

# Java 8 Features:

- A revolutionary version ie., Java 8 was released in March 18, 2014 by Oracle. It includes major upgrades to the Java programming which are listed below:
  - Lambda expressions
  - Functional interfaces
  - Default methods
  - Method references
  - Stream API
  - Static methods in interface
  - Optional class
  - Collectors class
  - forEach() method
  - Parallel array sorting
  - New datetime

# Lambda Expressions

- Lambda Expressions or Lambda Functions is a new feature added in java 8 version.
- Lambda function is anonymous function which does not any name.

## Difference between Lambda Expression and Method

⇒ A method in java having the following components.

- Modifier
- Return type
- Method name
- Parameters
- Body

### Defining Lambda Function

- ⇒ A Lambda function can be defined in different ways.
- A lambda function without parameters
  - A lambda function with single parameter
  - A lambda function with multiple parameters
  - A lambda function with return statement
  - A lambda function without return statement

⇒ A Lambda expression is an anonymous function, it has the following components.

- Without name
- Without return type, java compiler is able infer return type based on the code, you have written.
- Parameter list
- Body

# Functional Interface

- It is an interface which is having only one abstract method.
- Functional interface is used to define lambda functions.
- Lambda function is an implementation of functional interface.
- In an Functional Interface we can have any number of default, static methods but there should be only one abstract method.
- To declare functional interface we use *@FunctionalInterface* annotation.

## **Syntax:**

*@FunctionalInterface*

```
interface <interface-name>
{
    single abstract method;
}
```

## Default methods:

- Java 8 onwards interface allows to write a method with body. This method is called default method.
- Default method is a non static method which is defined with the keyword “**default**”.
- This method avoids the problem of rewriting an existing interface & we can call private methods which are present in the interface from Java 1.9v

### Syntax:

```
default<returntype><method-name>()  
{  
    statements;  
}
```