

1. Write a C++ program to create object that has two fields: id and name. It creates instance of the class, initializes the object and prints the object value.

```
#include<iostream>

using namespace std;

class student {
    public:
    string name;
    int id;

    void printInfo(){
        cout<<"Name is ";
        cout<<name<<endl;
        cout<<"ID is "<<id<<endl;
    }
};

int main()
{
    student arr[2];
    for(int i=0;i<2;i++){
        cout<<"Enter Name ";
        cin>>arr[i].name;
        cout<<"Enter ID ";
        cin>>arr[i].id;
    }
    for(int i=0;i<2;i++){
        arr[i].printInfo();
    }

    return 0;
}
```

```
}
```

```
Enter Name Arun
Enter ID 100
Enter Name Rahul
Enter ID 101
Name is Arun
ID is 100
Name is Rahul
ID is 101
```

2. Write a C++ program to initializing and displaying object through method.

```
#include<iostream>
```

```
using namespace std;
```

```
class student {
```

```
    public:
```

```
    string name;
```

```
    int id;
```

```
    void printInfo(){
```

```
        cout<<"Name is ";
```

```
        cout<<name<<endl;
```

```
        cout<<"ID is "<<id<<endl;
```

```
    }
```

```
};
```

```
int main()
```

```
{  student arr[2];
```

```
    for(int i=0;i<2;i++){
```

```
        cout<<"Enter Name ";
```

```
        cin>>arr[i].name;
```

```
        cout<<"Enter ID ";
```

```
        cin>>arr[i].id;
```

```
    }
```

```

for(int i=0;i<2;i++){
    arr[i].printInfo();
}

return 0;
}

```

```

Enter Name Arun
Enter ID 100
Enter Name Rahul
Enter ID 101
Name is Arun
ID is 100
Name is Rahul
ID is 101

```

3. Write a C++ program with using the public and private in C++ Class.

// C++ program to demonstrate private

// access modifier

```
#include <iostream>
```

```
using namespace std;
```

```
class Circle {
```

```
    // private data member
```

```
private:
```

```
    double radius;
```

```
    // public member function
```

```
public:
```

```
    void compute_area(double r)
```

```
{
```

```
    // member function can access private
```

```
    // data member radius

```

```

        radius = r;

        double area = 3.14 * radius * radius;

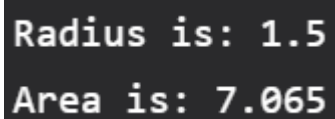
        cout << "Radius is: " << radius << endl;
        cout << "Area is: " << area;
    }
};

// main function
int main()
{
    // creating object of the class
    Circle obj;

    // trying to access private data member
    // directly outside the class
    obj.compute_area(1.5);

    return 0;
}

```



```

Radius is: 1.5
Area is: 7.065

```

4. Write a C++ Program to Implement a Class STUDENT having Following Members

```

#include<iostream>

using namespace std;

class student {
    public:
    string name;
    int roll;

```

```

int marks;

void topmarks(){
    cout<<name<<" has got the highest marks"<<endl;
}

void highlow(){
    cout<<marks<<" is the highest marks and "<<marks<<" is the lowest marks"<<endl;
}

void display(){
    cout<<"Name is ";
    cout<<name<<endl;
    cout<<"Roll is "<<roll<<endl;
    cout<<"Marks is "<<marks<<endl;
}

};

int main()
{
    student arr[2];
    for(int i=0;i<2;i++){
        cout<<"Enter Name ";
        cin>>arr[i].name;
        cout<<"Enter Roll ";
        cin>>arr[i].roll;
        cout<<"Enter marks ";
        cin>>arr[i].marks;
    }

    if(arr[0].marks>arr[1].marks)
        arr[0].topmarks();
    else
        arr[1].topmarks();

    if(arr[0].marks>arr[1].marks)

```

```

arr[0].highlow();

else

arr[1].highlow();

for(int i=0;i<2;i++){

    arr[i].display();

}

return 0;

}

```

```

Enter Name Sachin
Enter Roll 5
Enter marks 90
Enter Name Nikhil
Enter Roll 6
Enter marks 80
Sachin has got the highest marks
90 is the highest marks and 90 is the lowest marks
Name is Sachin
Roll is 5
Marks is 90
Name is Nikhil
Roll is 6
Marks is 80

```

5. Write a C++ Program to Calculate Electricity Bill of Person using Class.

```

#include <iostream>

#include <conio.h>

using namespace std;

class EleBill

{

private:

    int cur_Unit,pre_Unit,amt,unit;

//variable drclaration

public://function declaration as public

    void get();

    void printAmt();

};

```

```

void EleBill::get();//function definition
{
    cout << "Enter previous unit:" << endl;
    cin>>pre_Unit;//takes input from the user
    cout << "Enter current unit:" << endl;
    cin>>cur_Unit;//takes input from the user
}

/*1 - 100 = 1
101 - 200 = 2
201 - 300 = 3
above 300 - 5*/

