

# Operators and Loops

## Assignment Solutions



## 1. What are the Conditional Operators in Java?

**Ans:** They are used when a condition comprises more than one boolean expression. For instance, if we want to print a number only if it is greater than 2 and less than 5, then we will use conditional operators to combine the 2 expressions. We have 3 types of conditional operators - logical-and, logical-or and ternary operator.

### Logical-and operator (&&)

It is used when we want the condition to be true iff both the expressions are true.

#### Syntax

```
if(condition - 1 && condition - 2) {  
    statement;  
}
```

### Logical-or operator (||)

This operator is used when we are satisfied as long as any one of the boolean expressions is evaluated as true.

#### Syntax

```
if(condition - 1 || condition - 2) {  
    statement;  
}
```

### Ternary operator (?:)

It is a smaller version for the if-else statement. If the condition is true then the statement - 1 is executed else the statement - 2 is executed.

#### Syntax

```
condition ? statement - 1 : statement - 2;
```

## 2. What are the types of operators based on the number of operands?

**Ans:** There are three types of operators in java based on the number of operands. They are:

- Unary operator
- Binary operator
- Ternary operator
- 

## 3. What is the use of Switch case in Java programming?

**Ans:** Switch statement

The switch case in java is used to select one of many code blocks for execution.

**Break keyword:** As java reaches a break keyword, the control breaks out of the switch block. The execution of code stops on encountering this keyword, and the case testing inside the block ends as the match is found. A lot of execution time can be saved because it ignores the rest of the code's execution when there is a break.

**Default keyword:** The keyword is used to specify the code executed when the expression does not match any test case.

The switch case in Java works like an if-else ladder, i.e., multiple conditions can be checked at once. Switch is provided with an expression that can be a constant or literal expression that can be evaluated. The value of the expression is matched with each test case till a match is found. If there is no match, the default keyword, if specified- the associated code executes. Otherwise, the code specified for the matched test case is executed.

# Assignment Questions

For example, the code below uses the monthly number to calculate the month name:

```
public class Main {  
    public static void main(String[] args) {  
        int month = 4;  
        switch (month) {  
            case 1:  
                System.out.println("January");  
                break;  
            case 2:  
                System.out.println("February");  
                break;  
            case 3:  
                System.out.println("March");  
                break;  
            case 4:  
                System.out.println("April");  
                break;  
            case 5:  
                System.out.println("May");  
                break;  
            case 6:  
                System.out.println("June");  
                break;  
            default: System.out.println("In next half");  
        }  
    }  
}
```

## Output:

April

### 4. What are the priority levels of arithmetic operation in Java?

**Ans:** There are two priority levels of arithmetic operation in java. They are as follows:

- High priority \* / %
- Low priority + -

### 5. What are the conditional Statements and use of conditional statements in Java?

- if to specify a block of code to be executed, if a specified condition is true
- else to specify a block of code to be executed, if the same condition is false
- else if to specify a new condition to test, if the first condition is false
- switch to specify many alternative blocks of code to be executed

## 6. What is the syntax of if else statement?

```
if (condition1) {  
    // block of code to be executed if condition1 is true  
} else if (condition2) {  
    // block of code to be executed if the condition1 is false and condition2 is true  
} else {  
    // block of code to be executed if the condition1 is false and condition2 is false  
}
```

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

3 types of iterative statements in java

- for loop
- while loop
- do-while loop

## 8. Difference between for loop and do while loop

For Loop	Do- While Loop
Statement(s) is executed once the condition is checked.	Condition is checked after the statement(s) is executed.
It might be that the statement(s) gets executed zero times.	Statement(s) is executed at least once.
For the single statement, brackets are not compulsory.	Brackets are always compulsory.
Initialization may be outside or in a condition box.	Initialization may be outside or within the loop.
for loop is entry controlled loop.	do-while is an exit controlled loop.
for ( init ; condition ; iteration ) { statement (s); }	do { statement(s); } while (condition);

## 9. Write a program to print numbers from 1 to 10.

```
public class PrintNumbers  
{  
    public static void main(String[] args)  
    {  
        for(int i=1; i<=10; i++)  
        {  
            System.out.println(i);  
        }  
    }  
}
```