**Part – A**

**Experiment 2**

**2.1 ADDITION OF TWO 16 BITS NUMBERS SIGNED & UN SIGNED**

Aim : to perform addition of two 16-bit numbers signed and Unsigned

Program :

ASSUME CS:CODE,DS:DATA

DATA SEGMENT

OPR1 DW 4269H

OPR2 DW 1000H

RES DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AX,OPR1

ADD AX,OPR2

MOV RES,AX

MOV AH,4CH (or) MOV AX,004CH

INT 21H

CODE ENDS

END START

END

**RESULT**: -

**2.2. SUBTRACTION OF TWO 16 BITS NO:- SIGNED & UNSIGNED**

ASSUME CS:CODE,DS:DATA

DATA SEGMENT

OPR1 DW 4269H

OPR2 DW 1000H

RES DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AX,OPR1

SUB AX,OPR2

MOV RES,AX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

RESULT: -

**. MULTIPLICATION OF TWO 16 BITS UNSIGNED**

ASSUME CS:CODE,DS:DATA

DATA SEGMENT

OPR1 DW 2000H

OPR2 DW 4000H

RESLW DW ?

RESHW DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AX,OPR1

MUL OPR2

MOV RESLW,AX

MOV RESHW,DX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

**.MULTIPLICATION OF TWO 16 BITS SIGNED NUMBERS**

ASSUME CS:CODE,DS:DATA

DATA SEGMENT

OPR1 DW 7593H

OPR2 DW 6845H

RESLW DW ?

RESHW DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AX,OPR1

IMUL OPR2

MOV RESLW,AX

MOV RESHW,DX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

RESULT:

**. DIVISION OF UN SIGNED NUMBERS**

ASSUME CS: CODE, DS:DATA

DATA SEGMENT

OPR1 DW 2C58H

OPR2 DW 56H

RESQ DW ?

RESR DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AX,OPR1

DIV OPR2

MOV RESQ,AX

MOV RESR,DX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

RESULT:

**. DIVISION OF SIGNED NUMBERS**

ASSUME CS: CODE, DS:DATA

DATA SEGMENT

OPR1 DW 2658H

OPR2 DW 0AAH

RESQ DW ?

RESR DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AX,OPR1

IDIV OPR2

MOV RESQ,AX

MOV RESR,DX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

RESULT:

**. ASCII ADDITION**

ASSUME CS: CODE,DS:DATA

DATA SEGMENT

Char Db 8

Char1 Db 6

RES DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AH,00H

MOV AL,CHAR

ADD AL,CHAR1

AAA

MOV RES,AX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

**RESULT:-**

**ASCII SUBTRACTION**

ASSUME CS: CODE,DS:DATA

DATA SEGMENT

Char Db 9 NO NEED INVERTED COMAS

Char1 Db 5

RES DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AH,00H

MOV AL,CHAR

SUB AL,CHAR1

AAS

MOV RES,AX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

**RESULT:-**

**. ASCII MULTIPLICATION**

ASSUME CS: CODE,DS:DATA

DATA SEGMENT

NUM1 Db 09H

NUM2 Db 05H

RES DW ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AH,00H

MOV AL,NUM1

MUL NUM2

AAM

MOV RES,AX

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

**RESULT:-**

**. ASCII DIVISION**

ASSUME CS: CODE,DS:DATA

DATA SEGMENT

DIVIDEND DW 0607H

DIVISIOR DB 09H

RESQ DB ?

RESR DB ?

DATA ENDS

CODE SEGMENT

START:

MOV AX,DATA

MOV DS,AX

MOV AX,DIVIDEND

AAD

MOV CH,DIVISIOR

DIV CH

MOV RESQ,AL

MOV RESR,AH

MOV AH,4CH

INT 21H

CODE ENDS

END START

END

**RESULT:-**