

The objective of this lab is to implement a program to read and display hexadecimal numbers.

## Lab Tasks

**TASK 1:** Use following algorithm and program to read a number in hexadecimal from user:

CLEAR BX

INPUT HEX CHARACTER

WHILE CHARACTER <> CR DO

CONVERT CHARACTER TO BINARY VALUE

LEFT SHIFT BX FOUR TIMES

INSERT VALUE INTO LOWER 4 BITS OF BX

INPUT A CHARACTER

END\_WHILE

**TASK 2:** Use following algorithm and program to display a number stored in BX register in hexadecimal:

FOR 4 TIMES DO

MOVE BH TO DL

SHIFT DL 4 TIMES TO THE RIGHT

IF DL < 10

THEN

CONVERT TO CHARACTER IN ‘0’….’9’

ELSE

CONVERT TO CHARACTER IN ‘A’….’F’

END\_IF

OUTPUT CHARACTER

ROTATE BX LEFT 4 TIMES

END\_FOR

## Exercise

Write a program that fulfills following requirements:

1. Read two hexadecimal numbers from user. Each number should not be more than one byte.
2. Display sum and difference of both numbers in hexadecimal on console.