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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Programming in Modern C++ (course)



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# W6\_Programming\_Qs-1

Due on 2023-03-09, 23:59 IST

Complete the program with the following instructions.

- Fill in the blank at LINE-1 with proper access specifier.
- Fill in the blanks at LINE-2 to declare `area()` as a pure virtual function.

The program must satisfy the given test cases.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	3 5 7	7.5 153.86	7.5 153.86	Passed

The due date for submitting this assignment has passed.  
1 out of 1 tests passed.  
You scored 100.0/100.

Assignment submitted on 2023-02-28, 20:30 IST

Your last recorded submission was :

```
1 #include<iostream>
2 using namespace std;
3 class Shape{
4     protected:    //LINE-1
5         double ar;
6     public:
7         virtual void area() = 0;    //LINE-2
8         void show(){
9             cout << ar << " ";
10        }
11 };
12
13 class Triangle : public Shape{
14     int h, w;
15     public:
16         Triangle(int a, int b) : h(a), w(b){}
17         void area(){
18             ar = 0.5*h*w;
19         }
20 };
21 class Circle : public Shape{
22     int r;
23     public:
24         Circle(int a) : r(a){}
```

## Course outline

How does an NPTEL online course work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

Week 5 ()

Week 6 ()

☐ Lecture 26 : Polymorphism: Part 1: Type Casting (unit? unit=72&lesson=73)

- Lecture 27 :  
Polymorphism:  
Part 2: Static  
and Dynamic  
Binding (unit?  
unit=72&lesson=74)

```

25         void area(){
26             ar = 3.14*r*r;
27         }
28     };
29     int main(){
30         int w,h,r;
31         cin >> w >> h >> r;
32         Shape *s1 = new Triangle(h,w);
33         Shape *s2 = new Circle(r);
34         s1->area();
35         s2->area();
36         s1->show();
37         s2->show();
38         return 0;
39     }

```

- Lecture 28 :  
Polymorphism:  
Part 3:  
Abstract Base  
Class (unit?  
unit=72&lesson=75)

- Lecture 29 :  
Polymorphism:  
Part 4: Staff  
Salary  
Processing  
using C (unit?  
unit=72&lesson=76)

- Lecture 30 :  
Polymorphism:  
Part 5: Staff  
Salary  
Processing  
using C++  
(unit?  
unit=72&lesson=77)

- Tutorial 06 :  
Mixing C and  
C++ Code:  
Part 2: Project  
Example (unit?  
unit=72&lesson=78)

- Week 6  
Lecture  
Material (unit?  
unit=72&lesson=79)

- Quiz: Week 6 :  
Assignment 6  
(assessment?  
name=189)

- W6\_Programming\_Qs-  
1  
(/noc23\_cs50/progassignment?  
name=186)

- W6\_Programming\_Qs-  
2  
(/noc23\_cs50/progassignment?  
name=187)

- W6\_Programming\_Qs-  
3

(/noc23\_cs50/progassignment?  
name=188)

○ Week 6  
Feedback  
Form (unit?  
unit=72&lesson=190)

- Assignment 6  
Solution (unit?  
unit=72&lesson=81)

## Week 7 ()

### Week 8 ()

**Download  
Videos ()**

## Books ()

## Transcripts ()

## Problem Solving Session ()