

**Department of ICT
Faculty of Technology
University of Ruhuna**

Programming Practicum – ICT1142

Level 1- Semester 1

Lab Sheet 11

| 2022

Objective:

The purpose of this lab session is to get familiar with file manipulations.

File Operations (Functions use in C)

Function	Operation		
fopen()	To create a file	fprintf()	To write set of data into a file
fclose()	To close an existing file	fscanf()	To read set of data from file.
getc()	Read a character from a file	getw()	To read an integer from a file
putc()	Write a character into a file	putw()	To write an integer into a file
		fgets()	To read string/ array of char

Exercise 01

Type and execute the following program to get an idea about basic operations in file manipulations.

```
#include< stdio.h >
int main()
{
    FILE *fp; /* file pointer*/
    char fName[20];

    printf("Enter file name to create with extension txt or dat:");
    scanf("%s",fName); /* example “abc.txt” or “abc.dat” */

    /*creating (open) a file, in “w”: write mode*/
    fp=fopen(fName,"w");
    /*check file created or not*/
    if(fp==NULL)
    {
        printf("File does not created!!!");
        return -1; /*exit from program*/
    }
    printf("File created successfully.");
    /*LINE A*/
    return 0; }
```

- a. Open your current working directory to check whether file is created or not.
- b. Add following code snapped from **LINE A** of the above program and compile and run.

```
/*writting into file*/  
    putc('A',fp);  
    putc('B',fp);  
    putc('C',fp);  
    printf("\nData written successfully.");  
    fclose(fp);  
/* LINE B */
```

- c. Open the file you have created and verify whether input data is there or not.
- d. Add following code snapped from **LINE B** and compile and run.

```
    fp=fopen(fName,"r");  
    if(fp==NULL)  
    {  
        printf("\nCan't open file!!!");  
        exit(1);  
    }  
  
    printf("Contents of file is :\n");  
    printf("%c",getc(fp));  
    printf("%c",getc(fp));  
    printf("%c",getc(fp));  
    fclose(fp);
```

Exercise 02

- a. Write a program to enter numbers from 10 to 20 to the file (“digit.txt”) using fprintf() and a repetition loop. Then do the followings.
- b. Open your digit.txt to read.
- c. Check whether the file exists, if not display an error message.
- d. If exists, then print the content of the file on the screen until End Of File (EOF).

Exercise 03

- a. Write a C program to input following data to file (*ruhuna.txt*)

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- b. Write a C program to read each line and print the string on the screen.

Hint : Use fgets() function

```
fgets(char str[], int n, FILE *fp); // read string(array of characters) from the file.
```

- c. Modify above program to print the result to the *out.txt* file.
d. Write another C program to count number of lines and number of characters of *ruhuna.txt* file.

Exercise 04

- a. Write a program to store account details of six customers of AB bank into a file called *Customer.txt*. The format is *AccountNumber* and *Amount*.

Hint: use \rightarrow fprintf();

100	25500.00
101	45900.25
102	18650.50
103	75841.00
104	12480.50
105	26800.00

- b. Write a program to check the customers, whose amount is greater than 20000.00 and store these details in to the file called *Customer_out.txt* .
c. If the customers whose balance amount is greater than 25000, he has to pay 5% tax from the amount.
i. Calculate the tax payment and print the result with relevant account number.
ii. Count how many customers have to pay the tax.
d. Find and print the highest amount.
e. Calculate the average amount.