**LAB 9**

**Q. Print a string vertically in the middle of the screen and then scroll it vertically downwards , such that if a letter exits the screen from bottom it reappears from the top.**

**CODE:**

org 100h

.data

n db 'Hashim$'

check dw (38-1)\*2

.code

main proc

mov bp,(10-1)\*160+(38-1)\*2

mov si,bp

top1:

call print

call downshift

jmp top1

ret

Endp main

print proc

lea di,n

mov ax,0xb800

mov es,ax

mov cl,6

top:

mov ah,0x07

mov al,[di]

mov es:si,ax

ADD si,160

inc di

mov bx,(26-1)\*160+(38-1)\*2

mov ax,si

xor dx,dx

div bx

mov si,dx

cmp ax,0

je down

add si,check

down:

loop top

ret

Endp print

downshift proc

xor dx,dx

mov bx,(25-1)\*160+(38-1)\*2

cmp bp,bx

jl adding

mov bp,(0-1)\*160+(38-1)\*2

adding:

add bp,160

mov si,bp

mov ah,6

mov al,0

mov ch,0

mov cl,0

mov dh,24

mov dl,79

mov bh,7

int 10h

ret

Endp downshift