**JAVA TASK-2 🡪 JAVA-8 Features**

1. Lambda Expressions:

We specify input parameters (if there are any) on the left side of the lambda operator ->, and place the expression or block of statements on the right side of lambda operator.

Syntax: (parameter\_list) -> {function\_body}

1. Method References:

Method reference is a shorthand notation of a lambda expression to call a method. For example:

If your lambda expression is like this:

str -> System.out.println(str)

then we can replace it with a method reference like this:

System.out::println

1. Functional Interfaces:

An interface with only single abstract method is called functional interface. You can either use the predefined functional interface provided by Java or create your own functional interface and use it.

1. Streams:

All the classes and interfaces of this API is in the java.util.stream package. By using streams we can perform various aggregate operations on the data returned from collections, arrays, Input/Output operations.

1. Stream filter:

The filter() is an intermediate operation that reads the data from a stream and returns a new stream after transforming the data based on the given condition.

1. forEach():

We will learn how to use forEach() and forEachOrdered() methods to loop a particular collection and stream.

Eg: fruits.forEach(System.out::println);

1. Collectors Class:

Collectors is a final class that extends the Object class.

We use: import java.util.stream.Collectors;

groupingBy, .collect are the methods we can implement by using above header file.

1. Arrays Parallel Sort:

Java 8 introduced a new method parallelSort() in the Arrays class of java.util package. This method is introduced to support the parallel sorting of array elements.

Algorithm of parallel sorting:

1. The given array is divided into the sub arrays and the sub arrays are further divided into the their sub arrays, this happens until the sub array reaches a minimum granularity.

2. The sub arrays are sorted individually by multiple threads. The parallel sort uses Fork/Join Framework for sorting sub arrays parallelly.

3. The sorted sub arrays are merged.