NUST

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY



**Academic Year 2019 -20**

**Department: Computer**

LAB 1

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Subject: Object Oriented Programming

**Date of Submission:** 25/10/2021

TASK 1

CODE:

#include<iostream>

using namespace std;

class cube{

private:

    float dim;

public:

    void input(){

    cout<<"Enter dimension of cube: ";

        cin>>dim;

    }

    void surface\_area(){

    cout<<"Surface area= "<<6\*dim\*dim<<endl;

    }

    void volume(){

    cout<<"Volume ="<<dim\*dim\*dim<<endl;

    }

};

int main(){

    system("CLS");

    cube a,b;

    a.input();

    b.input();

    a.surface\_area();

    b.surface\_area();

    a.volume();

    b.volume();

    system("pause");

    return 0;

    }

SCREENSHOT:

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TASK 2

CODE: #include<iostream>

#include<string>

using namespace std;

class student{

private:

    string name[10],department[10],father\_name[10];

    float roll\_no[10],degree[10];

public:

void garbage(){

    for(int i=0;i<10;i++){

        roll\_no[i]=0;

    }

}

    void insert()

 {

       system ("CLS");

        int x;

        for(int i=0;i<=9;i++)

        {

         cout<<"Enter Name: ";

         cin.ignore();

         getline(cin,name[i]);

         cout<<"Enter Father Name: ";

         getline(cin,father\_name[i]);

         cout<<"Enter Roll Number: ";

         cin>>roll\_no[i];

         cout<<"Enter Department: ";

         cin.ignore();

         getline(cin,department[i]);

         cout<<"Enter Degree: ";

         cin>>degree[i];

         cout<<"If  you want to Insert another Student data the press 1. If not then press 0: ";

         cin>>x;

    if (x==0)

        {

            break;

        }

        else{continue;}

        }

        system ("CLS");

  }

    void search()

    {

        system ("CLS");

        int x,y=0;

        cout<<"Enter Roll Number: ";

        cin>>x;

        for(int i=0;i<=9;i++){

        if (roll\_no[i]==x){

            x=i;

        cout<<"Student Name: "<<name[i]<<endl;

        cout<<"Student Fatehr Name: "<<father\_name[i]<<endl;

        cout<<"Student Roll Number: "<<roll\_no[i]<<endl;

        cout<<"Student Department: "<<department[i]<<endl;

        cout<<"Student Degree: "<<degree[i]<<endl;

        y=1;

            break;

        }

        else{continue;}

    }

if (y==0){

    cout<<"There is now student withe this roll number!\n";

}

        system("pause");

        system ("CLS");

    }

    void Delete()

    {

        int x;

        system ("CLS");

        cout<<"Enter Roll Number: ";

        cin>>x;

        for(int i=0;i<=9;i++){

        if (roll\_no[i]==x){

            x=i;

            break;

        }

        else{continue;}

    }

        name[x]= "0";

        father\_name[x]="0";

        roll\_no[x]=0;

        department[x]="0";

        degree[x]=0;

        cout<<"DELETED!\n";

        system("pause");

        system ("CLS");

        }

    void display(){

        system ("CLS");

        for(int i=0;i<=9;i++)

        {

            cout<<i+1<<":"<<endl;

            if(roll\_no[i]!=0)

         {

            cout<<"Student Name: "<<name[i]<<endl;;

            cout<<"Student Fatehr Name: "<<father\_name[i]<<endl;

            cout<<"Student Roll Number: "<<roll\_no[i]<<endl;

            cout<<"Student Department: "<<department[i]<<endl;

            cout<<"Student Degree: "<<degree[i]<<endl<<endl<<endl;

         }

            else{continue;}

        }

            system("pause");

        system ("CLS");

}

};

int main()

{

 system ("CLS");

    student a;

    a.garbage();

    int x;

    char c;

    while(true){

    cout<<"Choose from the following statments: "<<endl;

    cout<<"1--> Enter Student Data\n"<<"2-->Search Student Data!\n"<<"3-->Delete Student Data!\n"<<"4-->Desplay record of each student!\n";

    cin>>x;

    switch(x)

    {

        case 1:{a.insert();

           break;}

        case 2:{a.search();

           break;}

        case 3:{a.Delete();

           break;}

        case 4:{a.display();

        break;}

        default:{

                cout<<"Error your are only allowed to enter from 1-4!\n";

    }

         cout<<"press n for exit y for cintinues: ";

    cin>>c;

       if(c==78&&c==110){

         break;

        }

        else{continue;}

     }

    }

    system("pause");

}

SCREENSHOTS:

1: MAIN MANUE

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2: Entering data

Text

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3: Search

Text

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4: Display each student data

Text

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5: Delete

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6: Each students data after delete

Text

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TASK 3

CODE:

#include<iostream>

#include<math.h>

using namespace std;

class complex\_number{

private:

    float r,i;

public:

    void input(){

    cout<<"Enter real number: ";

    cin>>r;

    cout<<"Enter Imiginary number: ";

    cin>>i;

    }

    void display(){

    cout<<r<<" + "<<i<<"i"<<endl;

    }

    void add(complex\_number b){

        cout<<"Additiion of a and b= ";

        cout<<r+b.r<<" + "<<i+b.i<<"i"<<endl;

    }

    void subtract(complex\_number b){

        cout<<"Subtraction of b from a= ";

        cout<<r-b.r<<" + "<<i-b.i<<"i"<<endl;

    }

    void mod(){

    cout<<"Modulus of Complex number is: ";

    float c,e;

    c=r\*r;

    e=i\*i;

    cout<<sqrt(c+r)<<endl;

    }

};

int main(){

    system("CLS");

    complex\_number a,b;

     a.input();

     b.input();

     a.display();

     b.display();

     a.mod();

     b.mod();

     a.add(b);

     a.subtract(b);

system ("pause");

}

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THE END