R.V. COLLEGE Affiliated OF ENGINEERING,
BANGALORE-560059
(Autonomous Institution to VTU, Belgaum)

DATA STRUCTURES SELF STUDY REPORT ON

TEXT EDITOR USING FILE HANDLING

Submitted by

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

CERTIFICATE

Certified that the Self Study work titled **'TEXT EDITOR USING FILE HANDLING** is carried out by **MOHAMED MOIN IRFAN (1RV19CS089)** and **MAHARUDRA PATIL (1RV19CS080),** who are bonafide students of R.V College of Engineering, Bangalore, in partial fulfillment for the award of degree of **Bachelor of Engineering** in **Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum during the year 2020-2021. It is certified that all corrections/suggestions indicated for the internal Assessment have been incorporated in the report deposited in the departmental library. The Self Study report has been approved as it satisfies the academic requirements in respect of Self Study work prescribed by the institution for the said degree.

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Synopsis:

This project is an application array data structure into file handling which acts as a text editor.

We have 5 options in the menu:

option 1: To add text to a pre existing file or to add text to a new file and name it according to the user.

option 2: It is the display function.it displays the contents of the file after entering the file name

option 3: it is the append function. It is used to add text or append the text of a already pre existing file.

option 4: it is the delete funtion. It is used to delete the file contents.

option 5: it is to exit the menu.

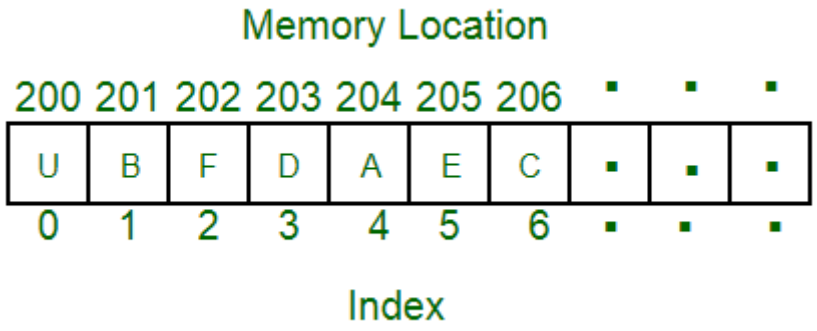
Algorithm:

1.Display options new, open and exit and get choice.
2.If choice is 1 , call Create() function.
3.If choice is 2, call Display() function.
4.If choice is 3, call Append() function.
5.If choice is 4, call Delete() function.
6.If choice is 5, call Display() function.
7.Create()
  7.1 Get the file name and open it in write mode.
 7.2 Get the text from the user to write it.
8.Display()
  8.1 Get the file name from user.
  8.2 Check whether the file is present or not.
  8.2 If present then display the contents of the file.
9.Append()
  9.1 Get the file name from user.
  9.2 Check whether the file is present or not.
  9.3 If present then append the file by getting the text to add with the existing file.
10. Delete()

10.1 Get the file name from user.
10.2 Check whether the file is present or not.
10.3 If present then delete the existing file.

Data Structure used : Array data structure.

An array is a collection of items stored at contiguous memory locations. The idea is to store multiple items of the same type together. This makes it easier to calculate the position of each element by simply adding an offset to a base value, i.e., the memory location of the first element of the array (generally denoted by the name of the array).



File handling in C enables us to create, update, read, and delete the files stored on the local file system through our C program. The following operations can be performed on a file.

- Creation of the new file
- Opening an existing file
- Reading from the file
- Writing to the file
- Deleting the file

No.	Function	Description
1	fopen()	opens new or existing file
2	fprintf()	write data into the file
3	fscanf()	reads data from the file
4	fputc()	writes a character into the file
5	fgetc()	reads a character from file
6	fclose()	closes the file

Below are some advantages of the array:

- In an array, accessing an element is very easy by using the index number.
- The search process can be applied to an array easily.
- 2D Array is used to represent matrices.
- For any reason a user wishes to store multiple values of similar type then the Array can be used and utilized efficiently.

Disadvantages of the array :

- The array is static, which means its size is always fixed.
- The memory which is allocated to it cannot be increased or decreased.

