

Week1

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Title: BASIC FILE HANDLING OPERATIONS

- 1) Source Code: To count the number of lines and characters in a file.

```
#include <stdio.h>
#include <stdlib.h>

void countChar_Lines(char *filename)
{
    int charCount=0, lineCount=0;
    FILE *file1 = fopen(filename,"r");
    char c = fgetc(file1);
    while (c!=EOF)
    {
        charCount++;
        if (c=='\n')
        {
            lineCount++;
            charCount--;
        }
        c = fgetc(file1);
    }
    printf("\nNumber of charcters is: %d",charCount);
    printf("\nNumber of Lines in file is: %d\n",lineCount);
    fclose(file1);
}

int main()
{
    char filename[100];
    printf("Enter the filename to open for reading: \n");
    scanf("%s", filename);
    countChar_Lines(filename);
    return 0;
}
```

Output:

```
student@lpcp-22:~/Documents/220905536/week1$ gcc lab1_1.c && ./a.out
Enter the filename to open for reading:
a.txt

Number of charcters is: 46
Number of Lines in file is: 4
student@lpcp-22:~/Documents/220905536/week1$
```

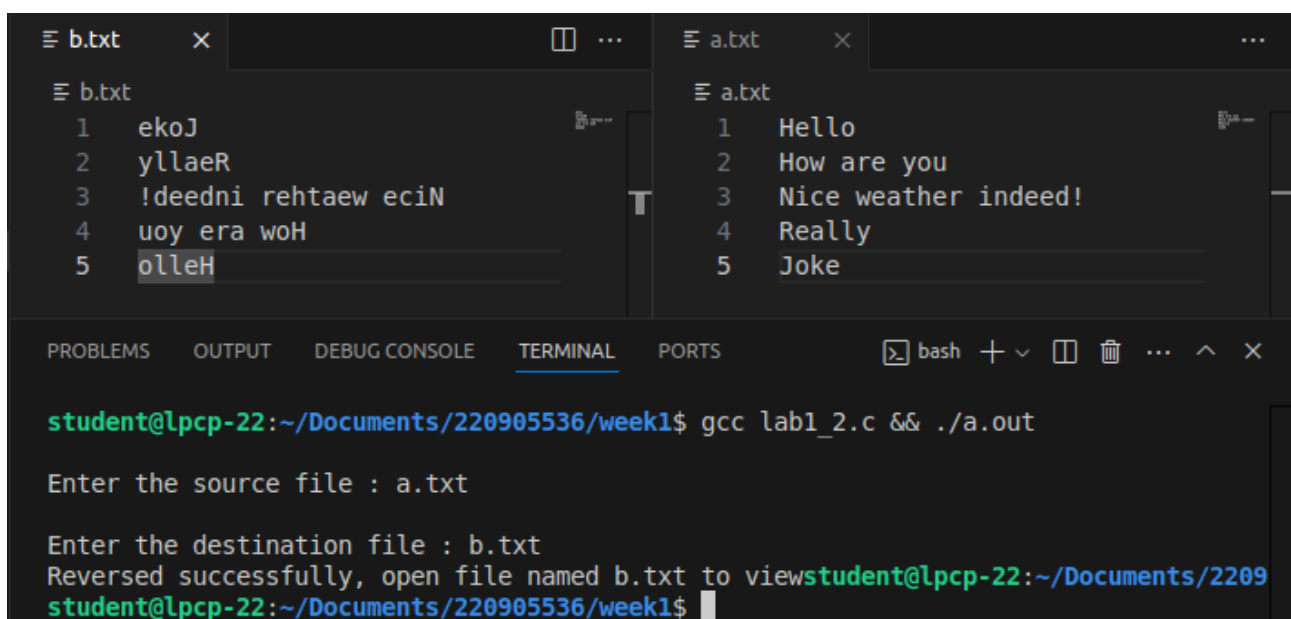
- 2) Source Code: To reverse the file contents and store in another file. Also display the size of file using file handling function.

```
#include<stdio.h>
```

```
void reverseFile(FILE *file1, FILE *file2)
{
    char c = fgetc(file1);
    if (c==EOF)
    {
        return;
    }
    reverseFile(file1,file2);
    fputc(c,file2);
}

int main()
{
    char srcFile[128], destFile[128];
    printf("\nEnter the source file : ");
    scanf("%s",srcFile);
    printf("\nEnter the destination file : ");
    scanf("%s", destFile);
    FILE *file1 = fopen(srcFile,"r");
    FILE *file2 = fopen(destFile,"w+");
    reverseFile(file1,file2);
    printf("Reversed successfully, open file named %s to view",destFile);
    fclose(file1);
    fclose(file2);
    return 0;
}
```

Output:



The screenshot shows a code editor with two files: `b.txt` and `a.txt`. `b.txt` contains the reversed content of `a.txt`. Below the editor is a terminal window showing the execution of the program.

```
student@lpcp-22:~/Documents/220905536/week1$ gcc lab1_2.c && ./a.out

Enter the source file : a.txt

Enter the destination file : b.txt
Reversed successfully, open file named b.txt to view
student@lpcp-22:~/Documents/220905536/week1$
```

The terminal output shows the program successfully reversing the content of `a.txt` into `b.txt`.

