

Key Concept: Problem Solving

1. Understand the Problem.

- a. Are the pre- and post-conditions clear?
- b. Are there any assumptions we should make?
- c. Do you have enough information about the problem?
- d. Do you fully understand the question?

2. Solution Design.

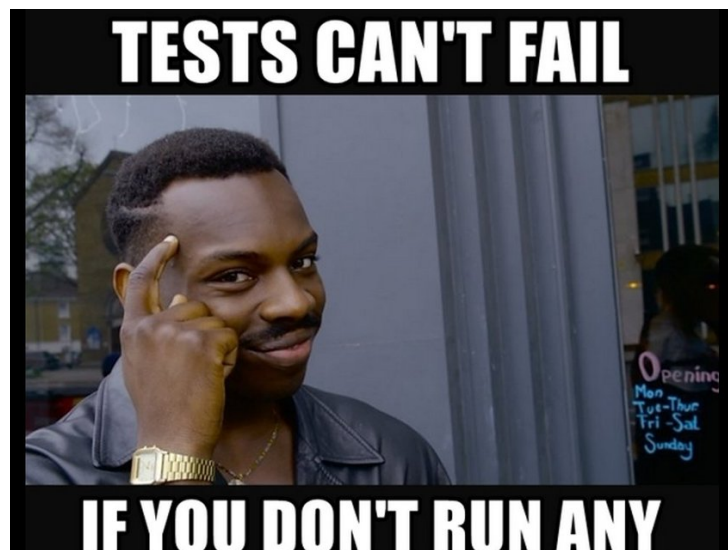
- a. Decompose the problem into separate parts, if possible.
- b. Think about how you would solve the problem manually.
- c. Visualize your thought process.
- d. Walk through a few test cases, especially edge cases.

3. Code Implementation.

- a. Translate your thoughts into pseudocode.
- b. Translate pseudocode into actual code.
- c. Optimize your code; follow the DRY principle.
- d. Check your coding style.

4. Bug Bash.

- a. Consider all possible branches and edge cases.
- b. Walk through your code with the test cases.



Practice Problem:

Implement a function `drawDiamond()` that takes a single parameter `radius` and outputs a string representation of a diamond using stars (*) and dashes (-). See the example test cases below.

`drawDiamond(1)`

`-*-`

`*-*`

`-*-`

`drawDiamond(2)`

`--*--`

`-*-*-`

`*---*`

`-*-*-`

`--*--`

`drawDiamond(3)`

`---*---`

`--*-*--`

`-*---*-`

`*-----*`

`-*---*-`

`--*-*--`

`---*---`