

Eric Thomas

Description of the problem

Alex needs a tool to calculate essential properties of a circle based on its radius. Specifically, the program should compute two key measurements circumference of a circle and area of a circle

The name of the person you are solving it for

Alex

A reference of where you looked up the calculation for the problem

https://www.youtube.com/watch?v=02YXycFH_kU&ab_channel=MathwithMr.J

Algorithm:

Start the program.

Input: Ask Alex to input the radius of the circle.

Display a message: "Please enter the radius of the circle (positive number)."

Validation:

If the radius is less than or equal to 0, display an error message:

"The radius must be a positive number. Please try again."

Stop the algorithm if invalid input is provided.

Calculation:

Area calculation:

Use the formula $A = \pi r^2$, where π is a constant value (approximately 3.14).

Circumference calculation:

Use the formula $C = 2\pi r$

Output: Display the calculated area and circumference.

For the area, display: "The area of the circle with radius r is A."

For the circumference, display: "The circumference of the circle with radius r is C."

End the program.

Test Case	Input Radius	Expected Area Output	Expected Circumference Output
1	1.0	3.14	6.28
2	2.0	12.57	12.57
3	3.5	38.48	21.99
4	0.0	Invalid Input	Invalid Input
5	-5.0	Invalid Input	Invalid Input