

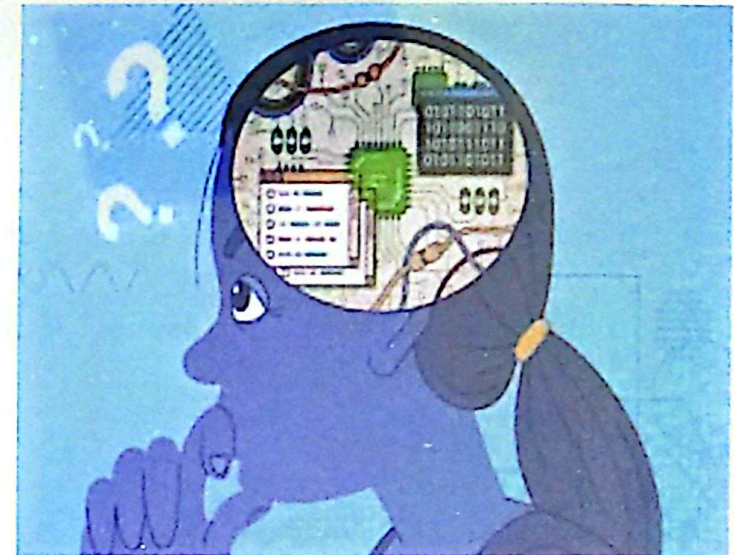
Unit:1 Computational Thinking and Programming



1.1 Planning Flowcharts

What is Computational Thinking?

- Computational Thinking is a way of solving problems by breaking them down into smaller steps that a computer or a human can understand and follow.
- It is thinking like a computer—breaking big problems into smaller parts, spotting patterns, making rules (algorithms), and checking if the solution works.



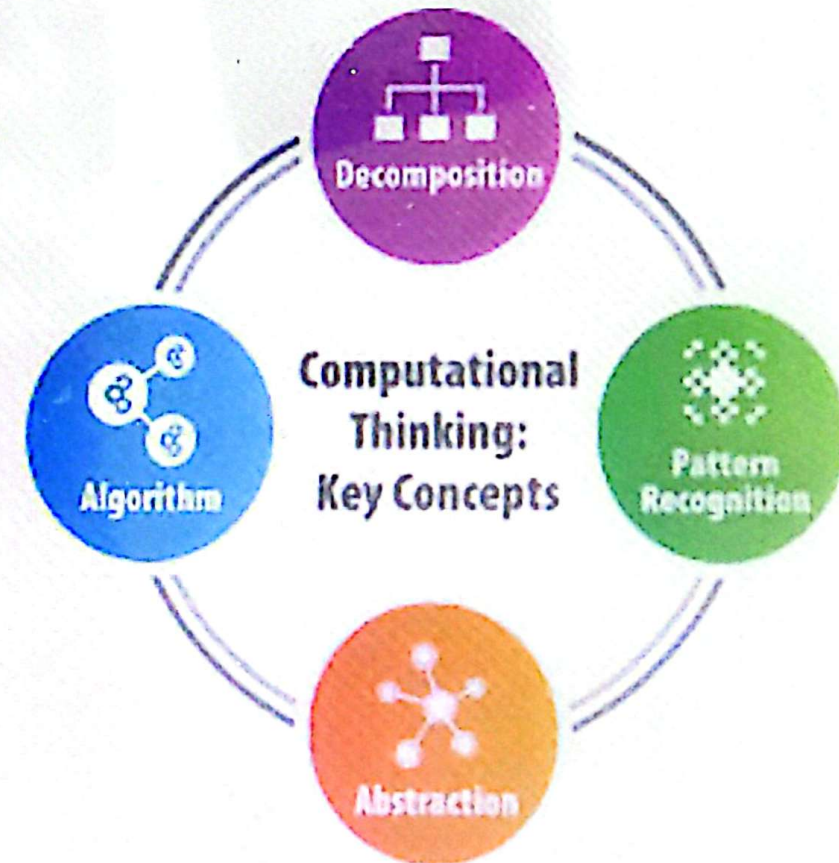
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The Process of Computational Thinking

Computational thinking involves four steps:

- **Decomposition** – Breaking a big problem into smaller ones.
- **Pattern Recognition** – Finding similarities or patterns.
- **Abstraction** – Focusing on important details, ignoring the rest.
- **Algorithms** – Creating a step-by-step solution.



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What is an Algorithm?

- An algorithm is a set of clear, step-by-step instructions used to solve a problem or complete a task.
- It tells you exactly what to do, in what order, to get something done.
- For example, a recipe to bake a cupcake