```

```

void EleBill::printAmt();//function definition {
{
    unit=cur_Unit-pre_Unit;
    if(unit>0 && unit<=100)
    {
        amt=unit*1;
    }
    if(unit>100 && unit<=200)
    {
        amt=unit*2;
    }
    if(unit>200 && unit<=300)
    {
        amt=unit*3;
    }
    if(unit>300)
    {
        amt=unit*5;
    }
}
}

```

```

    }

    cout << "Bill charge: " << amt << endl;

}

int main()
{
    EleBill o;

    o.get();
    o.printAmt();
    getch();
    return 0;
}

```

```

Enter previous unit:
4577
Enter current unit:
5012
Bill charge: 2175

```

6. Write a C++ Program to Calculate Simple Interest using class

```

#include<iostream>

using namespace std;

class interest
{
    int n;
    float rate,p;
public:
    void get()
    {
        cout<<"\nEnter principle Amount & no. of year: \n";
        cin>>p>>n;
    }

    void cal(float rate)

```

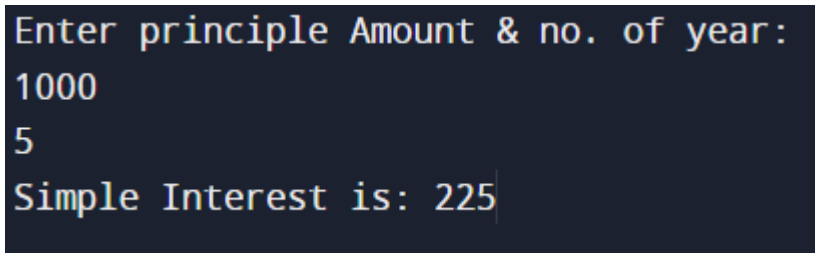


```

{
float si;
si=(p*n*rate)/100;
cout<<"\n\nSimple Interest is: "<<si;
}
};

int main()
{
interest i;
i.get();
i.cal(4.5);
return 0;
}

```



```

Enter principle Amount & no. of year:
1000
5
Simple Interest is: 225

```

8. Write a C++ Program to find Area of Rectangle using constructor.

```
#include <iostream>
```

```
#include<math.h>
```

```
#define PI 3.141
```

```
using namespace std;
```

```
class AreaRectangle
```

```
{
```

```
private:
```

```
float area;
```

```

public:
    AreaRectangle(float length, float breadth)
    {
        area = length * breadth;
    }
    void display()
    {
        cout << "Area:\t" << area << endl;
    }
};

```

```

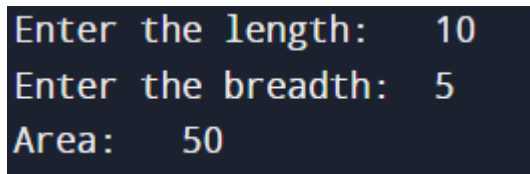
int main()
{
    float length, breadth;

    cout << "Enter the length:\t";
    cin >> length;

    cout << "Enter the breadth:\t";
    cin >> breadth;

    AreaRectangle area(length, breadth);
    area.display();
    return 0;
}

```



```

Enter the length: 10
Enter the breadth: 5
Area: 50

```

9. Write a C++ Program to Display Date using Constructors

```

#include<iostream>

using namespace std;

```

```

class date
{
    private:
        int dd, mm, yy;

    public:
        date()
        {
            dd=31;
            mm=12;
            yy=2016;
        }

        void display()
        {
            cout<<"\nThe Entered Date is ";
            cout<<dd<<"-"<<mm<<"-"<<yy<<"\n";
        }
};

int main ()
{
    date date1;
    date1.display ();

    return 0;
}

```

The Entered Date is 31-12-2016

10. Write a Program to Generate Fibonacci Series use Constructor to Initialize the Data Members.

```

#include<iostream>

using namespace std;

```

```

class fibonacci
{
    long int a,b; //data members
public:
    fibonacci() //special member function constructor
    {
        a=-1;
        b=1;

    }

    void fibseries(int n) //member function
    {
        int i,next;

        cout<<"\n Resultant fibonacci series\n";
        for(i=0;i<n;i++)
        {
            next=a+b; //Expression

            cout<<next<<endl; //To print the fibseries

            a=b;
            b=next;
        }

    }
};

int main()
{
    fibonacci f;

    int n;

    cout<<"\n Fibonacci series \n";
    cout<<"Enter the range = \n";

```

```
cin>>n;  
f.fibseries(n);  
return 0;  
}
```

```
Fibonacci series  
Enter the range =  
10  
Resultant fibonacci series  
0  
1  
1  
2  
3  
5  
8  
13  
21  
34
```