```cpp
/*1. Write a C++ program to implement a class called
Circle that has private member variables for radius.
Include member functions to calculate the circle's area
and circumference.*/

#include <iostream>

#include <cmath>

const double PI = 3.14159;

class Circle {
  public:
    double radius;

  public:
    Circle(double rad): radius(rad) {}

    double calculateArea() {
      return PI * pow(radius, 2);
    }
    double calculateCircumference() {
      return 2 * PI * radius;
    }
};

int main() {
  double radius;
  std::cout << "Input the radius of the circle: ";
  std::cin >> radius;
  Circle circle(radius);

  double area = circle.calculateArea();
```

```cpp
    std::cout << "Area: " << area << std::endl;

    double circumference = circle.calculateCircumference();
    std::cout << "Circumference: " << circumference <<
std::endl;

    return 0;
}

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    double calculateCircumference() {
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int main() {
    double radius;
    cout << "Input the radius of the circle: ";
    cin >> radius;
    Circle circle(radius);

    double area = circle.calculateArea();
    cout << "Area: " << area << std::endl;

    double circumference = circle.calculateCircumference();
    cout << "Circumference: " << circumference << std::endl;

    return 0;
}
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int main() {

  double radius;
  cout << "Input the radius of the circle: ";
  cin >> radius;
  Circle circle(radius);

  double area = circle.calculateArea();
  cout << "Area: " << area << std::endl;

  double circumference = circle.calculateCircumference();
  cout << "Circumference: " << circumference << endl;
  return 0;
}


/*-------------------------------------------------------------
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```

```cpp
Write a C++ program to create a class called Rectangle
that has private member variables for length and width.
Implement member functions to calculate the rectangle's
area and perimeter.*/

#include <iostream>

class Rectangle {
  private:
    double length;
    double width;

  public:
    Rectangle(double len, double wid): length(len),
width(wid) {}

    double calculateArea() {
      return length * width;
    }

    double calculatePerimeter() {
      return 2 * (length + width);
    }
};

int main() {
  double length, width;
  cout << "Input the length of the rectangle: ";
  cin >> length;
  cout << "Input the width of the rectangle: ";
  cin >> width;

  Rectangle rectangle(length, width);
```

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    double area = rectangle.calculateArea();
    cout << "\nArea: " << area << endl;

    double perimeter = rectangle.calculatePerimeter();
    cout << "Perimeter: " << perimeter << endl;
    return 0;
}



/*---------------------------------------------------------
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Write a C++ program to create a class called Person that
has private member variables for name, age and country.
Implement member functions to set and get the values of
these variables.*/

#include <iostream>
#include <string>

class Person {
  private:
    string name;
    int age;
    std::string country;

  public:
    void setName(const std::string & n) {
      name = n;
    }

    void setAge(int a) {
      age = a;
```

```cpp
    }

    void setCountry(const std::string & c) {
      country = c;
    }

    std::string getName() {
      return name;
    }

    int getAge() {
      return age;
    }

    string getCountry() {
      return country;
    }
};

int main() {
  Person person;

  person.setName("Saveli Sujatha");
  person.setAge(25);
  person.setCountry("USA");

  cout << "Name: " << person.getName() << endl;
  cout << "Age: " << person.getAge() << endl;
  cout << "Country: " << person.getCountry() << endl;

  return 0;
}
```