

SPL-1 Project Report, 2019

Text Editor

Course: Software Project Lab I

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1. Introduction

Text editor is a computer program that edits plain text. It can be used for changing files. By using this editor a file can be created, texts can be saved in a file and then we can manipulate the file. For example copy a text and paste it, copy a file or delete a file, basic operations on font etc.

1.1 Background study

Before text editors existed, computer texts were punched into cards. Physical boxes of those cardboard cards were inserted into a card reader. It was a very difficult process. Then the idea of text editor was introduced. The first editor was a line editor which has a typewriter-style terminal. Commands effected edits to a file at an imaginary insertion point called cursor. Those edits were verified by typing a command to print a small section of that file and thus the whole file was printed. But after that screen based text editors were introduced where we can see the terminal. From then the improvisation is still going on.

This is a quite fill based project. A text editor has some basic functions. We can create files, write something in that file, then we can save it and close it. Again we can open a new file but that does not mean that the previously saved ones will not exist. So we can open a previously saved files.

File

In C programming, file is a place on physical disk where information is stored.

When a program is terminated, the entire data is lost. Storing in a file will preserve the data even if the program terminates. If there is a large number of data, it will take a lot of time to enter them all. If the data are preserved in a file, then we can access them using a single file by using a few commands in C. We can easily transfer them from one computer to another without any changes.

. There are two types of files:

1. Text files
 2. Binary files
-

File Operations

In C we can use four major operations on the file, either text or binary:

1. Creating a new file.
2. Operating an existing file.
3. Closing a file.
4. Reading from and writing information to a file.

When working with files, pointer of a type file must be declared

For example:

```
File *fptr;
```

```
Fptr= fopen ("filename","mode")
```

Modes can be of different types like "r" for "open for reading", "w" for "open for writing".

For closing a file we use

```
fclose (fptr)
```

HTML File

HTML is a HyperText Markup Language file format used as the basis of a web page. HTML is a file extension used interchangeably with HTM. HTML consists of tags surrounded by angle brackets. The HTML tags can be used to define headings, paragraphs, lists, links, quotes, and interactive forms.

1.2 Challenges

Implementing a new software solution carries with it a number of challenges. The process can be overwhelming, confusing and lengthy. For implementing this project there are lot of challenges that I have faced. Some of them are

- Copying a text file to an html file.
- Handling bigger files.

2. Project Overview

I have divided my whole project into three different parts. They are:-

- Basic operations of files.
- Creating table.
- Font changing operations using HTML.

- **Basic operations of files**

In this section, the basic operations of a text editor is done. They are:-

- Create file
- Display file
- Append lines to a file
- Copy
 - Copy a file to another file.
 - Copy and paste a line within a file.
- Delete file
- Count
 - Lines of a file
 - Words of a file
 - Characters of a file.

- **Creating table**

In this section we can create table. It has some functions also like create table, insert, modify, search, delete. For example-

Name	Address	ID
A	AA	10

This is a table that has been created. If we want to insert then it will be like:-

Name	Address	ID
A	AA	10
B	BB	20

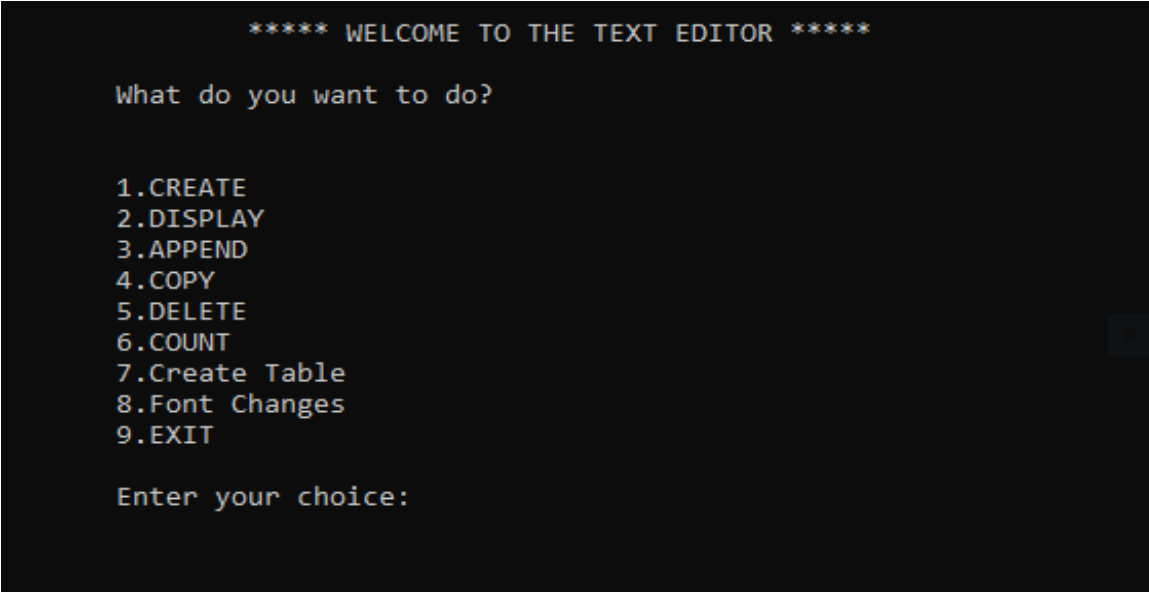
We can modify data and delete data also. This table function is implemented using structure.

- **Font changing operations using HTML**

This section is very interesting. As creating this text editor, we are using no UI and everything is terminal based so changing font sizes and styles can not be showed in terminal. So for these operations we have used HTML files. From a normal text file we have select the part we want to manipulate and then we have to add tags to that line. Most important part is that an html structure based file must be there, where we have to put that line. Then we have to copy that txt file into an html file. Then we can open that using browser and show the changes.

