Assignment - 13

GoodLuck | Page No.
Date / /

Title :- RTC using TSR program.

Problem defination :-
Write a TSR to generate the pattern of frequency tones by reading the RTC. the duration of each tone is decided by programmer.

S/W requirements :-
Text Editor, Assembler (TASM), DOSBox

Objective :-
- To understand TSR program
- To understand how to change interrupts in 8086.

Theory :-
Terminate but stay resident (TSR) programs have two main components
1) Transient part - This part of code is only run once & tells the program location of resident part.
2) Resident part - This part of code stays in the memory even after the code has been executed. The new instructions of the interrupts are given in the resident part of the code

Template of TSR code program

```
.model tiny
.code
old_ip dw 0
old_cs dw 0
jmp transient
```

Resident :-

- push register
- perform operation
- pop registers

transient :-

```
mov ax,cl
mov ds, ax
cli ;present
mov ah, 35H
mov al, <int no>
int 21H.
```

} telling that data segment & code segment start at same point } get interrupt cs,ip

```
mov oldip, bx
mov old_cs, es
```

```
mov ah, 25H
mov al, <int no>
lea dx, resident
int 21H
mov ah, 31h
mov dx, offset transient
(sro)
int 21H
```

} mention new location of interrupt

getting RTC & displaying

```
mov ax,0320H
mov dl,3250H
mov ah,02
mov es,ax
Int 1AH
```

(mov ax,0320H / mov dl,3250H / mov ah,02 } get address of video.
mov es,ax / Int 1AH } ch=hrs cl=mins dh=sec.)

Display values of ch & cl & dh

Conclusion :-

Thus we were able to change Int 08 to display the RTC on screen in 8086 using a TSR program.