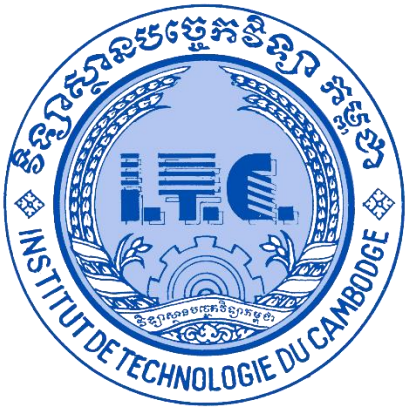

វិទ្យាស្ថានបច្ចេកវិទ្យាកម្ពុជា

Institute of Technology of Cambodia

TP-11

Working with File in C++

Academic Year: 2022 - 2023

1. C++ File

The fstream library allows us to work with files.

To use the fstream library, include both the standard <iostream> AND the <fstream> header file:

Example:

```
// Include the file library
#include <iostream>
#include <fstream>
```

There are three classes included in the fstream library, which are used to create, write or read files:

Class	Description
ofstream	Creates and writes to files
ifstream	Reads from files
fstream	A combination of ofstream and ifstream: creates, reads, and writes to files

2. Create and Write To a File

To create a file, use either the ofstream or fstream class, and specify the name of the file.

To write to the file, use the insertion operator (<<).

Example:

```
#include <iostream>
#include <fstream>

using namespace std;

int main() {
  // Create and open a text file
  ofstream MyFile("filename.txt");

  // Write to the file
  MyFile << "Files can be tricky, but it is fun enough!";

  // Close the file
  MyFile.close();
}
```

3. Read a File

To read from a file, use either the ifstream or fstream class, and the name of the file.

Note that we also use a while loop together with the getline() function (which belongs to the ifstream class) to read the file line by line, and to print the content of the file:.

Example:

```
// Create a text string, which is used to output the text file
string myText;

// Read from the text file
ifstream MyReadFile("filename.txt");

// Use a while loop together with the getline() function to read
the file line by line
while (getline (MyReadFile, myText)) {
  // Output the text from the file
  cout << myText;
}

// Close the file
MyReadFile.close();
```

Problem1:

Write a function that take a string as parameter. The string represents that file name. The function write number from 1993 to 2023 into file in which every line in the file should be 10 numbers.

void storeDataInFile(string filename);

Exmaple of data inside the file:

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
...
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

```
void storeDataInFile(string filename){
    ofstream MyFile("TP11_P1.txt");
    for(…) {
        MyFile << n ;
    }
}
```

Problem2:

Write function to input student's information with id, name and phone in a text file (TP11_P2.txt). And create another function to read student's information from the text file to show on screen.

Remark: When store data into file, one student's info is stored in one line and data of that student is separated by a space.

void saveStunData();

void getStunData();

Problem3:

Write a function to get data from file TP11_P2.txt (data created by problem #2). The data is stored in arrays. The program display all data from array on screen. Then ask a user to input one more data of student (id, name, phone number). Finally, store all data from arrays to file again.

void getDataAndProcess();

--

Problem4:

Write a function to create 100 files naming data1.txt to data100.txt in a folder located in D:/dataYourname (make sure to create a folder dataYourname in drive: D first or you can create a folder when the program run).

Each file has 50 numbers in it. The file data1.txt has numbers from 1 to 50 in it, the file data2.txt has numbers from 51 to 100, the file data3.txt has numbers from 101 to 150 and so on so forth for the other files.

void generateDummyData();