Operators and Loops Assignment Questions

Assignment Questions

*1.What are the Conditional Operator’s in Java? In Java,****conditional operators****check the condition and decides the desired result on the basis of both conditions. In this section, we will discuss the****conditional operator in Java.*** *There are three types of the conditional operators in Java*

* *Conditional AND*
* *Conditional OR*
* *Ternary Operator*

*2. What are the types of operators based on the number of operands? Operators in programming languages can be classified into three categories based on the number of operands they work on:*

*Unary operators: These operators work on a single operand. Examples include increment/decrement operators (++/--), logical negation (!), bitwise negation (~), and unary plus/minus (+/-).*

*Binary operators: These operators work on two operands. Examples include arithmetic operators (+, -, \*, /, %), relational operators (>, <, >=, <=), logical operators (&&, ||), bitwise operators (&, |, ^), assignment operators (=, +=, -=, \*=, /=, %=), and the conditional operator (? :).*

*Ternary operators: These operators work on three operands. The only ternary operator in most programming languages is the conditional operator (?:), which is used to create conditional expressions.*

*3. What is the use of Switch case in Java programming? In Java programming, the switch case statement is used as a control statement to make decisions based on the value of an expression. It allows a program to execute different code segments based on the value of a variable or an expression.*

*The switch statement works by comparing the value of the expression against a series of constant values, called case values. When a match is found, the code associated with that case value is executed. If no match is found, the code associated with the default case is executed.*

*4. What are the priority levels of arithmetic operation in Java? In Java, the order of precedence for arithmetic operations is as follows, from highest to lowest: postfix increment/decrement, prefix increment/decrement, unary plus/minus, multiplication, division and modulus, addition, and subtraction. You can use parentheses to override the default order of precedence and force Java to evaluate expressions in a specific order.*

*5. What are the conditional Statements and use of conditional statements in Java? Conditional statements in Java allow a program to execute different blocks of code based on whether a specific condition is true or false. There are two types of conditional statements in Java: if-else and switch.*

*The if-else statement is used to execute a block of code if a specified condition is true, and a different block of code if the condition is false. This statement is useful in controlling the flow of a program based on different conditions.*

*The switch statement is used to execute different blocks of code based on the value of a variable or an expression. It allows a program to select from multiple possible code paths based on a single value.*

*Conditional statements are widely used in Java programming for a variety of tasks such as:*

*Validating user input and responding appropriately*

*Implementing decision-making logic*

*Controlling the flow of a program based on different conditions*

*6. What is the syntax of if else statement? if (condition) {*

*// code to be executed if the condition is true*

*} else {*

*// code to be executed if the condition is false*

*}*

*7. What are the 3 types of iterative statements in java?*

*For Loop: The for loop is used to execute a block of code repeatedly for a fixed number of times. It consists of an initialization statement, a condition statement, and an increment or decrement statement. The general syntax of a for loop in Java is:*

*for (initialization; condition; increment/decrement) {*

*// code to be executed repeatedly*

*}*

*While Loop: The while loop is used to execute a block of code repeatedly as long as a specified condition is true. The general syntax of a while loop in Java is:*

*while (condition) {*

*// code to be executed repeatedly*

*}*

*Do-While Loop: The do-while loop is used to execute a block of code at least once, and then repeatedly as long as a specified condition is true. The general syntax of a do-while loop in Java is:*

*do {*

*// code to be executed at least once*

*} while (condition);*

*8. Write the difference between for loop and do-while loop?*

*Syntax: The syntax of a for loop is more complex than that of a do-while loop because it includes three statements: initialization, condition, and increment/decrement. The syntax of a do-while loop is simpler because it only includes a single condition statement.*

*Execution: A for loop may not execute at all if the condition is false from the beginning, while a do-while loop always executes at least once before checking the condition.*

*Control: A for loop provides more control over the loop execution, as you can specify the exact number of iterations and control the loop variables inside the loop body. A do-while loop is useful when you need to execute a block of code at least once, regardless of the condition.*

*Performance: Generally, a for loop is faster and more efficient than a do-while loop because it checks the condition at the beginning of the loop, which can help avoid unnecessary iterations.*

*9. Write a program to print numbers from 1 to 10?*

*public class print\_number {*

*public static void main(String[] args) {*

*for (int i = 0; i < 10; i++) {*

*System.out.println(i+1);*

*}*

*}*

*}*