Hawassa University – IoT

Faculty of Informatics

Department of Information System

Fundamentals of Programming in C++

Lab Exercise 9

1. Write a C++ program to create a new text file, write some text into it and display its contents on the console.

```
int main()
{
        ofstream f;
        f.open("is12.txt",ios::out);
        f<<"Today is the last class of C++ Programming";
        f.close();
        string str;
        ifstream f1;
        f1.open("is12.txt",ios::in);
        cout<<endl;
        while(!f1.eof())
        {
                getline(f1,str);
                cout<<str;
        }
        f1.close();
        return 0;
}
```

2. write a C++ program that creates a file called "**mytext.txt**" and write the following text on it. then open the file for reading and read the second line only starting from the word "**This**" and display it.

mytext.txt
A computer program consists of code that is executed on a computer to perform particular tasks. This code is written by programmers.

```
int main()
{
        ofstream f1;
        f1.open("mytext.txt");
        f1<<"A computer program consists of code that is executed on a computer to perform particular tasks.";
        f1<<"This code is written by programmers.";
        f1.close();
        ifstream f2;
        f2.open("mytext.txt");
        string str;
        f2.seekg(95,ios::beg);
        while(getline(f2,str));
        {
                cout<<str<<endl;
        }
        f2.close();
        return 0;
}
```

3. Write a C++ program to write numbers 1 to 50 in a data file "**num.txt**" and display the numbers.

```
int main()
{
        ofstream fout;
        fout.open("num.txt");
        for(int i=1;i<=50;i++)
        {
                fout<<i<<endl;
        }
        fout.close();
        ifstream fin;
        fin.open("num.txt");
        for(int i=1;i<=50;i++)
        {
                fin>>i;
                cout<<i<<endl;
        }
        fin.close();
        return 0; }
```

4. Write a user-defined function in C++ to read the content from a text file "**Alphabet.txt**", count and display the number of alphabets present in it.

```
int main()
{
	void alphabets();
	alphabets();
	return 0;
}
void alphabets()
{
	ofstream is;
	is.open("Alphabet.txt");
	is<<"Hello All! this is c++ programming. It is a prerequest for OOP.";
	is.close();
	ifstream cs;
	cs.open("Alphabet.txt");
	char ch;
	int count=0;
	while(!cs.eof())
	{
		cs.get(ch);
		if(isalpha(ch))
			count++;
	}
	cout<<"Number of alphabets in file are: "<<count;
	cs.close();
}
```

5. Write a function that create a file called "**blank.txt**" and write the following text on it. Then open the file for reading and count the number of blank spaces present in a text file named "**blank.txt**".

blank.txt
Your life is a result of the choices you make. If you don't like your life, it is time to start making better choices.

```
int main()
{
	void blank();
	blank();
	return 0;
}
void blank()
{
```

```
        ofstream fout;
        fout.open("blank.txt");
        fout<<"Your life is a result of the choices you make.";
        fout<<"If you don't like your life, it is time to start making better choices.";
        fout.close();
        ifstream fin;
        fin.open("blank.txt");
        char ch;
        int count=0;
        while(!fin.eof())
        {
                fin.get(ch);
                if(ch==' ')
                        count++;
        }
        cout<<"Number of blank space in a text file are : "<<count;
        fin.close();
}
```

6. Write a function to count number of words in a text file named "**countwords.txt**".

   File name: countwords.txt

   File content: A book is a gift you can open again and again.

```
#include<iostream>
#include<fstream>
using namespace std;
int main()
{
        void count_words();
        count_words();
        return 0;
}
void count_words()
{
        ofstream hu;
        hu.open("count_word.txt");
        hu<<"A book is a gift you can open again and again.";
        hu.close();
        ifstream info;
        info.open("count_word.txt");
        char word[100];
        int count=0;
        while(!info.eof())
        {
                info>>word;
                        count++;
        }
```

```
        cout<<"Number of words in a file are : "<<count;
        info.close();
}
```

7. Write user-defined function in C++ to count and display the number of lines not starting with alphabet 'A' present in a text file "**countlines.txt**".

   Example: If the file " **countlines.txt** " contains the following lines, "The rose is red", "A girl is playing there.", "There is a playground.", "An aeroplane is in the sky.", "Numbers are not allowed in the password".

```
#include<iostream>
#include<fstream>
#include<string.h>
using namespace std;
int main()
{
        void count_lines();
        count_lines();
        return 0;
}
void count_lines()
{
        ofstream c1;
        c1.open("countlines.txt");
        c1<<"The rose is red"<<endl;
        c1<<"A girl is playing there."<<endl;
        c1<<"There is a playground."<<endl;
        c1<<"An aeroplane is in the sky."<<endl;
        c1<<"Numbers are not allowed in the password.";
        c1.close();
        ifstream c2;
        c2.open("countlines.txt");
        char str[100];
        int count=0;
        while(!c2.eof())
        {
                c2.getline(str,100);
                if(str[0]!='A')
                        count++;
        }
        cout<<"Number of lines not starting with A are : "<<count;
        c2.close();
}
```

8. Assuming that a text file named **mytext1.txt** contains some text written into it, write a function named copy_contents(), that reads the text file from **mytext1.txt** and creates a new file named **mytext2.txt**, Write a C++ program to copy the contents of **mytext1.txt** to **mytext2.txt**.

```
void copy_contents();
int main()
{
        copy_contents();
        return 0;
}
void copy_contents()
{
        ofstream ofile ("mytext1.txt");
        ofile<<"This is C++ programming language. It is a prerequest for OOP!";
        ofile.close();
        ifstream ifile("mytext1.txt");
        ofstream outfile("mytext2.txt");
        if (ifile.is_open() && outfile.is_open())
        {
        string line1;
        while (getline(ifile, line1))
                {
                outfile<<line1<<"\n";
        }
        ifile.close();
        outfile.close();
        cout<<"File copied successfully."<<endl;
        }
        else
        {
        cout<<"Failed to open the files."<<endl;
        }
        ifstream infile("mytext2.txt");
        string line2;
        while(getline(infile, line2))
        {
                cout<<line2<<endl;
        }
        infile.close();
}
```

Write and read a file sample Example

```
#include <fstream>
#include <iostream>
using namespace std;
int main ()
{
        char data[100];
        ofstream outfile;
        outfile.open("afile.dat");// open a file in write mode.
        cout<<"Writing to the file" << endl;
        cout<<"Enter your name: ";
        cin.getline(data, 100);
        outfile<<data << endl;
        cout << "Enter your age: ";
        cin >> data;
        cin.ignore();
        outfile << data << endl;
        outfile.close(); // close the opened file.

        ifstream infile;
        infile.open("afile.dat");// open a file in read mode.
        cout << "Reading from the file" << endl;
        infile >> data;
        cout << data << endl; // write the data at the screen.
        infile >> data; //read the data from the file and display it.
        cout << data << endl;
        infile.close();// close the opened file.
        return 0;
}
```

Random Files Sample Code

```
#include <fstream>
#include <iostream>
using namespace std;
int main ()
{
	ofstream myfile;//object for writing
	ifstream file;//object for reading
	char ch[30];
	char text;
	cout<<"Enter Some Text Here:"<<endl;
	cout<<"Enter your name: ";
	cin.getline(ch,30);
	myfile.open("informatics.txt",ios::out);//opening file for writing
	if(myfile)//Error Checker
	{
			myfile<<ch;
			cout<<"Data Stored Sucessfully:\n\n"<<endl;
	}
	else
	{
			cout<<"Error while opening file:"<<endl;
	}
	myfile.close();
	file.open("Informatics.txt",ios::in);//opening file for reading
	if(file)//Error Checker
	{
			file.seekg(7,ios::beg);//Skip first 7 bytes from begining
			cout<<"The output after skipping first 7 bytes is:"<<endl;
			while(!file.eof())
			{
				file.get(text);
				cout<<text;
			}
	}
	else
	cout<<"Error while opening a file:"<<endl;
	file.close();
	return 0;
}
```