**Lab 2**

**Name: Ateeq Ur Rehman**

**Class: BSCS-2-C**

**ID: 221475**

**Subject: OOP**

**Task 1**

**Solution:**

#include<iostream>

#include<conio.h>

#include<fstream> // Header file for using ifstream or ofstream

using namespace std;

int main()

{

ofstream writedata;

writedata.open("mydata1.txt"); // opening the file

cout<<"\n Now writing data into my file"<<endl;

writedata<<"\n\t\t ====== Student Record ======"<<endl;

// Writing data in file(name my data.txt) using ofstream

writedata<<"\t\t1. Ateeq Ur Rehman"<<endl;

writedata<<"\t\t2. Aneeb Ur Rehman"<<endl;

writedata<<"\t\t3. Shafiq Ur Rehman"<<endl;

writedata<<"\t\t4. Muhammad Ali"<<endl;

writedata<<"\t\t5. Muhammad Azhar"<<endl;

writedata.close(); //closing the file

getch();

return 0;

}//main

**Task 2**

**Solution:**

#include<iostream>

#include<conio.h>

#include<string>

#include<fstream> // Header file for using ifstream or ofstream

using namespace std;

int main()

{

string name, address;

int semester, id;

cout<<"Enter your Name"<<endl;

getline(cin,name);

cin.ignore();

cout<<"Enter you registration id"<<endl;

cin>>id;

cout<<"Enter your current semester only number"<<endl;

cin>>semester;

cin.ignore();

cout<<"Enter your address"<<endl;

getline(cin, address);

cin.ignore();

ofstream writedata;

if(!writedata)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

writedata.open("mydata2.txt");

cout<<"\n Now writing data into my file"<<endl;

writedata<<"\n\t\t ====== Student Record ======"<<endl;

// Writing data in file(name my data2.txt) using ofstream

writedata<<"Name:\t"<<name<<endl;

writedata<<"Registration ID:\t"<<id<<endl;

writedata<<"Current Semester:\t"<<semester<<endl;

writedata<<"Address:\t"<<address<<endl;

writedata.close();

getch();

return 0;

}//main

**Task 3**

**Solution**

#include<iostream>

#include<conio.h>

#include<fstream> // Header file for using ifstream or ofstream

using namespace std;

int main()

{

int num[10];

cout<<"Enter 10 numbers"<<endl;

for (int i=0; i<10; i++)

{

cin>>num[i]; // taking input from the user

}

ofstream writedata;

if(!writedata)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

writedata.open("even\_number3.txt");

cout<<"\n Now writing data into my file"<<endl;

writedata<<"\n\t\t ====== Even Numbers ======"<<endl;

// Writing data in file(name even\_number3.txt) using ofstream

for(int i=0; i<10; i++) // loop to check all number

{

if(num[i]%2==0) //checking if the number is even

{

writedata<<num[i]<<endl; // even number stores in file

}

}

writedata.close();

getch();

return 0;

}//main

**Task 4**

**Solution**

#include<iostream>

#include<conio.h>

#include<fstream> // Header file for using ifstream or ofstream

using namespace std;

int main()

{

int num[10];

cout<<"Enter 10 numbers"<<endl;

for (int i=0; i<10; i++)

{

cin>>num[i]; // taking input from the user

}

ofstream writedata\_even;

ofstream writedata\_odd;

writedata\_even.open("even\_number4.txt");

writedata\_odd.open("odd\_number4.txt");

if(!writedata\_even)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

if(!writedata\_odd)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

cout<<"\n Now writing data into even file"<<endl;

writedata\_even<<"\n\t\t ====== Even Numbers ======"<<endl;

// Writing data in file(name even\_number3.txt) using ofstream

for(int i=0; i<10; i++) // loop to check all number

{

if(num[i]%2==0) //checking if the number is even

{

writedata\_even<<num[i]<<endl; // even number stores in file

}

else

{

writedata\_odd<<num[i]<<endl;

}

}

writedata\_even.close();

writedata\_odd.close();

getch();

return 0;

}//main

**Task 5**

**Solution**

#include<iostream>

#include<conio.h>

#include<string>

#include<fstream> // Header file for using ifstream or ofstream

using namespace std;

int main()

{

int num[10];

string even\_file, odd\_file;

cout<<"Enter the name of file where even file"<<endl;

cin>>even\_file;

even\_file=even\_file+".txt"; // giving the file the extension of .txt

cout<<"Enter the name of file where odd file "<<endl;

cin>>odd\_file;

odd\_file=odd\_file+".txt"; // giving the file the extension of .txt

cout<<"Enter 10 numbers"<<endl;

for (int i=0; i<10; i++)

{

cin>>num[i]; // taking input from the user

}

ofstream writedata\_even;

ofstream writedata\_odd;

writedata\_even.open(even\_file.c\_str());

writedata\_odd.open(odd\_file.c\_str());

if(!writedata\_even)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

if(!writedata\_odd)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

cout<<"\n Now writing data into files"<<endl;