3. Source Code: That merges lines alternatively from 2 files and stores it in a resultant file.

```
#include <stdio.h>
```

```
void readLinesAtsameTime(char *srcfile1, char *srcfile2, char *destFile)
{
```

```
    char buffer[1024];
```

```
    FILE *file1 = fopen(srcfile1, "r");
```

```
    FILE *file2 = fopen(srcfile2, "r");
```

```
    FILE *file3 = fopen(destFile, "w+");
```

```
    // to read same lines from two files concurrently
```

```
    while (1)
```

```
    {
```

```
        if (fgets(buffer, sizeof(buffer), file1))
```

```
        {
```

```
            fputs(buffer, file3);
```

```
        }
```

```
        else
```

```
        {
```

```
            break;
```

```
        }
```

```
        if (fgets(buffer, sizeof(buffer), file2))
```

```
        {
```

```
            fputs(buffer, file3);
```

```
        }
```

```
        else
```

```
        {
```

```
            break;
```

```
        }
```

```
    }
```

```
    // if file2 is read but file1 not
```

```
    while (fgets(buffer, sizeof(buffer), file1))
```

```
    {
```

```
        fputs(buffer, file3);
```

```
    }
```

```
    // if file1 is read but file2 not
```

```
    while (fgets(buffer, sizeof(buffer), file2))
```

```
    {
```

```
        fputs(buffer, file3);
```

```
    }
```

```
    fclose(file1);
```

```
    fclose(file2);
```

```
    fclose(file3);
```

```
}
```

```
int main()
```

```
{
```

```
    char file1[128], file2[128], destFile[128];
```

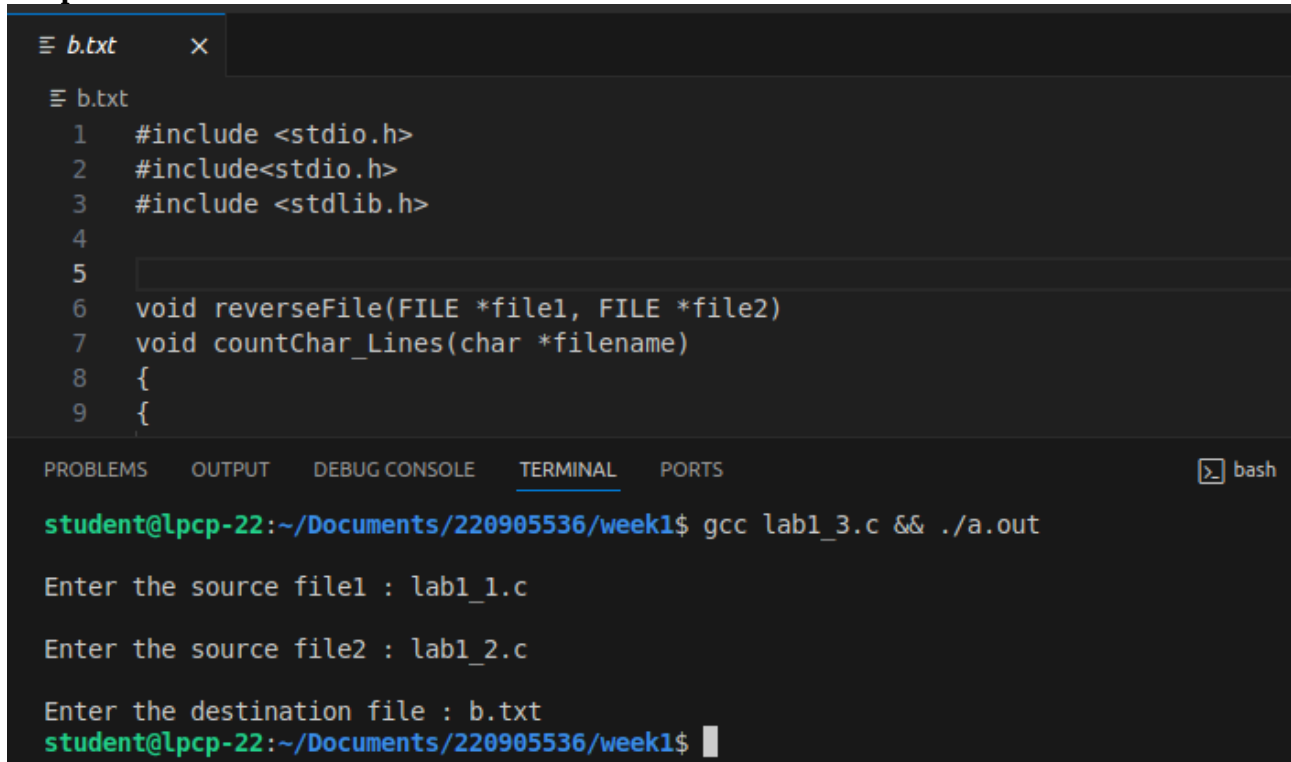
```
    printf("\nEnter the source file1 : ");
```

```

scanf("%s", file1);
printf("\nEnter the source file2 : ");
scanf("%s", file2);
printf("\nEnter the destination file : ");
scanf("%s", destFile);
readLinesAtsameTime(file1, file2, destFile);
printf("Operation accomplished, open file named %s to view",destFile);
return 0;
}

```

Output:



The screenshot shows a code editor with a file named `b.txt` containing the following C code:

```

1  #include <stdio.h>
2  #include<stdio.h>
3  #include <stdlib.h>
4
5
6  void reverseFile(FILE *file1, FILE *file2)
7  void countChar_Lines(char *filename)
8  {
9  {

```

Below the code editor is a terminal window with the following output:

```

student@lpcp-22:~/Documents/220905536/week1$ gcc lab1_3.c && ./a.out

Enter the source file1 : lab1_1.c

Enter the source file2 : lab1_2.c

Enter the destination file : b.txt
student@lpcp-22:~/Documents/220905536/week1$

```