16.Write a function called circlearea () that find the area of a circle. It should take an argument of type float and return an argument of the same type.write main() that gets a radius value from the user,calla circarea () and display the result.

Coding:

#include <iostream>

#include <cmath> // For the M\_PI constant

// Function declaration

float circleArea(float radius);

int main() {

float radius;

// Input radius from the user

std::cout << “Enter the radius of the circle: “;

std::cin >> radius;

// Validate input

if (radius < 0) {

std::cout << “Radius cannot be negative.” << std::endl;

return 1; // Exit with error code

}

// Call the function to calculate the area of the circle

float area = circleArea(radius);

// Display the result

std::cout << “The area of the circle with radius “ << radius << “ is: “ << area << std::endl;

return 0;

}

// Function definition

float circleArea(float radius) {

// Use the formula for the area of a circle: π \* radius^2

return M\_PI \* radius \* radius;

}

