**Lab 13**

**Program 1 : Create a program using PUSH or POP.**

.model small

.stack 100h

.code

start:

mov ax,49

mov bx 50

mov cx,51

push ax

push bx

push cx

mov cx,3

l1:

pop dx

mov ah,02

int 21h

loop l1

mov ah,4ch

int 21h

end start

**program 2:** **Reverse String with the help of stack**

.model small

.stack 100h

.data

var db "smiu$"

.code

start:

mov ax,@data

mov ds,ax

mov si, offset var

mov cx,4

l1:

mov bx,[si]

push bx

inc si

loop l1

mov cx , 4

l2:

pop dx

mov ah,02

int 21h

loop l2

mov ah,4ch

int 21h

end start

**Program 3 : Create a program using Subroutine.**

.model small

.stack 100h

.code

start:

Mov al,49

mov bl,50

call proc1

call display1

mov ah,4ch

int 21h

proc1 proc

mov al,50

mov bl,49

ret

proc1 endp

display1 proc

mov ah,02

mov dl,al

int 21h

mov ah,02

mov dl,bl

int 21h

ret

display1 endp

end start

**Program 4: Create a program using nested subroutine.**

.model small

.stack 100h

.code

start:

Mov al,49

mov bl,50

call proc1

call display1

mov ah,4ch

int 21h

proc1 proc

mov al,50

mov bl,49

ret

proc1 endp

display1 proc

mov ah,02

mov dl,al

int 21h

mov ah,02

mov dl,bl

int 21h

ret

display1 endp

end start

**program 5: create a program using Macro**

.model small

.stack 100h

.code

start:

Dos\_rtn macro

mov ah,4ch

int 21h

endm dos\_rtn

newline macro

mov ah,02

mov dl,10

int 21h

endm newline

input macro

mov ah,01

int 21h

endm input

output macro

mov ah,02

mov dl,al

int 21h

endm output

mov ah,01

int 21h

newline

mov ah,02

mov dl,al

int 21h

newline

dos\_rtn

end start

**Task:**

Create a program using subroutine.

Create a program using macro.

Create a program using stack.