Advantages of file handling:

- **Reusability:** It helps in preserving the data or information generated after running the program.
- **Large storage capacity:** Using files, you need not worry about the problem of storing data in bulk.
- **Saves time:** There are certain programs that require a lot of input from the user. You can easily access any part of the code with the help of certain commands.
- **Portability:** You can easily transfer the contents of a file from one computer system to another without having to worry about the loss of data.

Code of the Project:

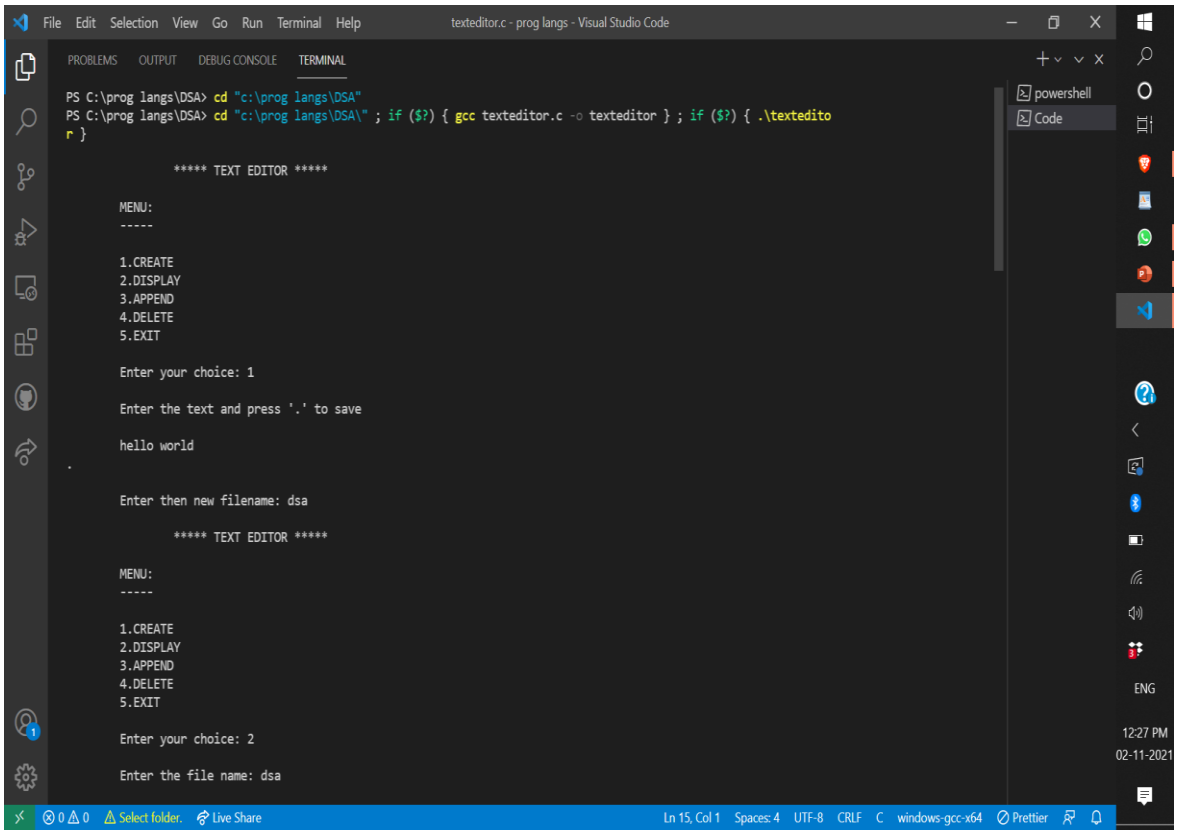
```
#include <stdio.h>
#include <conio.h>
#include <process.h>
int i, j, ec, fg, ec2;
char fn[20], e, c;
FILE *fp1, *fp2, *fp;
void Create();
void Append();
void Delete();
void Display();
void main()
{
   do
   {

      printf("\n\t\t***** TEXT EDITOR *****");
      printf("\n\n\tMENU:\n\t-----\n ");
      printf("\n\t1.CREATE\n\t2.DISPLAY\n\t3.APPEND\n\t4.DELETE\n\t5.EXIT\n");
      printf("\n\tEnter your choice: ");
      scanf("%d", &ec);
      switch (ec)
      {
      case 1:
         Create();
         break;
      case 2:
         Display();
         break;
      case 3:
         Append();
         break;
      case 4:
         Delete();
         break;
      case 5:
         exit(0);
      }
   } while (1);
}
void Create()
{
   fp1 = fopen("temp.txt", "w");
   printf("\n\tEnter the text and press '.' to save\n\n\t");
   while (1)
   {
```

