1.

Create a class named 'Student' with a string variable 'name' and an integer variable 'roll\_no'. Assign

the value of roll\_no as '2' and that of name as "John" by creating an object of the class Stude

#include<iostream>

using namespace std;

struct student

{

int roll\_no;

string name;

};

main()

{

student stude;

stude.name = "john";

stude.roll\_no = 2;

cout<<"\nName="<<stude.name;

cout<<"\nRollno="<<stude.roll\_no;

}

------------------------------------------------------------------------------

2.

Assign and print the roll number, phone number and address of two students having names "Sam"

and "John" respectively by creating two objects of the class 'Student'.

#include<iostream>

using namespace std;

class student

{

int roll\_no,phone\_no;

string name,add;

public:

void get()

{

cout<<"\nEnter student name phone no rollno & address";

cin>>name>>phone\_no>>roll\_no>>add;

cout<<"\nStudent name="<<name;

cout<<"\nStudent phoneno="<<phone\_no;

cout<<"\nStudent Rollno="<<roll\_no;

cout<<"\nStudent Address="<<add;

}

};

main()

{

student obj;

obj.get();

}

3.

Write a program to print the area and perimeter of a triangle having sides of 3, 4 and 5 units by

creating a class named 'Triangle' with a function to print the area and perimeter.

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#include<iostream>

using namespace std;

class Triangle

{

int s1,s2,s3,height,perimeter;

float area;

public:

void get\_Triangle()

{

cout<<"\nEnter the S1 S2 S3 &height";

cin>>s1>>s2>>s3>>height;

area=(s1\*s2)/2;

perimeter=s1+s2+s3;

}

void show\_Triangle()

{

cout<<"\nArea="<<area;

cout<<"\nperimeter="<<perimeter;

}

};

main()

{

Triangle p;

p.get\_Triangle();

p.show\_Triangle();

}\

4.

Write a program to print the area and perimeter of a triangle having sides of 3, 4 and 5 units by

creating a class named 'Triangle' with the constructor having the three sides as its parameters.

#include<iostream>

#include<cmath>

using namespace std;

class tringle{

public:

int a,b,c;

float area,perimeter,sp;

tringle(){

a=3;

b=4;

c=5;

}

void ar(){

sp=(a+b+c)/2;

area=sqrt(sp\*(sp-a)\*(sp-b)\*(sp-c));

cout<<"\nArea of tringle"<<area;

}

void pr(){

perimeter=a+b+c;

cout<<"\n perimeter of tringle"<<perimeter;

}

};

main(){

tringle t1;

t1.ar();

t1.pr();

}

5.

Write a program to print the area of two rectangles having sides (4,5) and (5,8) respectively by

creating a class named 'Rectangle' with a function named 'Area' which returns the area. Length and

breadth are passed as parameters to its constructor.

#include<iostream>

using namespace std;

class Rectangle

{

private:

int l,b;

public:

void get(int len,int bre)

{

l= len;

b= bre;

}

int area()

{

return l\*b;

}

};

main()

{

Rectangle R1,R2;

R1.get(4,5);

R2.get(5,8);

cout<<"\nArea of R1="<<R1.area();

cout<<"\nArea of R2="<<R2.area();

}

6.

Write a program to print the area of a rectangle by creating a class named 'Area' having two

functions. First function named as 'setDim' takes the length and breadth of the rectangle as

parameters and the second function named as 'getArea' returns the area of the rectangle. Length and

breadth of the rectangle are entered through keyboard.

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#include<iostream>

using namespace std;

class Area

{

private:

int l;

int b;

int area;

public:

void setDim()

{

cout<<"\nEnter the length=";

cin>>l;

cout<<"\nEnter the breadth=";

cin>>b;

area=l\*b;

}

void get\_Area()

{

cout<<"\n area of rectangle="<<area;

}

};

main()

{

Area t2;

t2.setDim();

t2.get\_Area();

}

7.

Write a program to print the area of a rectangle by creating a class named 'Area' taking the values of

its length and breadth as parameters of its constructor and having a function named 'returnArea'

which returns the area of the rectangle. Length and breadth of the rectangle are entered through

keyboard.

#include<iostream>

#include<math.h>

using namespace std;

class Area

{

private:

int l,b,a;

public:

void get\_Area()

{

cout<<"\nEnter the lenght=";

cin>>l;

cout<<"\nEnter the breadth=";

cin>>b;

}

int return\_Area()

{

a=l\*b;

return a;

}

};

main()

{

Area a;

int c;

a.get\_Area();

c=a.return\_Area();

cout<<"\nThe total area="<<c;

}

8.

