The BRITISH UNIVERSITY IN EGYPT

21CSCI01P

Introduction to Computing

Lab (3)

This tutorial covers

- **Tutorial:**
    1. **Files**
- **Chapter 6 in the textbook, 8th edition.**

Problem (1): write the following programs using the fstream library.

Program 1: Write a C++ program that receives a file name from the user. The program should then write the numbers from 1 to 10000 into the file, and each number should be in a new line.

Answer:

Program 2: write a C++ program that asks the user to enter the following inputs:

- A file name to create a file with this name.
- User's name, ID, and date of birth all of type string.

The program should then open this file and save the user's data into the file as shown in the sample below.

Sample of the output file:

Mohamed Ahmed
123456
23/2/2000

Answer:

Program 3: update the previous program such that the program reads the text file and prints its content to the console as shown in the sample output.

Sample output:

```
User Information
----------
Name: Mohamed Ahmed
ID: 123456
DOB: 23/2/2000
```

Answer:

Problem (2): Re-write the following program and use **fstream**, instead of **ofstream** and **ifstream**.

```
1. #include <iostream>
2. #include <fstream>
3. #include <string>
4. using namespace std;
5. void write(string s) {
6.     ofstream file;
7.     file.open(s + ".txt");
8.     file << "HELLO";
9.     file.close();
10.}
11.void read(string& s) {
12.    ifstream file;
13.    file.open(s + ".txt");
14.    file >> s;
15.    file.close();
16.}
17.int main() {
18.    string newfile = "newfile";
19.    write(newfile);
20.    read(newfile);
21.    cout << newfile;
22.    return 0;
23.}
```

Answer here:

Problem (3): Complete the following programs by following the instructions in the comments:

Program 1:

```
#include <iostream>
#include <fstream>
#include <string>
using namespace std;

//This function appends a new text to a file in a new line.
//The first parameter is the file name.
//The second parameter is the new text to be added to the file.
void write(string fileName, string fileInput) {
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}
int main() {
	string name;
	cout << "Enter the names of 5 students \n";
    for (int i = 0; i < 5; i++){
        cout << "Enter the name of student " << i+1 << " : ";
        getline(cin, name);
        write("studdentNames.txt", name);
    }
    return 0;
}
```

Program 2:

```
#include <iostream>
#include <fstream>
#include <string>
using namespace std;

string originalFile = "originalFile.txt";
string copyFile = "copyFile.txt";
string text = "ahmed@bue.edu.eg\nsamir@bue.edu.eg\nmona@bue.edu.eg\n";
string parseEmail(string);
void copyNames();

int main() {
    ofstream file;
    file.open(originalFile);
    file << text;
    file.close();
    copyNames();

    //print the text in the file copyFile.
    return 0;
}

string parseEmail(string s) {
    return s.substr(0, s.find('@'));
}
//This function creates a file
void copyNames() {
    //open the file defined in the variable originalFile
    //loop on each line in this file
      //In each iteration, do the following:
    {
       // define two variables ‘s’ and ‘name’ of type string
-------------------------------------------------------------------------
-------------------------------------------------------------------------
      // read the Email in the line and assign it to "s".
-------------------------------------------------------------------------
      // call the function parsEmail() and pass "s" to it.
-------------------------------------------------------------------------
      // Assign the result of the function to variable name.
-------------------------------------------------------------------------
      // Append the text in name to file copyFile.
-------------------------------------------------------------------------
    }
}
```