**LAB 11**

**Hook an interrupt such that:**

**1. A vertically printed string is scrolled horizontally, as long as ‘p’ is pressed on**

**Keyboard.**

**CODE:**

org 100h

.data

n db 'Hashim$'

linecounter db 0

check db 0

flag db 0

.code

main proc

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

mov ah,0

mov al,3

int 10h

mov ax,0

mov es,ax

mov si,9\*4

cli

mov es:si, offset kisr

mov es:si+2,cs

sti

l1:

cmp flag,1

jne skip

call print

call right

skip:

jmp l1

ret

kisr proc

push ax

push si

mov ax,0xb800

mov es,ax

mov si,0

mov flag,0

in al,0x60

cmp al,0x19

jne exit

mov flag,1

exit:

mov al,0x20

out 0x20,al

pop si

pop ax

iret

print proc

lea di,n

mov cl,6

mov ah,0x07

mov si,bp

top:

mov al,[di]

mov es:si,ax

ADD si,160

inc di

loop top

ret

right proc

xor dx,dx

mov dx,(10-1)\*160+(80-1)\*2

cmp bp,dx

jl adding

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

mov bl,1

adding:

add bp,2

mov ah,6

mov al,0

mov ch,0

mov cl,0

mov dh,24

mov dl,79

mov bh,7

int 10h

ret

2. When shift key and ‘A’ key is pressed capital A is printed on screen

org 100h

.data

flag db 0

.code

main proc

mov ah,0

mov al,3

int 10h

mov ax,0

mov es,ax

mov si,9\*4

cli

mov es:si, offset print

mov es:si+2,cs

sti

l1:

jmp l1

ret

print proc

push ax

push si

in al,0x60

cmp al,0x2A

jne down

mov flag,1

down:

cmp al,0x1E

jne exit

cmp flag,1

jne exit

mov ax,0xb800

mov es,ax

mov si,0

mov ah,0x07

mov al,'a'

mov es:si,ax

exit:

mov al,0x20

out 0x20,al

pop si

pop ax

iret