**Practical no.-**15

**Title:** Program to find area of triangle & rectangle using base pointer to derived class object &virtual functions&virtual functions

**Roll No.:** 76 **Batch-** C

**Code:**

#include <iostream>

using namespace std;

class polygoan

{

protected:

int width,height;

public:

void get\_dimentions()

{

cout<<"Enter width:-"; cin>>width;

cout<<"Enter height:-"; cin>>height;

}

//Virtual function

virtual void area()

{

cout<<"\nBase class function..\n";

}

};

//Derived class-1

class rectangle:public polygoan

{

public:

void area()

{

float ar;

ar=width\*height;

cout<<"Area of rectangle:-"<<ar;

}

};

//Derived class-2

class triangle:public polygoan

{

public:

void area()

{

float ar;

ar=(width\*height)/2;

cout<<"Area of triangle:-"<<ar;

}

};

int main()

{

polygoan \*bptr; //pointer of base class

rectangle r; //object of derived class-1

bptr=&r; //base pointer to derived obj.

cout<<"\n\nEnter dimensions of rectangle:\n";

bptr->get\_dimentions();

bptr->area();

triangle t; //object of derived class-2

bptr=&t; //base pointer to derived obj.

cout<<"\n\nEnter dimensions of triangle:\n";

bptr->get\_dimentions();

bptr->area();

}

**OUTPUT-1**

**Without Virtual Keyword**

Enter dimensions of rectangle:

Enter width:-5

Enter height:-6

Base class function..

Enter dimensions of triangle:

Enter width:-8

Enter height:-3

Base class function..

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**With Virtual keyword**

Enter dimensions of rectangle:

Enter width:-4

Enter height:-6

Area of rectangle:-24

Enter dimensions of triangle:

Enter width:-7

Enter height:-6

Area of triangle:-21

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