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/* CPSC 457 (Winter 2018)
 * Week 1 - Section 2
 * Tutorial
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 *
 * Notes: No error handling!
 */

Description ========================================================

ofstream
This data type represents the output file stream and is used to create files and to
write information to files.

ifstream
This data type represents the input file stream and is used to read information from
files.

fstream
This data type represents the file stream generally, and has the capabilities of both
ofstream and ifstream which means it can create files, write information to files, and
read information from files.
============================================================
// General example

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

int main () {
   char data[100];

   // open a file in write mode.
   ofstream outfile;
   outfile.open("afile.dat");

   cout << "Writing to the file" << endl;
   cout << "Enter your name: ";
   cin>> data;

   // write inputted data into the file.
   outfile << data << endl;

   cout << "Enter your age: ";
   cin >> data;

   // again write inputted data into the file.
   outfile << data << endl;

   // close the opened file.
   outfile.close();

   // open a file in read mode.
   ifstream infile;
   infile.open("afile.dat");

   cout << "Reading from the file" << endl;
   infile >> data;

   // write the data at the screen.
   cout << data << endl;
```

```
   // again read the data from the file and display it.
   infile >> data;
   cout << data << endl;

   // close the opened file.
   infile.close();

   return 0;
}
```

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=========================================================
// Create a phonebook

#include <iostream>
#include <fstream>

using namespace std;

int main()
{
   fstream phonefile("Contact.txt", ios::out);
   string number, name;

   cout<<"Enter contact's info (0 for quit):"<<endl;
   for(;;)
   {
      cout<<"\nNumber:";
      cin>>number;
      if(number=="0")
         break;

      cout<<"Name:";
      cin>>name;
      phonefile<<number<<" "<<name<<" "<<endl;
   }
   cout<<"All contacts stored in Contact.txt"<<endl;
   return(0);
}
```

```
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// Search a name in the phonebook
#include <iostream>
#include <fstream>

using namespace std;

int main()
{
   fstream phonefile("Contact.txt", ios::in);
   string number, name, searchname;
   bool isfound = false;

   cout<<"Enter a name for searching:"<<endl;
   cin>>searchname;

   while(phonefile>>number)
   {
      phonefile>>name;
      if(searchname==name)
      {
         cout<<name<<" "<<number<<endl;
         isfound=true;
```

```
      }
   }

   if(!isfound)
      cout<<searchname<<" is not in this contact file."<<endl;

   return(0);
}

=========================================================
//Create a new text file
#include <iostream>
#include <fstream>

using namespace std;

int main()
{
   string str="This is a simple text. \nThis is line 1 \nand this is line 2.";

   ofstream myfile("simple.txt");

   myfile<<str;

   return(0);
}

=========================================================
//Read Only a text file
#include <iostream>
#include <fstream>
#include <cstdlib>

using namespace std;

int main()
{
   fstream myfile("simple.txt", ios::in);


   if(!myfile)
   {
      cout<<"Error in opening the file"<<endl;
      exit(1);
   }

   string str;
   while(getline(myfile, str))
      cout<<str<<endl;

   return(0);
}
=========================================================
// Append to a text file
#include <iostream>
#include <fstream>

using namespace std;

int main()
{
   ofstream file("simple.txt", ios::app);
```

```
   string newStr = "I am new line\n";
   file<<newStr;

   cout<<"Text Appended."<<endl;

   return(0);
}
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// Writing in a file by c

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

int main() {
   FILE *fp;

   fp = fopen("test.txt", "w+");
   fprintf(fp, "This is testing for fprintf...\n");
   fputs("This is testing for fputs...\n", fp);
   fclose(fp);

   printf("File saved.");

   return 0;
}
=======================================================
// Reading from a file in c
#include <stdio.h>

int main() {

   FILE *fp;
   char buff[255];

   fp = fopen("test.txt", "r");
   fscanf(fp, "%s", buff);
   printf("1 : %s\n", buff );

   fgets(buff, 255, (FILE*)fp);
   printf("2: %s\n", buff );

   fgets(buff, 255, (FILE*)fp);
   printf("3: %s\n", buff );
   fclose(fp);

   return 0;
}
```