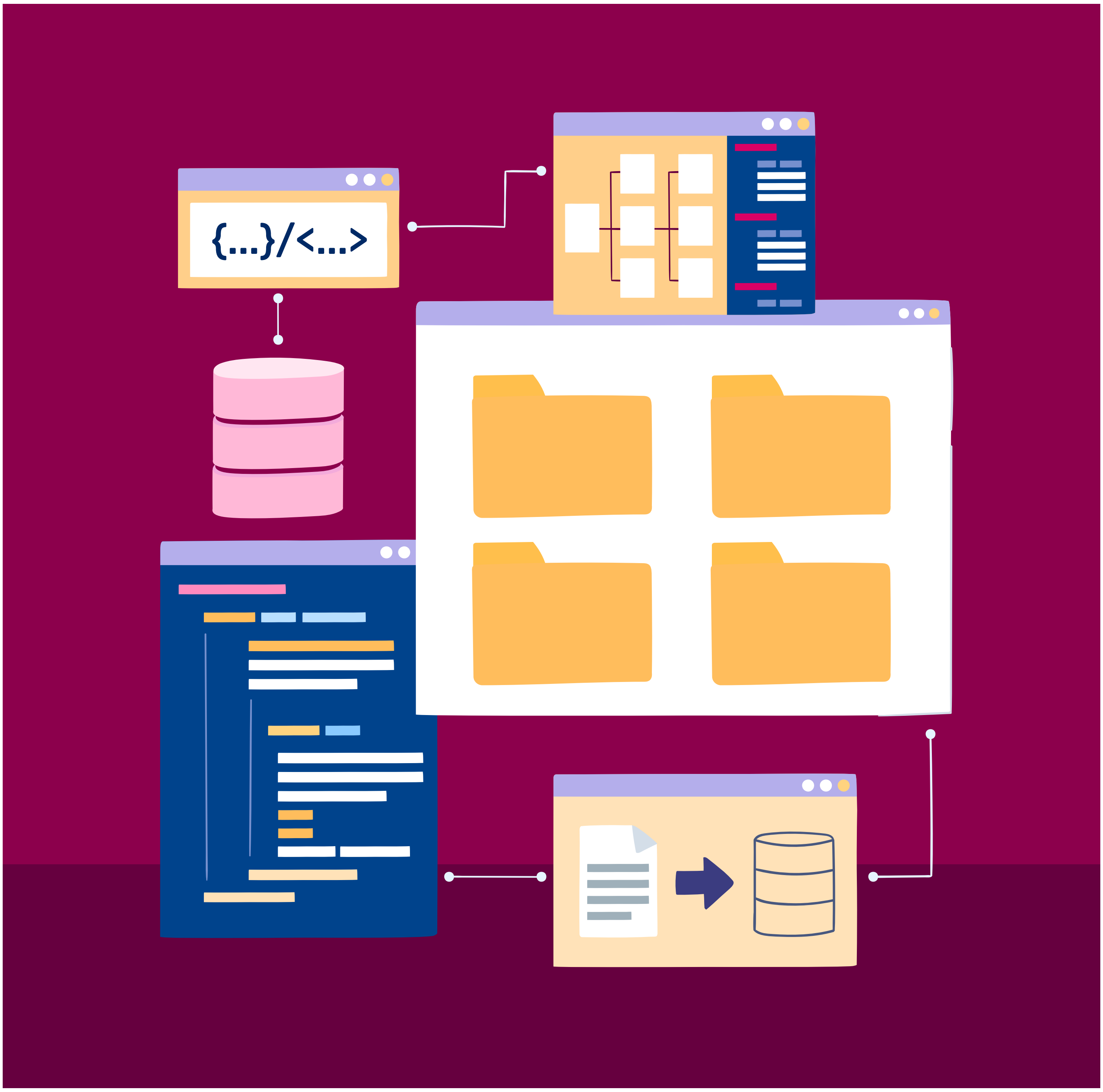
SCALER *Topics*

Cheatsheet

7 Steps for answering any

DSA Questions



