



VIT[®]

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

CSE2006

Microprocessor and Interfacing

Lab Assignment 5

Slot: L39+L40

Faculty: Dr. Kumaravelu R.

Name: Rajendra Agrawal

Reg. No: 17BCE2151

Question: Write an 8086 Assembly Language Program to read characters from the standard output device (monitor – Video RAM) and store it in a file using interrupts?

C Code:

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
unsigned char far *vram = (unsigned char far *)0xB8000000;
void main()
{
    int i,j;
    char data;
    unsigned int row;
    unsigned int col;
    FILE * fptr;                                     //Declaring file pointer

    printf("\t*****");
    printf("\n\tHello World\n\tThis message will be stored in text file");
    printf("\n\t17BCE2151");
    printf("\n\tRajendra Agrawal");
    printf("\n\t*****");

    fptr = fopen("C:/Users/Rajendra/Desktop/file.txt","w");    //Opening the file
    if(fptr == NULL)
    {
        printf("Failure");
    }

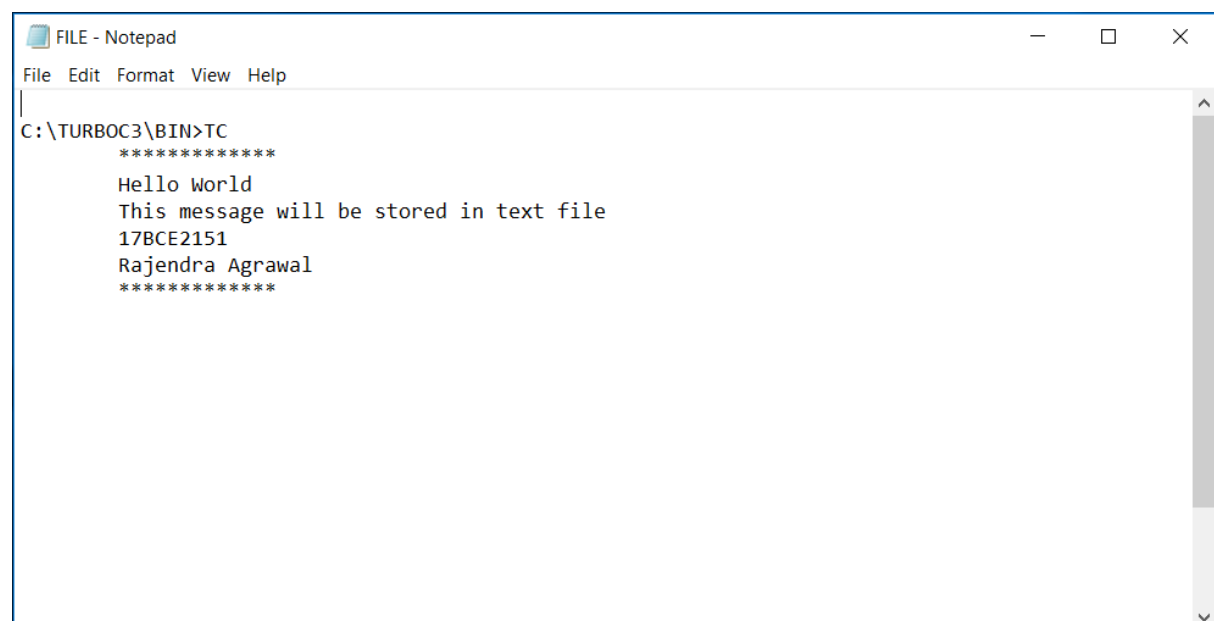
    for(i=1;i<25;i++)
    {
        row=i;
        for(j=1;j<80;j++)
        {
            col=j;
            data = *(vram+((row-1)*160)+(col-1)*2);           //Reading from screen
            fprintf(fptr,"%c",data);                           //Writing to File
        }
        fprintf(fptr,"\n");
    }
    fclose(fptr);
    getch();
}
```

In the above code we first declare a memory pointer vram that points to the memory allocated to output screen buffer. Then we create a file pointer, fptr that points to the given file. After that the file is opened and row-wise characters are read from output screen and written to the file pointed by “fptr”.

Output of Turbo C:

```
C:\TURBOC3\BIN>TC
*****
Hello World
This message will be stored in text file
17BCE2151
Rajendra Agrawal
*****_
```

Output written to file:



A screenshot of a Notepad window titled "FILE - Notepad". The window contains the same output as the previous image, showing the command prompt results of running the Turbo C program. The text is as follows:

```
C:\TURBOC3\BIN>TC
*****
Hello World
This message will be stored in text file
17BCE2151
Rajendra Agrawal
*****
```