1. Conditional Operators in Java:

- Conditional (Ternary) Operator ? :: Used for simple conditional expressions. It has the format condition ? expression1 : expression2. If the condition is true, it evaluates expression1, otherwise expression2.

- Logical AND (&&) and Logical OR (||) Operators: Used to combine multiple conditions.

2. Types of operators based on the number of operands:

- Unary Operators: Operate on a single operand (e.g., -x, !condition).

- Binary Operators: Operate on two operands (e.g., x + y, a \* b).

- Ternary Operator: Operates on three operands (condition ? a : b).

3. Switch case in Java:

- The switch case is used to perform different actions based on the value of an expression.

- It's an alternative to using multiple if-else statements.

- It can be used with byte, short, int, char, enums, and Strings.

4. Priority levels of arithmetic operations in Java (from highest to lowest):

1. Postfix operators (e.g., x++, x--)

2. Unary operators (e.g., -x, !condition)

3. Multiplicative operators (e.g., \*, /, %)

4. Additive operators (e.g., +, -)

5. Shift operators (e.g., <<, >>, >>>)

6. Relational operators (e.g., <, >, <=, >=)

7. Equality operators (e.g., ==, !=)

8. Bitwise AND (&)

9. Bitwise XOR (^)

10. Bitwise OR (|)

11. Logical AND (&&)

12. Logical OR (||)

13. Conditional (Ternary) Operator (? :)

14. Assignment operators (e.g., =, +=, -=)

5. Conditional statements in Java:

- Conditional statements are used to execute code based on certain conditions.

- They include if, else if, else, and the switch statement.

- Conditional statements allow for decision-making in a program.

6. Syntax of the if-else statement:

java

if (condition) {

// Code to execute if the condition is true

} else {

// Code to execute if the condition is false

}

7. Three types of iterative statements (loops) in Java:

- for loop

- while loop

- do-while loop

8. Difference between for loop and do-while loop:

- A for loop is a pre-tested loop, meaning it checks the condition before executing the loop's body.

- A do-while loop is a post-tested loop, meaning it executes the loop's body at least once and then checks the condition.

9. Here's a Java program to print numbers from 1 to 10 using a for loop:

java

public class PrintNumbers {

public static void main(String[] args) {

for (int i = 1; i <= 10; i++) {

System.out.println(i);

}

}

}