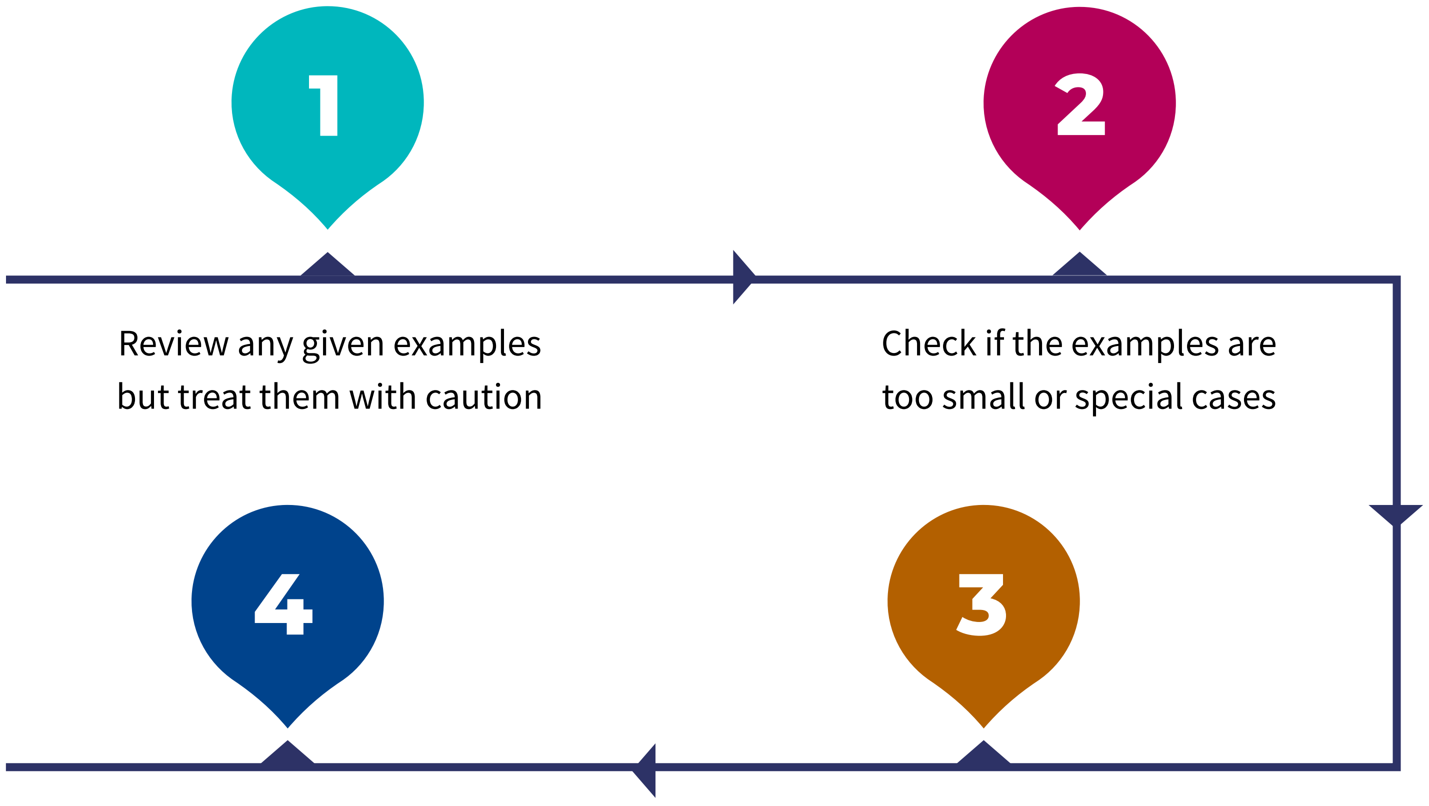
01 Listen

Pay close attention to the problem description and ask clarifying questions.

