Q1. What are the Conditional Operators in Java?

Ans - There are three types of the conditional [operator in Java](https://www.javatpoint.com/operators-in-java):

* Conditional AND
* Conditional OR
* Ternary Operator

Q2. What are the types of operators based on the number of operands?

Ans - There are two types of mathematical operators: unary and binary. Unary operators perform an action with a single operand. Binary operators perform actions with two operands.

Q3.What is the use of Switch case in Java programming?

Ans - The switch statement is a multi-way branch statement. In simple words, the Java switch statement executes one statement from multiple conditions. It is like an [if-else-if](https://www.javatpoint.com/java-if-else) ladder statement. It provides an easy way to dispatch execution to different parts of code based on the value of the expression.

Q4.What are the conditional Statements and use of conditional statements in Java?

Ans - Conditional statements in Java are used to make decisions based on certain conditions. The most common conditional statements in Java are the If-Else statement, the Switch statement, and the Ternary Operator. These statements allow the program to execute different blocks of code based on specific conditions.

Q5.What is the syntax of if else statement?

Ans - **if**(condition){

1. //code if condition is true
2. }**else**{
3. //code if condition is false
4. }

Q6.How do you compare two strings in Java?

Ans - Using String.equals() :In Java, string equals() method compares the two given strings based on the data/content of the string. If all the contents of both the strings are same then it returns true. If any character does not match, then it returns false.

Q7.What is Mutable String in Java Explain with an example?

Ans - Therefore mutable strings are those strings whose content can be changed without creating a new object. StringBuffer and StringBuilder are mutable versions of String in java.StringBuilder is an example of a mutable type.

Q8.Write a program to sort a String Alphabetically?

Ans - import java.util.Arrays;

public class StringSorter {

public static void main(String[] args) {

String input = "OpenAI";

String sortedString = sortStringAlphabetically(input);

System.out.println("Original String: " + input);

System.out.println("Sorted String: " + sortedString);

}

public static String sortStringAlphabetically(String input) {

char[] charArray = input.toCharArray();

Arrays.sort(charArray);

return new String(charArray);

}

}

**Q9.Write a program to check if the letter 'e' is present in the word**

**'Umbrella'.**

Ans - public class LetterChecker {

public static void main(String[] args) {

String word = "Umbrella";

boolean isLetterPresent = checkLetterPresence(word, 'e');

System.out.println("Word: " + word);

System.out.println("Is 'e' present in the word? " + isLetterPresent);

}

public static boolean checkLetterPresence(String word, char letter) {

for (int i = 0; i < word.length(); i++) {

if (word.charAt(i) == letter) {

return true;

}

}

return false;

}

}

**Q10.Where exactly is the string constant pool located in the**

**Memory?**

**Ans -** String pool is a storage space in the Java heap memory where string literals are stored. It is also known as String Constant Pool or String Intern Pool. It is privately maintained by the Java String class.