Control Structures

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Control structures are constructs that allow the programmer to control the flow of execution in a program. They determine the order in which individual statements are executed.

1. Sequence

- In sequence control structure, statements are executed in the order they appear in the code.
- It is the default behavior in programming languages unless specified otherwise.

2. Selection

- Selection structures allow the program to make decisions and execute different blocks of code based on certain conditions.
- Common selection structures include if statements, if-else statements, switch-case statements.

3. Iteration (Repetition)

- Iteration structures allow the program to repeat a block of code multiple times until a specified condition is met.
- Common iteration structures include for loops, while loops, do-while loops.

4. Jump

- Jump structures allow the program to transfer control to a different part of the code.
- Common jump structures include break, continue, return statements.

Key Points:

- Control structures help in writing efficient and structured code.
- They improve code readability and maintainability.
- Understanding control structures is essential for designing algorithms and solving complex problems in programming.

By mastering control structures, programmers can create logic that is flexible and responsive to different scenarios, making their programs more robust and efficient.