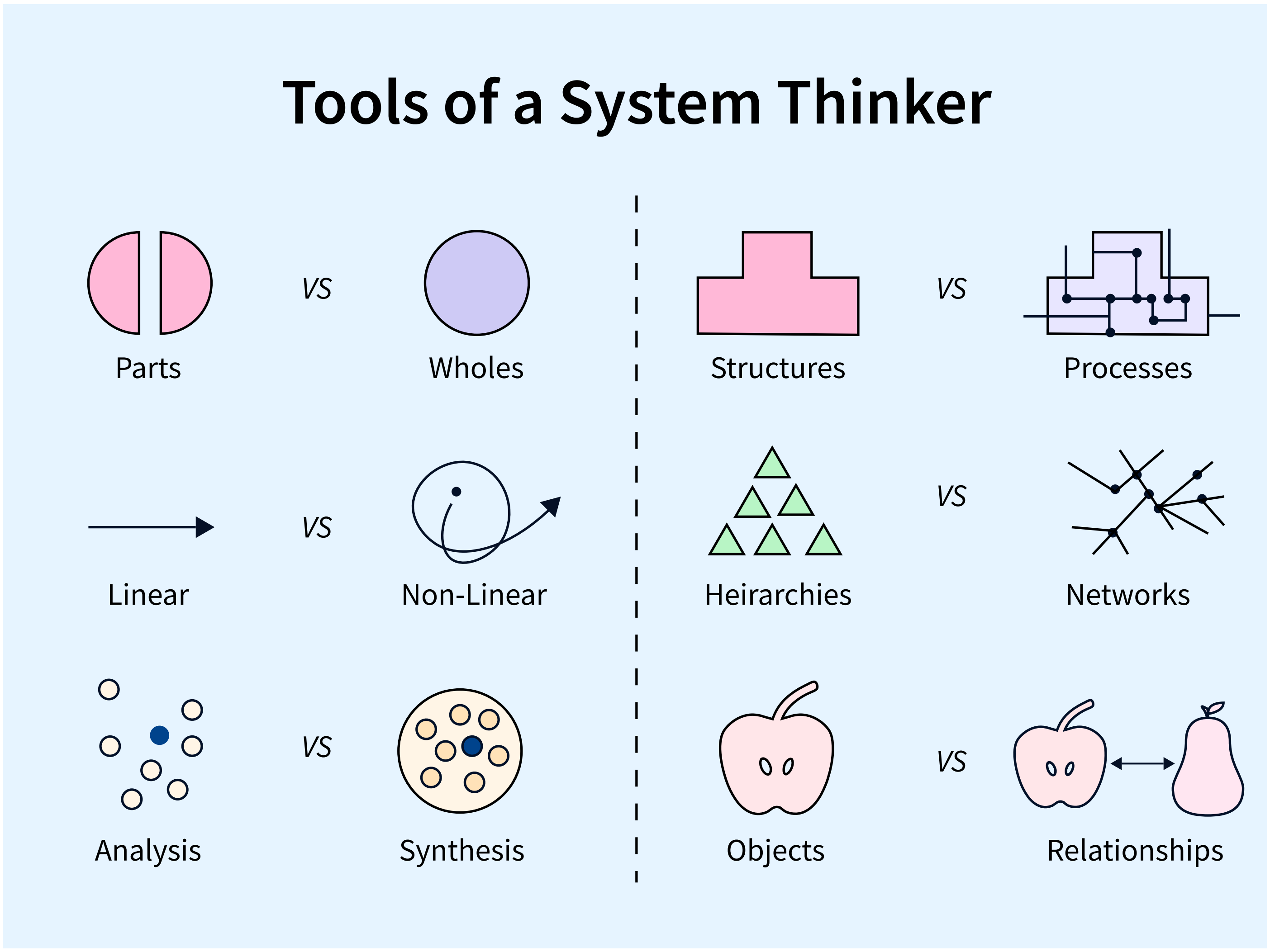
Assume that all information provided is essential

Ensure you have a clear understanding of the problem statement

02 Example



1. Review any given examples but treat them with caution
2. Check if the examples are too small or special cases
3. Debug the examples for correctness
4. Examples are useful but may not cover all edge cases. Don't rely on them alone.



