

Parth Shukla  
190905104  
Lab 1

1)  
// To count the number of lines and characters in a file.

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

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

```
int main(){  
    FILE *fptr;  
    char filename[100], c;  
    printf("Enter file name\n");  
    scanf("%s", filename);  
    fptr = fopen(filename, "r");  
    if(fptr == NULL){  
        printf("Error in opening file\n");  
        exit(1);  
    }  
    c = fgetc(fptr);  
    int count_char = 0, count_line = 0;  
    while(c!=EOF){  
        if(c != '\n'){  
            count_char++;  
        }  
        else if(c == '\0' || c == '\n'){  
            count_line++;  
        }  
        // printf("%c", c);  
        c = fgetc(fptr);  
    }  
    printf("Number of characters: %d\n", count_char);  
    printf("Number of lines: %d\n", count_line);  
    fclose(fptr);  
    return 0;  
}
```

```
Number of lines: 3  
ugcse@prg28:~/190905104_CD/lab1$ gcc q1.c -o q1  
ugcse@prg28:~/190905104_CD/lab1$ ./q1  
Enter file name  
doesntexist.txt  
Error in opening file  
ugcse@prg28:~/190905104_CD/lab1$ ./q1  
Enter file name  
sample.txt  
Number of characters: 28  
Number of lines: 4  
ugcse@prg28:~/190905104_CD/lab1$
```

2)  
// To reverse the file contents and store in another file. Also display the size of file  
// using file handling function.

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

int main(){
    FILE *f1, *f2;
    char filename[100], c;
    printf("Enter file name\n");
    scanf("%s", filename);
    f1 = fopen(filename, "r");
    if(f1 == NULL){
        printf("Error in opening file\n");
        exit(1);
    }
    printf("Enter destination file name\n");
    scanf("%s", filename);
    f2 = fopen(filename, "w+");
    // go to end of f1
    fseek(f1, 0, SEEK_END);
    int ft = ftell(f1);
    int i = 0;
    // printf("%d\n", ft);
    while(i < ft){
        i++;
        fseek(f1, -i, SEEK_END);
        c = fgetc(f1);
        fputc(c, f2);
    }
    printf("Size of file = %li\n", ftell(f2));
    fclose(f1);
    fclose(f2);
    return 0;
}
```

```
ugcse@prg28:~/190905104_CD/lab1$ ./q2
Enter file name
sample.txt
Enter destination file name
rev_copy.txt
Size of file = 32
ugcse@prg28:~/190905104_CD/lab1$
```

rev_copy.txt	sample.txt
1	1 Hello
2 1 baL	2 Hi
3 ngiseD relipmoC	3 Compiler Design
4 iH	4 Lab 1
5 olleH	5

3)

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

```
int main(){
    FILE *f1, *f2, *f3;
    char filename[100], c1, c2;
    printf("Enter file name\n");
    scanf("%s", filename);
    f1 = fopen(filename, "r");
    if(f1 == NULL){
        printf("Error in opening file\n");
        exit(1);
    }
    printf("Enter file name\n");
    scanf("%s", filename);
    f2 = fopen(filename, "r");
    if(f2 == NULL){
        printf("Error in opening file\n");
        exit(1);
    }
    printf("Enter destination file name\n");
    scanf("%s", filename);
    f3 = fopen(filename, "w+");
    // flag to to alternate between two files
    int file1 = 0;
    while(1){
        if(file1 == 0){

            if(c1 != EOF){
                c1 = fgetc(f1);
                while(c1 != '\n'){
                    if(c1 == EOF) break;
                    // printf("%c", c);
                    fputc(c1, f3);
                    c1 = fgetc(f1);
                }
                fputc('\n', f3);
                file1 = 1;
            }
            else{
                file1 = 1;
            }
        }
        if(file1 == 1){

            if(c2 != EOF){
                c2 = fgetc(f2);
                while(c2 != '\n'){
                    if(c2 == EOF) break;
                    fputc(c2, f3);
                    c2 = fgetc(f2);
                }
            }
        }
    }
}
```

```

    }
    fputc('\n', f3);
    file1 = 0;
}
else{
    file1 = 0;
}
}

if(c1 == EOF && c2 == EOF){
    break;
}
}
fclose(f1);
fclose(f2);
fclose(f3);
return 0;
}

```

```

file3.txt
ugcse@prg28:~/190905104_CD/lab1$ gcc q3.c -o q3
ugcse@prg28:~/190905104_CD/lab1$ ./q3
Enter file name
file1.txt
Enter file name
file2.txt
Enter destination file name
file3.txt
ugcse@prg28:~/190905104_CD/lab1$

```

file1.txt	file2.txt	file3.txt
1 file 1 line 1	1 file 2 line 1	1 file 1 line 1
2 file 1 line 2	2 file 2 line 2	2 file 2 line 1
3 file 1 line 3	3 file 2 line 3	3 file 1 line 2
	4 file 2 line 4	4 file 2 line 2
		5 file 1 line 3
		6 file 2 line 3
		7 file 2 line 4
		8