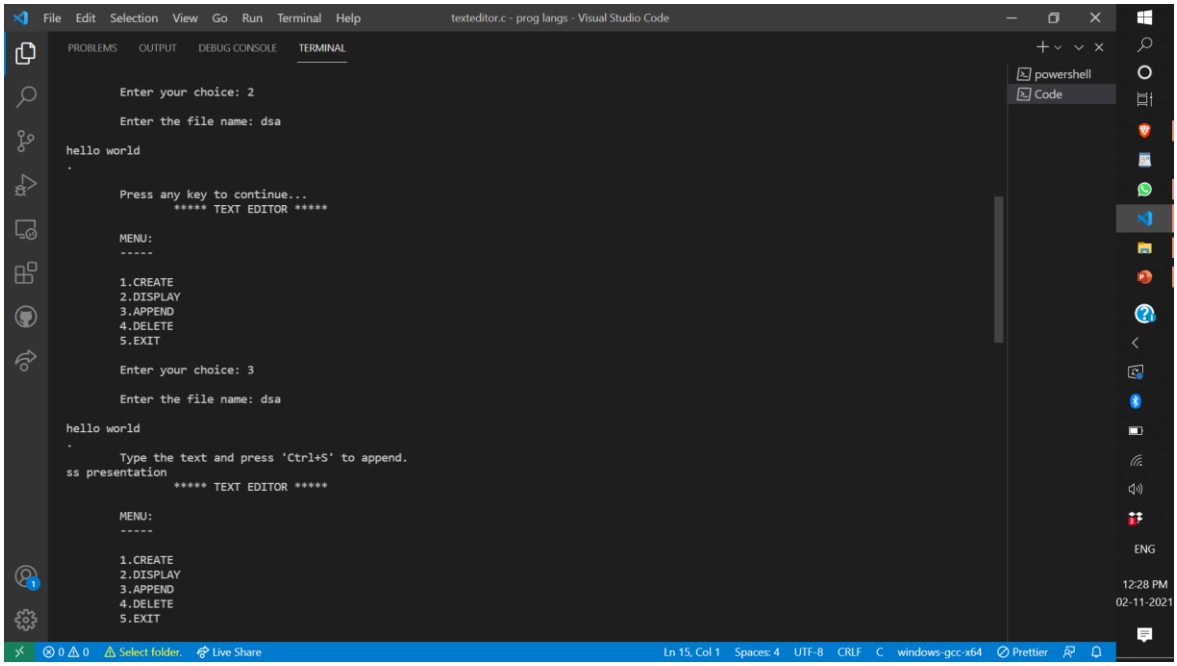
```
        c = getchar();
        fputc(c, fp1);
        if (c == '.')
        {
            fclose(fp1);
            printf("\n\tEnter then new filename: ");
            scanf("%s", fn);
            fp1 = fopen("temp.txt", "r");
            fp2 = fopen(fn, "w");
            while (!feof(fp1))
            {
                c = getc(fp1);
                putc(c, fp2);
            }
            fclose(fp2);
            break;
        }
    }
}
void Display()
{
    printf("\n\tEnter the file name: ");
    scanf("%s", fn);
    fp1 = fopen(fn, "r");
    if (fp1 == NULL)
    {
        printf("\n\tFile not found!");
        goto end1;
    }
    while (!feof(fp1))
    {
        c = getc(fp1);
        printf("%c", c);
    }
end1:
    fclose(fp1);
    printf("\n\n\tPress any key to continue...");
    getch();
}
void Delete()
{
    printf("\n\tEnter the file name: ");
    scanf("%s", fn);
    fp1 = fopen(fn, "r");
    if (fp1 == NULL)
    {
        printf("\n\tFile not found!");
        goto end2;
```

```
    }
    fclose(fp1);
    if (remove(fn) == 0)
    {
        printf("\n\n\tFile has been deleted successfully!");
        goto end2;
    }
    else
        printf("\n\tError!\n");
end2:
    printf("\n\n\tPress any key to continue...");
    getch();
}
void Append()
{
    printf("\n\tEnter the file name: ");
    scanf("%s", fn);
    fp1 = fopen(fn, "r");
    if (fp1 == NULL)
    {
        printf("\n\tFile not found!");
        goto end3;
    }
    while (!feof(fp1))
    {
        c = getc(fp1);
        printf("%c", c);
    }
    fclose(fp1);
    printf("\n\tType the text and press 'Ctrl+S' to append.\n");
    fp1 = fopen(fn, "a");
    while (1)
    {
        c = getch();
        if (c == 19)
            goto end3;
        if (c == 13)
        {
            c = '\n';
            printf("\n\t");
            fputc(c, fp1);
        }
        else
        {
            printf("%c", c);
            fputc(c, fp1);
        }
    }
```

```
end3:
   fclose(fp1);
   getch();
}
```