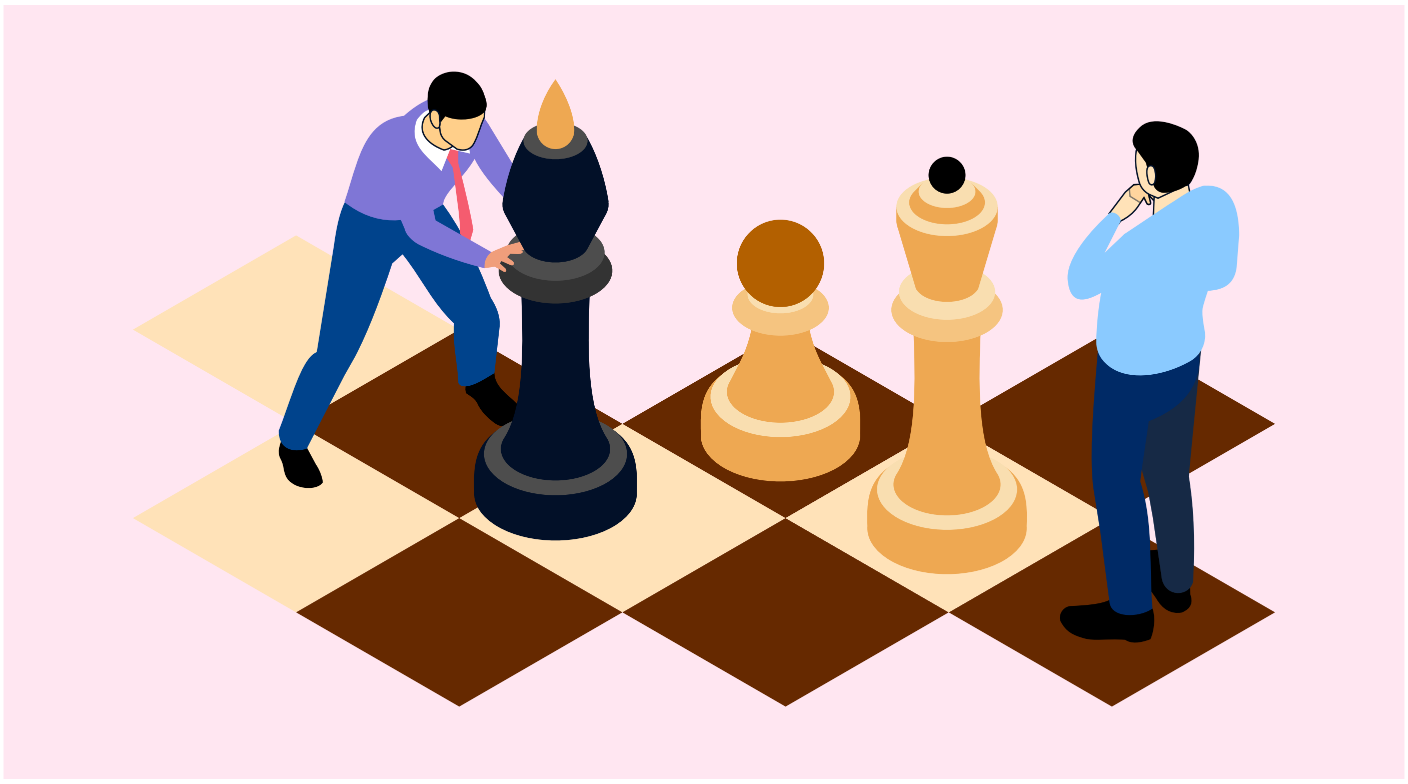
03 Brute Force

Start by finding a brute-force solution

Don’t worry about efficiency at this stage

State a naive algorithm and estimate its runtime

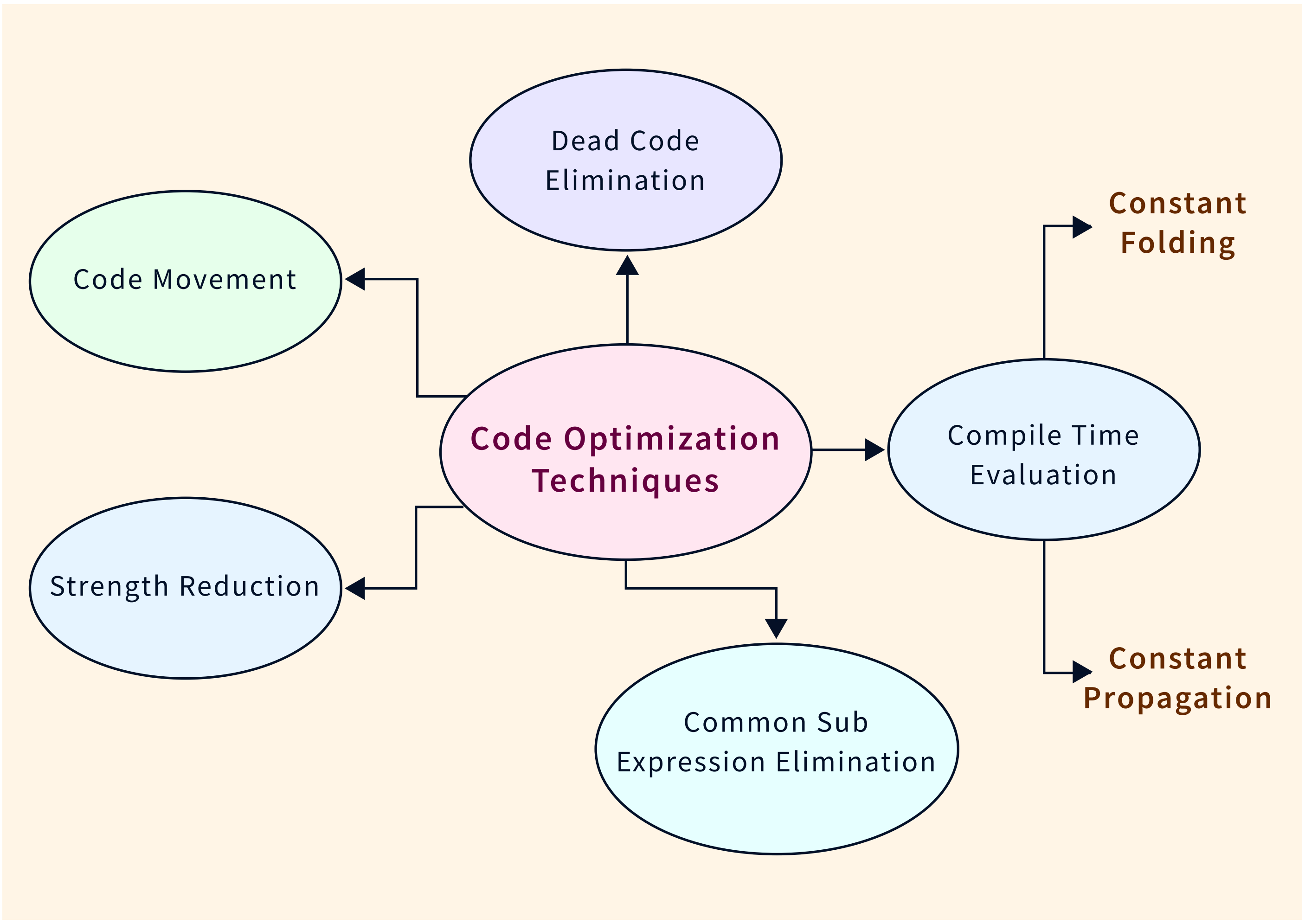
Avoid writing code at this point; focus on the logic



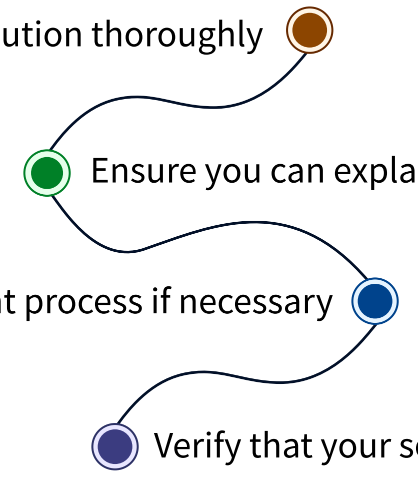
04 Optimize

1. Once you have a working brute-force solution, start optimizing
2. Identify **BUD** *
3. Consider utilizing all the provided information
4. Experiment with different approaches
5. Explore **time vs. space trade-offs**
6. **Test and Refine** your optimization ideas

BUD
B ottlenecks
U nnecessary Work
D uplicated Work



05 Walk Through

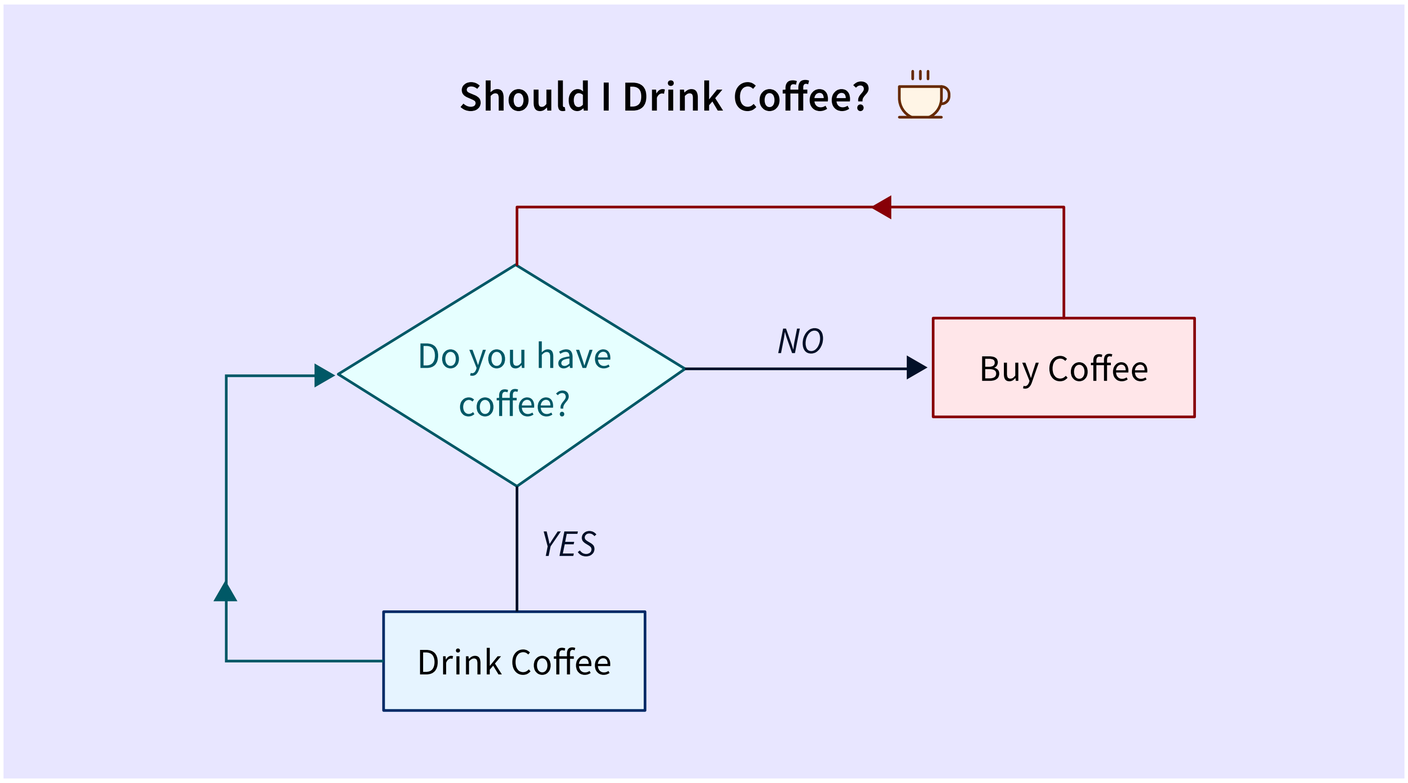


Understand your optimized solution thoroughly

Ensure you can explain each step of your approach

Reverse engineer your thought process if necessary

Verify that your solution is logically sound



06 Implement

- Begin writing code, focusing on creating clean and modular code
- Refactor as you go to maintain code quality
- Implement your optimized solution step by step

07 Test

1. Start with a **conceptual test**, walking through your code as if you were reviewing it.
2. Test any **unusual** or **non-standard** code paths
3. Pay special attention to **hotspots**, like arithmetic operations or handling null values, and variable overflows
4. Begin with small test cases for **quick debugging** and **ensure correctness**
5. Test with special cases and edge cases to validate **robustness**