**Operators and Loops**

**Assignment 6**

1. **What are the conditional operators in java?**

**Whatever conditional statement are available in java has given below:**

* && (AND)
* || (OR)
* ? : (TERNARY)
* ! (NOT)

1. **What are the types of operators based on the number of operands?**

**There are three types of operators based on the number of operands:-**

* Unary operators:- Operate on a single operand. ( !, ++, --)
* Binary operators:- Operate on two operands. ( +, -, \*, /)
* Ternary operators:- Operate on three operands. ( ? :)

1. **What is the use of switch case in java programming?**

**It is used to select one of many code blocks to be executed.**

**Lets see a real life example for switch case:-**

**A real-life example of using the switch statement in Java could be a program that checks the status of an online payment and performs different actions based on the payment status.**

* ***For example:-***

**switch (paymentStatus) {**

**case "success": System.out.println("Payment successful, shipping the order."); break;**

**case "failed": System.out.println("Payment failed, canceling the order.");**

**break;**

**case "pending": System.out.println("Payment pending, waiting for confirmation."); break;**

**default: System.out.println("Invalid payment status, please try again.");**

**}**

**In this example, the paymentStatus is evaluated in the switch statement, and the code block associated with the matching case value is executed. This helps improve code readability and provides a clean and organized way to handle different payment statuses.**

1. **What are the priority levels of arithmetic operators in java?**

**The priority levels  of arithmetic operators in Java, from highest to lowest,**

**I am going to write below-:-**

* **() (parentheses)**
* **++ and -- (post-increment and post-decrement)**
* **! (logical negation)**
* **\*, /, % (multiplication, division, and modulo)**
* **+, - (addition and subtraction)**

1. **What are the conditional statements and use of conditionals statement in java?**

**Conditional statements:-  it is  control structures that allow you to execute different parts of your code based on specific conditions. In Java, mainly there are three types of conditional statements:**

* **if statement:- Executes a block of code if a specified condition is true.**

**if (condition) { // code to be executed if condition is true }**

* **if-else statement:- Executes one block of code if a condition is true and another block of code if the condition is false.**

**if (condition) { // code to be executed if condition is true } else { // code to be executed if condition is false }**

* **switch statement: Selects one of many blocks of code to be executed based on multiple conditions.**

**switch (expression) {**

**case value1: // code to be executed if expression is equal to value1**

**break**

**case value2: // code to be executed if expression is equal to value2 break;**

**default: // code to be executed if no matching case is found }**

***Use :-*The use of conditional statements in Java allows us to make decisions in   your code based on the values of variables or expressions.and it helps to create more dynamic and flexible programs that can adapt to different situations and inputs.**

1. **What is the syntax of if else statement?**

**The syntax of conditional statement in java i have written below:-**

**if (condition) {**

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

**} else {**

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

**}**

1. **What are the three types of iterative statements in java?**

**Iterative  statement in java :-**

* **For loop :- Executes a block of code a specified number of times.**

**Example :-**

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

**// code to be executed in each iteration**

**}**

* **While loop:- Executes a block of code repeatedly until a specified condition is false.**

**Example :-**

**for (initialization; condition; increment/decrement) { // code to be executed in each iterative**

* **Do while loop :- Executes a block of code repeatedly until a specified condition is false.**

**Example:-**

**do {**

**// code to be executed in each iteration**

**} while (condition);**

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

**There are following differences between for loop and do while loop:-**

* ***For loop:-  ” for loop”* may not execute its code block if its condition is false from the start,**
* ***Do-while loop:-*  ”while loop”it  will always execute its code block at least once, even if the condition is false from the start.**
* ***For loop:-*   “for loop” it  has a specific syntax that includes the initialization, condition, and increment/decrement expressions.**
* ***Do-While loop:-* “do-while loop” it has a simpler syntax with just the code block and condition.**

**Syntax for both for loop and do while loop:-**

**For loop syntax:-**

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

**// code to be executed in each iteration**

**}**

**Syntax for Do-while loop:-**

**do {**

**// code to be executed in each iteration**

**} while (condition);**