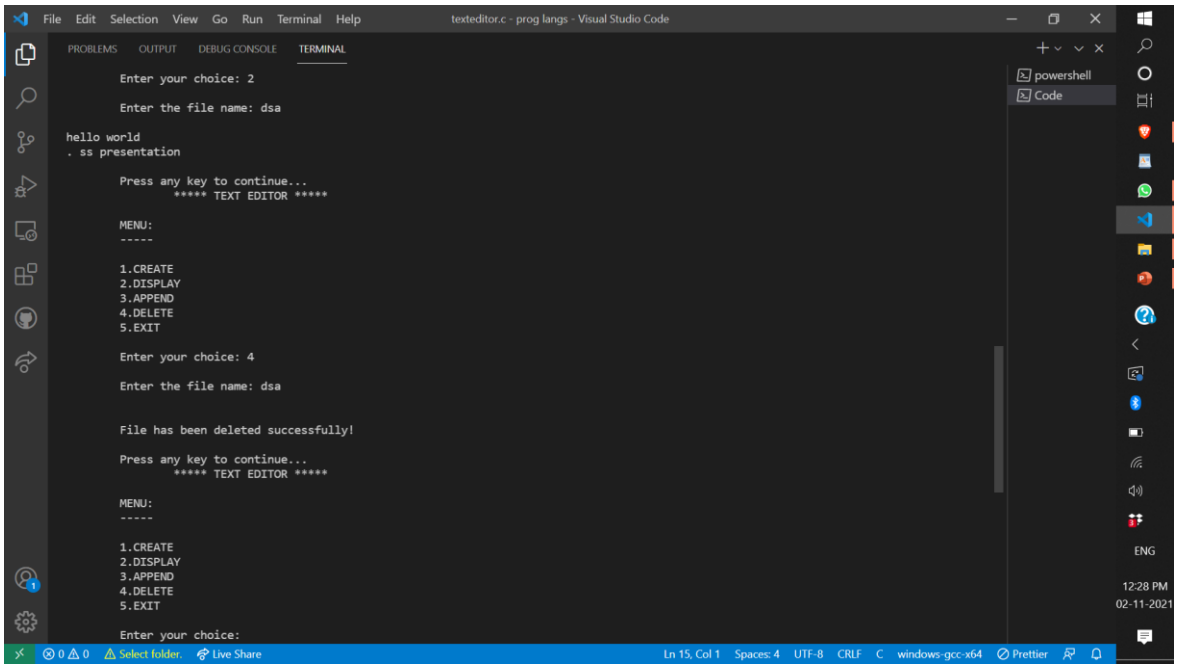
Outputs:




File Edit Selection View Go Run Terminal Help
texteditor.c - prog langs - Visual Studio Code
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
powershell
Code
Enter your choice: 2
Enter the file name: dsa
hello world
.
Press any key to continue...
***** TEXT EDITOR *****
MENU:

1.CREATE
2.DISPLAY
3.APPEND
4.DELETE
5.EXIT
Enter your choice: 3
Enter the file name: dsa
hello world
.
Type the text and press 'Ctrl+S' to append.
ss presentation
***** TEXT EDITOR *****
MENU:

1.CREATE
2.DISPLAY
3.APPEND
4.DELETE
5.EXIT
ENG
12:28 PM
02-11-2021
Select folder.
Live Share
Ln 15, Col 1
Spaces: 4
UTF-8
CRLF
C
windows-gcc-x64
Prettier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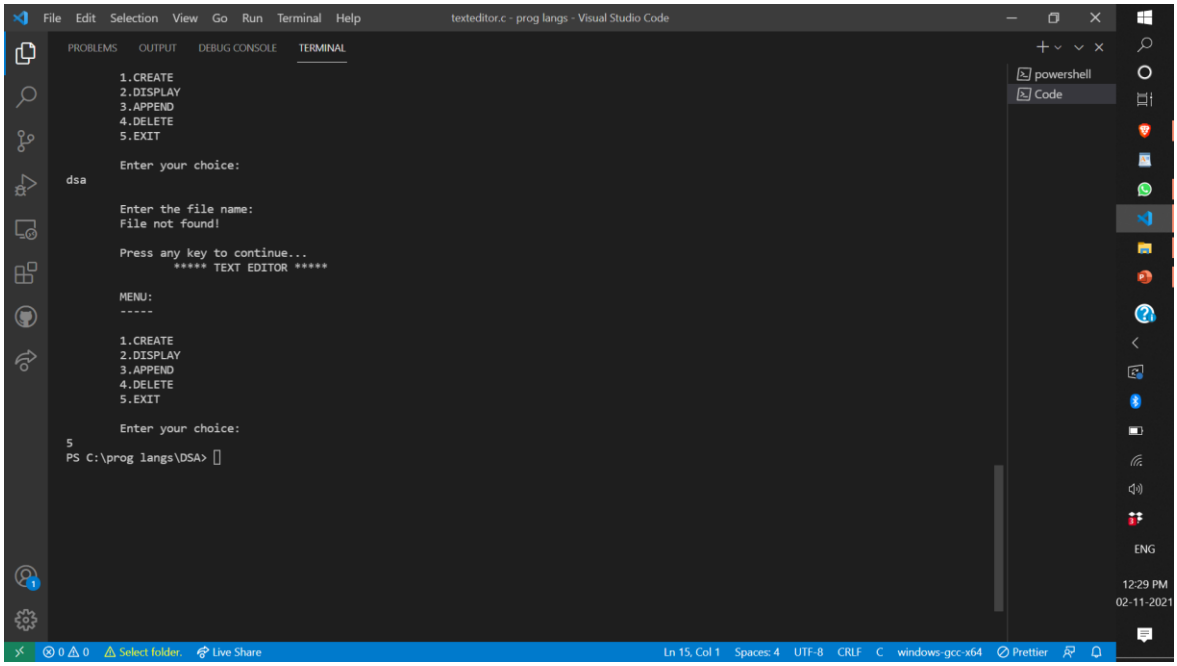
texteditor.c - prog langs - Visual Studio Code
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
powershell
Code
Enter your choice: 2
Enter the file name: dsa
hello world
. ss presentation
Press any key to continue...
***** TEXT EDITOR *****
MENU:

1.CREATE
2.DISPLAY
3.APPEND
4.DELETE
5.EXIT
Enter your choice: 4
Enter the file name: dsa
File has been deleted successfully!
Press any key to continue...
***** TEXT EDITOR *****
MENU:

1.CREATE
2.DISPLAY
3.APPEND
4.DELETE
5.EXIT
Enter your choice:
ENG
12:28 PM
02-11-2021
Select folder.
Live Share
Ln 15, Col 1
Spaces: 4
UTF-8
CRLF
C
windows-gcc-x64
Prettier



Reference :

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- https://data-flair.training/blogs/file-handling-in-c/
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