

Assignment-13

Title: Write a TSR program.

Problem: Write a TSR to generate the pattern of the frequency tones by the Real Time Clock (RTC). The duration of each tone is solely decided by the programmer.

Objective: To understand Terminate but Stay Resident program.

Outcome :- Students will study Terminate but Stay program for implementing Real Time Clock.

Concept Related Theory:-

- Structure of Program in Tasm.

- MODEL SMALL

- STACK 50h

- DATA or DATA SEGMENT

- CODE or CODE SEGMENT

START

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Your code goes here...

mov ax, 4c00h

int 21h

END START

Possible MODELS are:-

- (1) TINY : Code and Data must fit in same 64k segment. Both Code and Data are NEAR.
 - (2) SMALL : Code and Data have separate segment but must be each less than 64k. Both code and Data are NEAR. For most applications, this will be sufficient.
 - (3) MEDIUM : Code may be larger than 64k, but data has to be less than 64k. Code is FAR and data is NEAR.
 - (4) COMPACT : Code is less than 64k, but Data may be greater than 64k. Code is NEAR, Data is FAR.
 - (5) LARGE : Both Code and Data can be greater than 64k. Both are FAR, but a single array cannot be greater than 64k.
 - (6) HUGE : Same as LARGE, but arrays can be greater than 64k.
- Terminate and Stay Resident (TSR) generally refers to a special class of programs for PC-compatible computers running DOS.

When a user exits a normal program running in DOS, the memory that the program used is usually freed for other programs and tasks; therefore, the program must be reloaded from a disk back into memory for it to be used again. When you run a TSR program, however, it loads itself into the computer's memory and remains there for later use. You may run other programs while the TSR is still alive in memory, and these programs may invoke the TSR or be affected by the behavior of the TSR program. For this reason, TSR program may give DOS the appearance of multitasking (the ability to perform several tasks at once) which is built into many other operating systems.

- You may use TSR programs for a wide variety of tasks. Some of these programs are active only when you press a hot key (a special key or combination of keystrokes that activates the TSR). An example would be a pop-up Calculator program that appears on the screen whenever you press Alt-shift-c, even from within a separate word processing program. Other TSR programs run continuously in the background and may normally be invisible. Examples of such programs that monitor are some network and communications programs and special virus scanner programs that monitor the use of a computer's memory and

disk drives, Still other TSR programs may operate in both ways.

- TSR programs may be quite complex, and are often difficult to program reliably. TSR programmers must make sure that their programs do not conflict with other programs active in the computer's memory. The TSR must also not interfere with other program's use of the disk drives or other hardware.

• Key logger :

Key-logger is a type of surveillance software (considered to be either software or spyware) that has the capability to record every key stroke you make to a log file, usually encrypted. A key-logger recorder can record instant message, email, and any information you type at any time using keyboard.

Conclusion: We have understood what TSR (Terminate but Stay Resident) is and have used it to implement Real Time Clock.