International Islamic University
Department of computer science

Assignment No. 2

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Question no: 1

Staff.h

```
#pragma once
#include<iostream>
using namespace std;
class staff
{
	int staffid;
public:
	staff()
	{
		staffid = 0;
	}
	staff(int i)
	{
		staffid = i;
	}
	int get()
	{
		cout<<"enter staff id: ";
		cin >> staffid;
		return staffid;
	}
};
```

professor.h

```
#pragma once
#include<iostream>
#include<string>
using namespace std;
#include "staff.h"
class professor:public staff
{
```

```
	int departid;
	string departname;
public:
	professor():staff()
	{
		departid = 0;
		departname = "";
	}
	professor(int id,string n,int i):staff(i)
	{
		departid = id;
		departname = n;
	}
	int getid()
	{
		cout << "enter department id: ";
		cin >> departid;
		return departid;
	}
	string getname()
	{
		cout << "enter department name: ";
		cin >> departname;
		return departname;
	}
};
```

visitingprofessor.h

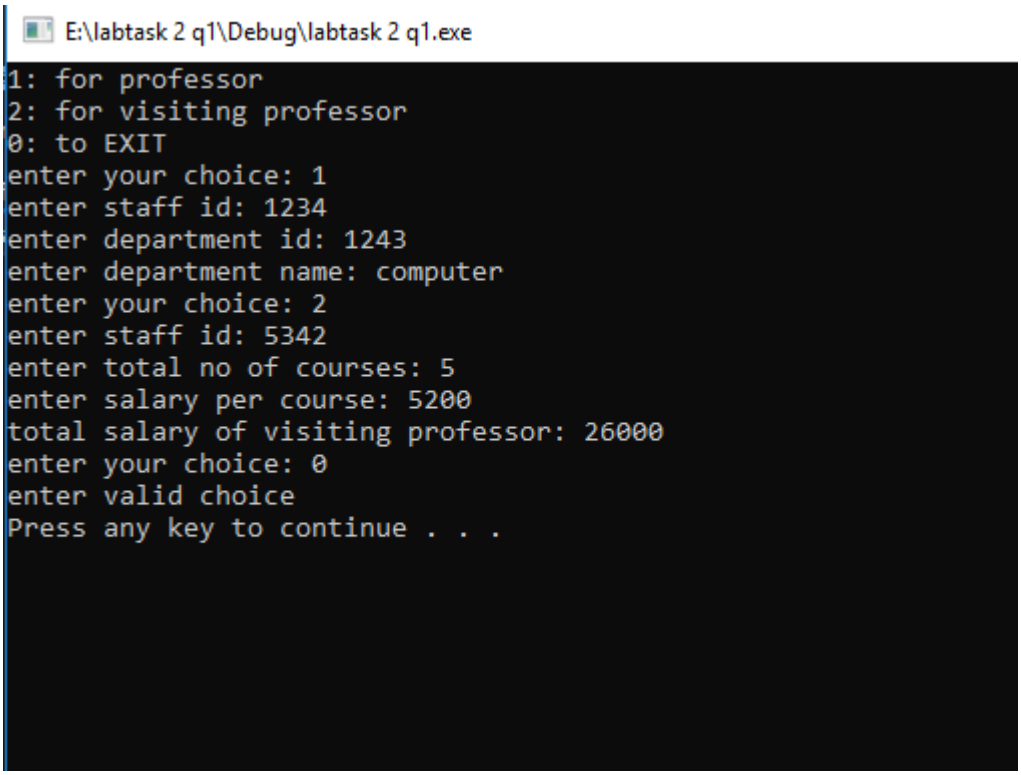
```
#pragma once
#include<iostream>
#include<string>
using namespace std;
#include "professor.h"
class visitingprofessor :
	public professor
{
	int courses, salary;
public:
	visitingprofessor()
	{
		courses = 0;
		salary = 0;
	}
	visitingprofessor(int c,int s, int id, string n, int i):professor(id,n,i)
	{
		courses = c;
		salary = s;
	}
	void set(int c, int s)
	{
		courses = c;
		salary = s;
	}
	int totalsalary()
	{
		int total;
		total = courses * salary;
		return total;
```

```
	}
	void display(int t)
	{
		cout << "total salary of visiting professor: " << t << endl;
	}
};
```

visitingprofessor.cpp

```
#include "visitingprofessor.h"
#include "professor.h"
#include "staff.h"
#include<iostream>
#include<string>
using namespace std;
int main()
{
	visitingprofessor v;
	professor p;
	staff s;
	int c;
	cout << "1: for professor" << endl
		<< "2: for visiting professor" << endl
		<< "0: to EXIT" << endl;
	int t, cou, sal;
	do
	{
		cout << "enter your choice: ";
		cin >> c;
		switch (c)
		{
		case 1:
		  {
			s.get();
			p.getid();
			p.getname();
			break;
		  }
		case 2:
		  {
			s.get();
			cout << "enter total no of courses: ";
			cin >> cou;
			cout << "enter salary per course: ";
			cin >> sal;
			v.set(cou,sal);
			t=v.totalsalary();
			v.display(t);
		  }
		default:cout << "enter valid choice" << endl;
		}
	} while (c != 0);
	system("pause");
	return 0;
}
```

Result:



Question no 2:

graduatecourse.h

```
#pragma once
#include<iostream>
#include<string>
using namespace std;
class graduatecourse
{
	string courseid,coursename;
	int credithour, coursefee;
public:
	graduatecourse(string i,string n,int h,int f)
	{
		courseid = i;
		coursename = n;
		credithour = h;
		coursefee = f;
	}
	int course()
	{
		return coursefee;
	}
	void display()
	{
		cout << "course id: " << courseid << endl
		     << "course name: " << coursename << endl
		     << "credit hours: " << credithour << endl
		     << "course fee: " << coursefee << endl;
```

```
	}
};
```

researchcourse.h

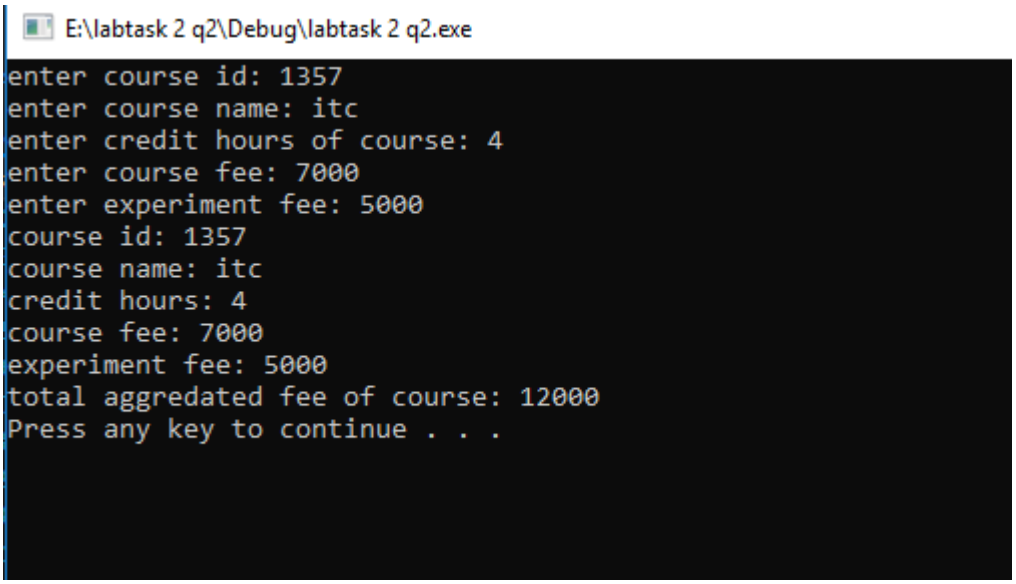
```
#pragma once
#include<iostream>
#include<string>
using namespace std;
#include "graduatecourse.h"
class researchcourse :
	public graduatecourse
{
	int experimentfee;
public:
	researchcourse(int e, string i, string n, int h, int f):graduatecourse(i,n,h,f)
	{
		experimentfee = e;
	}
	void set(int e)
	{
		experimentfee = e;
	}
	void display()
	{
		graduatecourse::display();
		cout << "experiment fee: " << experimentfee << endl;
	}
	void totalfee()
	{
		int total;
		total = experimentfee + graduatecourse::course();
		cout << "total aggredated fee of course: " << total << endl;
	}
};
```

reasearchcourse.cpp

```
#include<iostream>
#include<string>
#include "researchcourse.h"
using namespace std;
int main()
{
	string i, n;
	int cre, f,e;
	cout << "enter course id: ";
	cin >> i;
	cout << "enter course name: ";
	cin >> n;
	cout << "enter credit hours of course: ";
	cin >> cre;
	cout << "enter course fee: ";
	cin >> f;
	cout << "enter experiment fee: ";
	cin >> e;
	researchcourse r(e,i,n,cre,f);
	r.set(e);
	r.display();
	r.totalfee();
	system("pause");
```

```
	return 0;
}
```

Result:



Question no 3:

restaurant.h

```
#pragma once
#include<iostream>
#include<string>
using namespace std;
class restaurant
{
	string name;
	int price;
public:
```

```
	restaurant(string n, int p)
	{
		name = n;
		price = p;
	}
	int getprice()
	{
		return price;
	}
	void display()
	{
		cout << "name of food item: " << name << endl
			<< "price of food item: " << price << endl;
	}
};
```

hotelservice.h

```
#pragma once
#include<iostream>
#include<string>
using namespace std;
class hotelservice
{
	string service;
	int fee,roomno;
public:
	hotelservice(string s,int f,int r)
	{
		service = s;
		fee = f;
		roomno = r;
	}
	int getfee()
	{
		return fee;
	}
	void display()
	{
		cout << "name of service: " << service << endl
			<< "fee of the service: " << fee << endl
			<< "room number to which service id applied: "<<roomno << endl;
	}
};
```

roomservicemeal.h

```
#pragma once
#include<iostream>
#include<string>
#include"restaurant.h"
#include"hotelservice.h"
using namespace std;
class roomservicemeal :public restaurant,public hotelservice
{
public:
	roomservicemeal(string n, int p, string s, int f, int
r):restaurant(n,p),hotelservice(s,f,r)
	{
	}
	void display()
	{
```

```
            int t;
            restaurant::display();
            hotelservice::display();
            t = restaurant::getprice()+hotelservice::getfee();
            cout << "total of meal plus the room service: " << t << endl;
        }
};
```

roomservicemeal.cpp

```
#include<iostream>
#include<string>
#include"restaurant.h"
#include"hotelservice.h"
#include "roomservicemeal.h"
int main()
{
        string n,s;
        int p,f,room;
        cout << "enter the name of the food item: ";
        cin >> n;
        cout << "enter the price of the food item: ";
        cin >> p;
        cout << "enter the name of the service: ";
        cin >> s;
        cout << "enter the fee of the service: ";
        cin >> f;
        cout << "enter the room no to which the service is applied: ";
        cin >> room;
        roomservicemeal r(n, p, s, f, room);
        r.display();
        system("pause");
        return 0;
}
```

Result: