

- **Always Have a Plan**

- **Importance of Planning:** Like military operations, having a plan for coding is essential, even if the plan changes. Planning helps understand capabilities and organizes efforts.
- **Setting Goals:** Break the problem into smaller goals to track progress and maintain motivation.

- **Restate the Problem**

- **Reframe for Clarity:** Restating can make a problem clearer and easier. It helps ensure you understand the problem and can identify simpler ways to solve it.
- **Communication:** Restating also helps in confirming your understanding with others, such as supervisors or teammates.

- **Divide the Problem**

- **Simplify with Subdivision:** Breaking a problem into smaller parts often makes each part easier to solve than tackling the whole at once.
- **Sequential Processing:** Handle parts sequentially to manage complexity.

- **Start with What You Know**

- **Leverage Existing Knowledge:** Begin with familiar aspects of the problem to build momentum and confidence.
- **Build from Familiar Ground:** Using known skills and techniques first can provide insights into solving the more challenging parts.

- **Reduce the Problem**

- **Simplify by Modification:** Alter constraints or simplify the problem to a version you can solve, then apply those insights to the original problem.
- **Pinpoint Difficulties:** Reduction helps identify specific areas where more help or knowledge is needed.

- **Look for Analogies**

- **Identify Similar Problems:** Find similarities with previously solved problems to apply known solutions or techniques.
- **Build a Knowledge Base:** As you solve more problems, recognizing analogies becomes easier, improving problem-solving speed and skill.

- **Experiment**

- **Controlled Testing:** Hypothesize, test, and observe results to gain information and refine your understanding.
- **Debugging and Learning:** Experimenting with code helps clarify behavior, especially when working with unfamiliar APIs or libraries.