**ExNo:4     i) Program involving Arithmetic Instructions on 8 bit data- Addition**

**AIM:** To implement assembly language program for addition of two 08-bit numbers.

**APPARTUS:** TASM Software, P.C.

**PROGRAM:**

DATA SEGMENT

A DB 09H

B DB 02H

C DW ?

DATA ENDS

CODE SEGMENT

ASSUME CS:CODE,DS:DATA

START:

MOV AX,DATA

MOV DS,AX

MOV AL,A

MOV BL,B

ADD AL,BL

MOV C,AX

INT 3

CODE ENDS

END START

**ExNo:4     ii) Program involving Arithmetic Instructions on 8 bit data- subtraction**

**AIM:** To implement assembly language program for addition of two 08-bit numbers.

**APPARTUS:** TASM Software, P.C.

**PROGRAM:**

DATA SEGMENT

A DB 09H

B DB 02H

C DW ?

DATA ENDS

CODE SEGMENT

ASSUME CS:CODE,DS:DATA

START:

MOV AX,DATA

MOV DS,AX

MOV AL,A

MOV BL,B

SUB AL,BL

MOV C,AX

INT 3

CODE ENDS

END START

**ExNo:5     i) Program involving Arithmetic Instructions on 16 bit data-**

**Addition**

**AIM:** To implement assembly language program for addition of two 16-bit numbers.

**APPARTUS:** TASM Software, P.C.

**PROGRAM:**

DATA SEGMENT

N1 DW 1234H

N2 DW 2134H

RES DW ?

DATA ENDS

CODE SEGMENT

ASSUME CS: CODE, DS: DATA

START: MOV AX, DATA

MOV DS, AX

MOV AX, N1

MOV BX, N2

ADD AX, BX

MOV RES, AX

INT 21H

CODE ENDS

END START

**RESULT:**

AX = 3368h

**ExNo:5  ii)    Program involving Arithmetic Instructions on 16 bit data -**

**Subtraction**

**AIM:** To implement assembly language program for subtraction of two 16-bit numbers.

**APPARTUS:** TASM Software, P.C.

**PROGRAM:**

DATA SEGMENT

N1 DW 4444H

N2 DW 2121H

RES DW ?

DATA ENDS

CODE SEGMENT

ASSUME CS:CODE, DS:DATA

START: MOV AX,DATA

MOV DS,AX

MOV AX,N1

MOV BX,N2

SUB AX,BX

MOV RES,AX

INT 21H

CODE ENDS

END START

**RESULT:**

AX = 2323h

**ExNo:6i)    Program involving Arithmetic Instructions on 16 bit data**

**Multiplication**

**AIM:** To implement assembly language program for Multiplication of two 16-bit numbers.

**APPARTUS:** TASM Software, P.C.

**PROGRAM:**

DATA SEGMENT

A DW 1234H

B DW 5678H

C DD ?

DATA ENDS

CODE SEGMENT

ASSUME DS:DATA, CS:CODE

START:

MOV AX,DATA

MOV DS,AX

MOV AX,A

MOV BX,B

MUL BX

INT 3

CODE ENDS

END START

**ExNo:6  ii)   Factorial of a given number**

**AIM**: To implement assembly language program to find factorial of a given number

**APPARTUS:** TASM Software, P.C.

**Program:**

DATA SEGMENT

A DB 5

DATA ENDS

CODE SEGMENT

         ASSUME DS:DATA,CS:CODE

START:

      MOV AX,DATA

      MOV DS,AX

      MOV AH,00

      MOV AL,A

 L1:  DEC A

      MUL A

      MOV CL,A

      CMP CL,01

      JNZ L1

      MOV AH,4CH

      INT 21H

CODE ENDS

END START

Input: 5

Output: 0078H