// Writing data in file(name even\_number3.txt) using ofstream

for(int i=0; i<10; i++) // loop to check all number

{

if(num[i]%2==0) //checking if the number is even

{

writedata\_even<<num[i]<<endl; // even number stores in file

}

else

{

writedata\_odd<<num[i]<<endl; // odd number stores in file

}

}

writedata\_even.close();

writedata\_odd.close();

getch();

return 0;

}//main

**Task 6**

**Solution**

#include<iostream>

#include<conio.h>

#include<string>

#include<fstream> // Header file for using ifstream or ofstream

using namespace std;

int main()

{

int num[10];

string even\_file, odd\_file, even\_path, odd\_path;

cout<<"Enter the name of file where even file"<<endl;

cin>>even\_file;

cin.ignore();

getline(cin,even\_path);

even\_file=even\_file+".txt";

even\_file=even\_file+"\\"+even\_path; // giving the file the extension of .txt

cout<<"Enter the name of file where odd file "<<endl;

cin>>odd\_file;

cin.ignore();

getline(cin,odd\_path);

odd\_file=odd\_file+".txt"; // giving the file the extension of .txt

odd\_file=odd\_path+"/"+odd\_file;

cout<<"Enter 10 numbers"<<endl;

for (int i=0; i<10; i++)

{

cin>>num[i]; // taking input from the user

}

ofstream writedata\_even;

ofstream writedata\_odd;

writedata\_even.open( even\_file.c\_str());

writedata\_odd.open(odd\_file.c\_str());

if(!writedata\_even)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

if(!writedata\_odd)

{

cout<<"Cannot open file due to unknown reason"<<endl;

}

cout<<"\n Now writing data into files"<<endl;

// Writing data in file(name even\_number3.txt) using ofstream

for(int i=0; i<10; i++) // loop to check all number

{

if(num[i]%2==0) //checking if the number is even

{

writedata\_even<<num[i]<<endl; // even number stores in file

}

else

{

writedata\_odd<<num[i]<<endl; // odd number stores in file

}

}

writedata\_even.close();

writedata\_odd.close();

getch();

return 0;

}//main

**Task 7**

**Solution**

#include<iostream>

#include<conio.h>

#include<fstream>

using namespace std;

void grade(float avg);

struct student

{

string name;

int id, q1, q2, a1, a2, mid, final;

};

float cal\_marks(int quiz1, int quiz2, int assig1, int assig2, int mid, int final)

{

int total;

double average;

total=quiz1+ quiz2 + assig1 + assig2 + mid + final;

average=total/5;

cout<<"Average is"<<average<<endl;

ofstream average1;

average1.open("data.txt" , ios::app);

average1<<"Average is "<<average<<endl;

average1.close();

grade(average);

};

void grade(float avg)

{

if(avg>=90)

{

cout<<"Grade A"<<endl;

ofstream grade;

grade.open("data.txt" , ios::app);

grade<<"Grade A"<<endl;

grade.close();

}

else if(avg>=80 && avg<90)

{

cout<<"Grade B"<<endl;

ofstream grade;

grade.open("data.txt", ios::app);

grade<<"Grade B"<<endl;

grade.close();

}

else if(avg>=70 && avg<80)

{

cout<<"Grade C"<<endl;

ofstream grade;

grade.open("data.txt", ios::app);

grade<<"Grade C"<<endl;

grade.close();

}

else if(avg>=60 && avg<70)

{

cout<<"Grade D"<<endl;

ofstream grade;

grade.open("data.txt", ios::app);

grade<<"Grade D"<<endl;

grade.close();

}

else

{

cout<<"Fail"<<endl;

ofstream grade;

grade.open("data.txt", ios::app);

grade<<"Fail"<<endl;

grade<<endl;

grade.close();

}

}

int main()

{

student s[2];

for(int i=0; i<5; i++)

{

cout<<"Ente the Name of student"<<endl;

cin>>s[i].name;

cout<<"Enter the id of student"<<endl;

cin>>s[i].id;

cout<<"Enter the marks of quiz 1"<<endl;

cin>>s[i].q1;

cout<<"Enter the marks of quiz 2"<<endl;

cin>>s[i].q2;

cout<<"Enter the marks of assignment1"<<endl;

cin>>s[i].a1;

cout<<"Enter the marks of assignment 2"<<endl;

cin>>s[i].a2;

cout<<"Enter the mid marks"<<endl;

cin>>s[i].mid;

cout<<"Enter the final marks"<<endl;

cin>>s[i].final;

cal\_marks(s[i].q1, s[i].q2, s[i].a1, s[i].a2, s[i].mid, s[i].final);

ofstream data;

data.open("data.txt", ios::app);

data<<"Name "<<s[i].name<<endl;

data<<"Id "<<s[i].id<<endl;

data<<"Quiz 1 "<<s[i].q1<<endl;

data<<"Quiz 2 "<<s[i].q2<<endl;

data<<"Assignment 1"<<s[i].a1<<endl;

data<<"Assignment 1"<<s[i].a2<<endl;

data<<"Mid "<<s[i].mid<<endl;

data<<"Final "<<s[i].final<<endl;

data.close();

}

}