SphereClass

May 9, 2020

In [ ]:
```cpp
#include <cassert>
#include <cmath>
#include <stdexcept>
#include <iostream>
using std::cout;

// TODO: Define class Sphere
class Sphere {
 public:
  // Constructor
    Sphere(int radius): radius_(radius){
        Radius(radius);
    }
  // Accessors
    int Radius() const {return radius_;}
  // Mutators
    void Radius(int radius){
        if(radius<=0){
            cout<<"Radius: Error: Invalid Input.\n";
        }
        else{
            radius_ = radius;
        }
    }
  // Volume
    float Volume() const {
        float v = M_PI * pow(radius_ , 3) * 4 / 3;
        return v;
    }
 private:
  // Private members
    int radius_;
};

// Test
int main(void) {
  Sphere sphere(5);
```

```
    assert(sphere.Radius() == 5);
    assert(abs(sphere.Volume() - 523.6) < 1);
    cout<<sphere.Volume()<<"\n";
    Sphere sphere2(0);
  }
```

Compile & Run

Explain
Loading terminal (id_f00ikj9), please wait...