3. User manual

- Open executable file

A screenshot of a terminal window with a black background and light blue text. At the top, it says '***** WELCOME TO THE TEXT EDITOR *****'. Below that, it asks 'What do you want to do?'. A list of nine options follows: 1.CREATE, 2.DISPLAY, 3.APPEND, 4.COPY, 5.DELETE, 6.COUNT, 7.Create Table, 8.Font Changes, and 9.EXIT. At the bottom, it prompts 'Enter your choice:'.

```
***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice:
```

Figure 1

- Then we have to press the number which we want to do.
- Let's press 1
- We have to give a file name which is to be created.
- Then start writing and press * to save.

```
***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 1
Enter the name of the file:
test1.txt

Enter the text and press '*' to save

This is a c program.
Let's create a file.
*
```

Figure 2

- Let's check if the file has been created or not.
- Press 2 for display the file
- Enter the name of the file which we want to open.


```
***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 2

Enter the file name: test1.txt
This is a c program.
Let's create a file.

Press any key to continue
```

Figure 3

- We can see the file using notepad.



Figure 4

- Now operation 3 which is append.
- We have to press 3.After that we have to give input the name of the file where we want to append line.
- Then we will input the text to append.

```
***** WELCOME TO THE TEXT EDITOR *  
  
What do you want to do?  
  
1.CREATE  
2.DISPLAY  
3.APPEND  
4.COPY  
5.DELETE  
6.COUNT  
7.Create Table  
8.Font Changes  
9.EXIT  
  
Enter your choice: 3  
  
Enter the file name: test1.txt  
this is 1  
this is 2  
  
Type the text  
append
```

Figure 5

- After that we will see pressing 2 if the file is updated or not.

```

***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 2

Enter the file name: test1.txt
this is 1
this is 2
append

Press any key to continue

```

Figure 6

- Now operation 4 which is copy. It has two functions.1.copy a file and 2.copy a line.

```

***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 4
press 1 to copy a file and press 2 to copy line of a file

```

Figure 7

- If we press 1 then we have to give two inputs. Firstly the new filename and secondly the previous filename.

```

***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 4
press 1 to copy a file and press 2 to copy line of a file
1

Enter the new filename to copy: test2.txt

Enter the previous filename to copy: test1.txt

```

Figure 8

- The file is already copied. We can see the new file by pressing 2.
- Now if we want to use the second function of Copy, we have to choose 4, then press 2.
- Then we have to select the line we want to copy and the line where we want to paste it.

```
What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 4
press 1 to copy a file and press 2 to copy line of a file
2

Enter the file name: test3.txt
this is line 1
this is line 2
this is line 3

Enter the line to copy : 2

Enter the number of line paste the line : 1
```

Figure 9

- After that we can see the changes by displaying the file.

```
***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 2

Enter the file name: test3.txt
tthis is line 2
his is line 1
this is line 2
this is line 3

Press any key to continue
```

Figure 10

- Now comes to operation 5 which is delete.
- At first press 5. Then we have to give the name of the file that we want to delete.

```
***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 5

Enter the file name: test3.txt

File has been deleted successfully!

Press any key to continue
```

Figure 11

- Operation 6 is about count.
- After pressing 6, we have to give input the name of the file for which we want to do these count operations.
- Then there will be 3 options.
- If we press 1, then we will get the total lines.
- If we press 2, then we will get the total words.
- If we press 3, then we will get the total characters.

```

***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 6
Input the filename to be opened : test3.txt
What do you want to count?
1.Lines
2.Words
3.Characters

```

Figure 12

- Now let's press 2. And we will get the total words of that file.

```

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 6
Input the filename to be opened : test3.txt
What do you want to count?
1.Lines
2.Words
3.Characters
2
tthis is line 2
his is line 1
this is line 2
this is line 3
append
Words in a file are=17

```

Figure 13

- Let's create a table.
- Press 7 and enter a name for the file.

```
1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 7
Enter the name of the file:
test2.txt

TABLE IMPLEMENTATION

1.INSERT
2.DISPLAY
3.DELETE
4.SEARCH
5.MODIFY
6.END

Enter your option : 1

Enter the name : A

Enter the address: aa

Enter the id : 123

name inserted

TABLE IMPLEMENTATION

1.INSERT
2.DISPLAY
3.DELETE
4.SEARCH
5.MODIFY
6.END

Enter your option :
```

Figure 14

- Now let's look for changing fonts
- Press 8 and choose any of the 3 options which we want to do.

```
***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 8
What do you want to do?
1.Change font styles
2.Change font size
3.Change font color
```

Figure 15

- Finally, to come out of this editor press 9 which will end the program.

```
***** WELCOME TO THE TEXT EDITOR *****

What do you want to do?

1.CREATE
2.DISPLAY
3.APPEND
4.COPY
5.DELETE
6.COUNT
7.Create Table
8.Font Changes
9.EXIT

Enter your choice: 9

Process returned 0 (0x0)   execution time : 3.828 s
Press any key to continue.
```

Figure 16

4. Conclusion

This project helps me a lot to improve my coding skills and I have learned how to work with files and manipulate them. I hope it will help me to deal with different situations in future. This project was very challenging as I was facing some problems with different files but I gained a lot of experiences through it. So I want to thank my supervisor for guiding me a lot during this journey of this project.

5. Appendix

In this project, I have to work with HTML files. I want to do further improvisations.

6. References:

1. <https://www.programiz.com/c-programming/c-file-Input-output>
2. <https://whatis.techtarget.com/fileformat/HTML-A-Web-page>