Problem Solving Techniques

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Agenda

Topics Covered

What are problem solving Techniques

Problem-solving techniques are strategies used to find solutions to complex or challenging situations. These techniques help in analyzing problems, generating potential solutions, and selecting the best course of action.
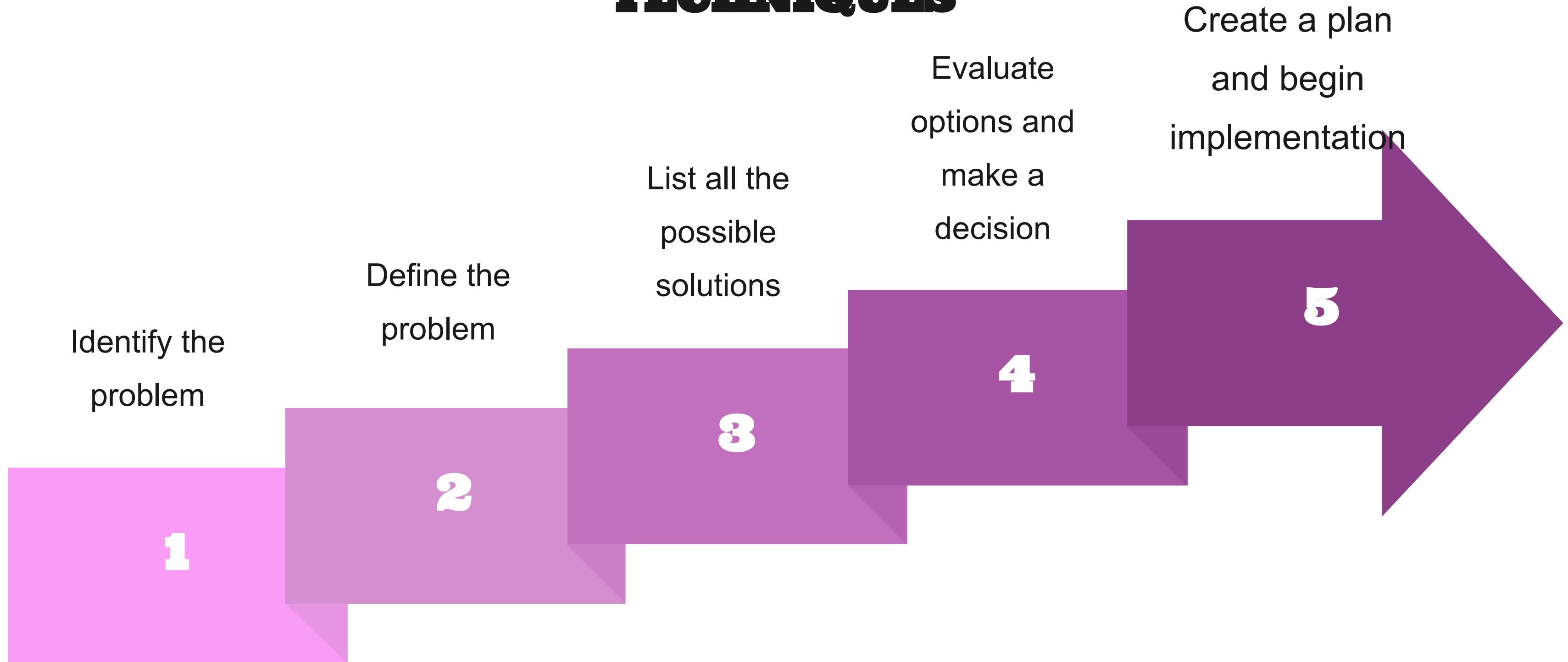
Steps of Problem solving Techniques

Common Problem solving Techniques

1. Identify the problem
2. Define the problem
3. List all the possible solutions
4. Evaluate options and make a decision
5. Create a plan and begin implementation

CONCEPT OF PROBLEM SOLVING TECHNIQUES

Identify the problem

1

Define the problem

2

List all the possible solutions

3

Evaluate options and make a decision

4

Create a plan and begin implementation

5

Why we need Problem Solving Techniques?

1. Efficient decision-making: Systematic approaches help make informed decisions, reducing guesswork and minimizing errors.

2. Time-saving: Structured techniques streamline the problem-solving process, saving time and resources.

3. Improved accuracy: Methodical approaches reduce the likelihood of overlooking crucial factors or introducing biases.

4. Enhanced creativity: Techniques like brainstorming and lateral thinking foster innova

Problem solving techniques:

Divide and Conquer: Breaking down larger problems into smaller parts and solving them individually.

- Algorithm Design: Formalizing steps into an algorithm to solve a problem.

- Heuristics: Rules of thumb or educated guesses to find acceptable solutions.

- Recursive Thinking: Breaking down problems into smaller instances of the same problem.

- Debugging: Identifying and rectifying coding errors.

- Code Refactoring: Rearranging and improving the structure of existing code.

- Using Data Structures & Algorithms: Using arrays, linked lists, stacks, queues, trees, and hash tables to solve problems.

- Version Control: Managing changes, tracking history, and merging code from

HOW TO IMPLEMENT PROBLEM SOLVING TECHNIQUES ?

Define the Problem

1

Clarify the Problem.

2

Define the Goals

3
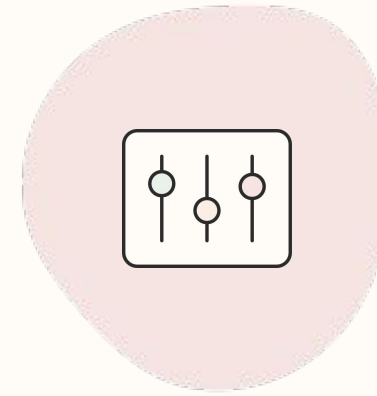
Identify Root Cause of the Problem

4

Develop Action Plan
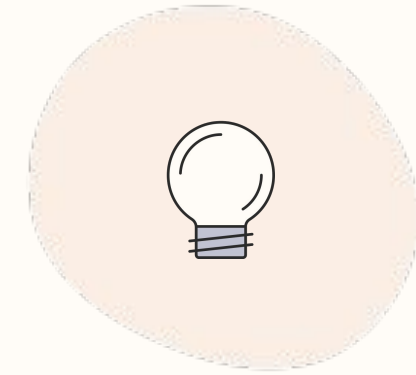
5

Execute Action Plan

6

TYPES OF PROBLEM SOLVING TECHNIQUES

Trial and Error

Trying different solutions until the right one is found.

Brainstorming

• Generating ideas and solutions through group or individual creativity.

SWOT Analysis

Evaluating Strengths, Weaknesses, Opportunities, and Threats related to a problem or decision.

Root Cause Analysis

• Identifying the underlying cause of a problem to prevent recurrence.

Thank you!