CodeStepByStep

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Main Page → **Exercises** → **Project 4** → **C++** → **Solve an Exercise**

> **i** You are working on problem set: Project 4 (⏸ Pause)

❓ Circle ♡

Language/Type: C++ classes operator overloading

Write a class of objects named `Circle` that remembers information about a circle. You must include the following public members. It may help you to know that there is a global constant named `PI` storing the value of π, roughly `3.14159`.

member name	description
`Circle(r)`	constructs a new circle with the given radius as a real number
`area()`	returns the area occupied by the circle
`circumference()`	returns the distance around the circle
`getRadius()`	returns the radius as a real number
`toString()`	returns a string representation such as `"Circle{radius=2.5}"`

You should define the entire class including the class heading, the private member variables, and the declarations and definitions of all the public member functions and constructor.

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```
1  class Circle {
2      const double PI = 3.14159;
3      private:
4          double r;
```

```cpp
 5      public:
 6          Circle(){
 7              r = 0.0;
 8          }
 9
10          Circle(double radius){
11              r = radius;
12          }
13
14          double area(){
15              return PI*r*r;
16          }
17
18          double circumference(){
19              return 2*PI*r;
20          }
21
22          double getRadius(){
23              return r;
24          }
25
26          string toString(){
27              string retstr = "Circle{radius=" + to_string(r) + "}";
28              return retstr;
29          }
30  };
```

Class: Write a complete C++ class.

🚀 Submit   ⚙

✅ You passed 7 of 7 tests.   ✕

test #1:	getRadius
assertion:	getRadius result
value:	2.5
result:	✅ pass

test #2:	area 1
assertion:	radius=2.5 area result
value:	19.6349
result:	✅ pass

test #3:	area 2
assertion:	radius=4.0 area result
value:	50.2654

result:	✅ pass

test #4:	circumference 1
assertion:	radius=2.5 circumference result
value:	15.708
result:	✅ pass

test #5:	circumference 2
assertion:	radius=4.0 circumference result
value:	25.1327
result:	✅ pass

test #6:	toString 1
assertion:	radius=2.5 toString result
value:	"Circle{radius=2.5}"
result:	✅ pass

test #7:	toString 2
assertion:	radius=4.0 toString result
value:	"Circle{radius=4}"
result:	✅ pass

Testing began at 2023/04/23 13:27 (PDT) and ran for 1177 ms.