

Interview Theory Questions

1. Explain the purpose of the if statement in Java.

The if statement is used to make decisions in Java. It allows you to execute a block of code only if a specified condition is true. If the condition is false, the code block is skipped.

2. What is a switch statement and when would you use it?

A switch statement is used for multiple-choice decision-making. It evaluates an expression and compares it to several possible case values. It's useful when you have a specific value to match against different cases.

3. How does the switch statement differ from a series of if statements?

A switch statement is more suitable when you have a single variable to compare against multiple possible values. It provides a cleaner and more efficient way to handle such situations compared to a series of if statements.

4. What is a loop in Java, and why are loops useful in programming?

A loop is a control structure that allows you to execute a block of code repeatedly. It's useful for automating repetitive tasks and iterating through collections or ranges of values.

5. Describe the differences between the while, do-while, and for loops.

while loop: Executes a block of code as long as a specified condition is true.

do-while loop: Similar to while, but the condition is checked after the code block is executed, ensuring the block is executed at least once.

for loop: Designed for iterating over a range of values. It includes initialization, condition, and iteration expressions.

6. What is the difference between the if and else statements?

The if statement is used for conditional execution when a condition is true. The else statement is used in conjunction with if to execute a block of code when the if condition is false.

7. What is an infinite loop? How can it be prevented?

An infinite loop is a loop that runs indefinitely because its terminating condition is never met. It can be prevented by ensuring that the loop condition eventually becomes false during the loop's execution.

8. How can you read user input in Java?

Java provides the Scanner class in the java.util package to read user input. You can create a Scanner object and use its methods to read various types of input.

9. What is the difference between next() and nextLine() methods in the Scanner class?

The next() method reads and returns the next word (sequence of non-space characters) in the input. It stops at the first space or newline character.

The nextLine() method reads and returns the entire line of input, including spaces, until it encounters a newline character. It advances the cursor to the next line.

10. How can you prevent unwanted newline characters from being read when using the Scanner class?

After reading a primitive data type (like nextInt() or nextDouble()), newline characters can be left in the input buffer. To consume these newline characters, you can use an additional scanner. nextLine () call.