Print the average of three numbers entered by the user by creating a class named 'Average' having a

function to calculate and print the average without creating any object of the Average class.

#include<iostream>

using namespace std;

class Average

{

public:

int cal\_Average(int a,int b,int c)

{

return(a+b+c)/3;

}

};

main()

{

Average a1;

cout<<"\nEnter the number=";

int a,b,c;

cin>>a;

cin>>b;

cin>>c;

float avg;

avg=a1.cal\_Average(a,b,c);

cout<<"\nAverage="<<avg;

}

9.

Print the sum, difference and product of two complex numbers by creating a class named 'Complex'

with separate functions for each operation whose real and imaginary parts are entered by the user.

#include<iostream>

using namespace std;

class Complex{

public:

int a,b;

char c1,c2;

void add(){

cout<<"\nEnter real part";

cin>>a>>b;

cout<<"\nenter imaginary part";

cin>>c1>>c2;

void diff(){

cout<<"\n"<<a<<c1<<"+"<<b<<c2<<"="<<a-b<<c1-c2;

}

void pro(){

cout<<"\n"<<a<<c1<<"+"<<b<<c2<<"="<<a\*b<<c1\*c2;

}

}

};

main(){

Complex c1;

c1.add();

c1.diff();

c1.pro();

}

10.

Write a program to print the volume of a box by creating a class named 'Volume' with an

initialization list to initialize its length, breadth and height. (just to make you familiar with

initialization lists)

#include<iostream>

using namespace std;

class Volume{

public:

int length,breadth,height;

float area;

void Area(){

length=3;

breadth=6;

height=4;

area=length\*breadth\*height;

}

void print(){

cout<<"Area="<<area;

}

};

main(){

Volume v;

v.Area();

v.print();

}

11.

Write a program that would print the information (name, year of joining, salary, address) of three

employees by creating a class named 'Employee'. The output should be as follows:

Name Year of joining Address

Robert 1994 64C- WallsStreat

Sam 2000 68D- WallsStreat

John 1999 26B- WallsStreat

#include<iostream>

using namespace std;

class Employee{

public:

string name,address;

int year;

void set(){

cout<<"\n enter name year of joining and Address";

cin>>name>>year>>address;

}

void get(){

cout<<"\n"<<name<<" "<<year<<" "<<" "<<address;

}

};

main(){

Employee e[3];

int i;

for(i=0;i<3;i++){

e[i].set();

}

cout<<"\n Name year of joining address";

for(i=0;i<3;i++){

e[i].get();

}

}

12.

Write a program to print the name, salary and date of joining of 10 employees in a company. Use

array of objects.

Practice Problem

#include<iostream>

using namespace std;

class Employee

{

private:

int doj;

char name[50];

float sal;

public:

void set\_Employee()

{

cout<<"\nEnter Date of joining name & salary";

cin>>doj>>name>>sal;

}

void get\_Employee() {

cout<<"\n"<<doj <<"\t "<<name <<"\t "<<sal;

}

};

main()

{

Employee obj[10];

int i;

cout<<"\nEnter 10 Employee details";

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

{

obj[i].set\_Employee();

}

cout<<"\nEmployee Details";

cout<<"\nDate of joining name salary";

cout<<"\n---------------------------------------------------";

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

{

obj[i].get\_Employee();

] }

}

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13.

Write a program to print the roll number and average marks of 8 students in three subjects (each

out of 100). The marks are entered by the user and the roll numbers are automatically assigned.

#include<iostream>

using namespace std;

class Student{

public:

int avgmark, rollno=0;

void set(){

cout<<"\nenter average marks";

cin>>avgmark;

rollno++;

}

void get(){

int rollno;

cout<<"\nroll\_no="<<rollno<<" Average Marks="<<avgmark;

}

};

main(){

Student s[8];

int i;

for(i=0;i<8;i++){

s[i].set();

}

for(i=0;i<8;i++){

s[i].get();

}

}

14.

Write a program to calculate the average height of all the students of a class. The number of students

and their heights are entered by the user.

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#include<iostream>

using namespace std;

class Height

{

public:

int cal\_Height(int h1,int h2,int h3)

{

return(h1+h2+h3)/3;

}

};

main()

{

Height h;

cout<<"\nEnter the number=";

int h1,h2,h3;

cin>>h1;

cin>>h2;

cin>>h3;

float avg;

avg=h.cal\_Height(h1,h2,h3);

cout<<"\nAverage="<<avg;

}