

Java Variables and Data types

Assignment-6

Q.1 What are the conditional operation?

Ans.

The conditional operator in Java is also known as the ternary operator. It is a shorthand way of writing an if-else statement. It takes three operands:

1. A condition
2. An expression to evaluate if the condition is true
3. An expression to evaluate if the condition is false

`condition ? expression_if_true : expression_if_false;`

Q.2 What are the types of Operators base on the number of operands?

Ans There are two types of operators based on the number of operands:

- Unary operators: Unary operators perform an operation on a single operand.
- Binary operators: Binary operators perform an operation on two operands.

Here are some examples of unary operators:

- Negation (-): The negation operator inverts the sign of its operand.
- Increment (++) and decrement (--): The increment and decrement operators increase or decrease the value of their operand by 1, respectively.
- Logical NOT (!): The logical NOT operator returns the opposite of its operand.
- Bitwise NOT (~): The bitwise NOT operator inverts all of the bits in its operand.

Here are some examples of binary operators:

- **Arithmetic operators (+, -, *, /, %):* Arithmetic operators perform addition, subtraction, multiplication, division, and modulus operations on their operands.
- Logical operators (&&, ||, !): Logical operators perform AND, OR, and NOT operations on their operands.
- Relational operators (<, >, <=, >=, ==, !=): Relational operators compare their operands and return a Boolean value indicating the relationship between them.
- Bitwise operators (&, |, ^, <<, >>, >>>): Bitwise operators perform AND, OR, XOR, left shift, right shift, and unsigned right shift operations on their operands.

Q.3 What are the case of switch case in java?

Ans The switch case statement in Java is used to select one of many code blocks to execute based on the value of a variable. It is a more efficient and concise way to write a nested if-else statement when there are many possible conditions to check.

```
switch (variable) {  
    case value1:  
        // code block 1  
        break;  
    case value2:  
        // code block 2  
        break;  
    ...  
    default:  
        // code block executed if none of the cases match  
}
```

Q.4 What are the conditional statement and use of conditional statement in java?

Ans

Conditional statements in Java are used to control the flow of execution of a program based on the value of a Boolean expression. They allow you to write code that can respond differently to different conditions.

There are three main types of conditional statements in Java:

- if statement: The if statement executes a block of code if a Boolean expression is true.
- if-else statement: The if-else statement executes one block of code if a Boolean expression is true and another block of code if the Boolean expression is false.
- switch statement: The switch statement executes one of many blocks of code based on the value of a variable.

Conditional statements are used in a wide variety of Java programs, including:

- To validate user input
- To decide which branch of a program to execute
- To perform different operations based on the value of a variable
- To implement **complex logic**

Q.5 write a program to print number 1 to 10 in Java?

Ans. public class PrintNumbers {
 public static void main(String[] args) {
 for (int i = 1; i <= 10; i++) {

```
    System.out.println(i);  
}  
}  
}
```

This program will print the following output to the console: 1,2,3,4,5,6,7,8,9,10

Q.6 what is the difference between loop and do while loop?

Ans The main difference between a while loop and a do-while loop is the order in which the condition is checked.

While loop:

```
while (condition) {  
    // loop body  
}
```

Do-while loop:

```
do {  
    // loop body  
} while (condition);
```

In a do-while loop, the loop body is executed at least once, and then the condition is checked. If the condition is true, the loop body is executed again. If the condition is false, the loop terminates

Q.6 write a syntax of if else statement ?

Ans The syntax of an if-else statement is as follows:

```
if (condition) {  
    // code to execute if condition is true  
} else {  
    // code to execute if condition is false  
}
```

Q.7 what are the three type of iteration statement in Java ?

Ans There are three types of iteration statements in Java:

- While loop: A while loop executes a block of code as long as a condition is true.
- Do-while loop: A do-while loop executes a block of code at least once, and then continues to execute the block as long as a condition is true.
- For loop: A for loop executes a block of code a fixed number of times.

Q.8 what are the priority level of arithmetic operation ?

Ans The priority level of arithmetic operations is as follows:

1. Exponentiation (**)
2. Multiplication (*) and Division (/)
3. Addition (+) and Subtraction (-)

Operator	Priority
----------	----------

**	High
----	------

* and /	Medium
---------	--------

+ and -	Low
---------	-----