

Control Structures - Iteration

Chapter 4: Control Structures - Iteration · Topic 1

Key Concept

A for loop repeats a fixed number of times, useful when we know exactly how many repetitions are needed, like printing numbers 1 to 10.

A while loop repeats as long as a condition remains true, useful when the number of repetitions isn't known in advance.

A do-while loop is similar to while but always executes at least once before checking the condition.

Understanding iteration structures helps us write efficient programs that avoid repeating code manually for repetitive tasks.

Quick Revision Notes

- A for loop repeats a fixed number of times.
- Example: printing numbers 1 to 10.
- A while loop repeats while a condition is true.
- Useful when repetitions aren't known in advance.
- A do-while loop always runs at least once.
- It checks the condition after running once.
- Iteration avoids manually repeating code.
- This makes programs efficient for repetitive tasks.

Practice Questions

- 1 Write a for loop to print numbers 1 to 5.
- 2 Write a while loop example using a condition.
- 3 Discuss when to use for versus while loops.
- 4 Explain what makes a do-while loop different.
- 5 Plan a loop to sum numbers from 1 to 10.
- 6 Create a flowchart showing a loop's logic.