

# Java 8 Functionality

## Assignment 1

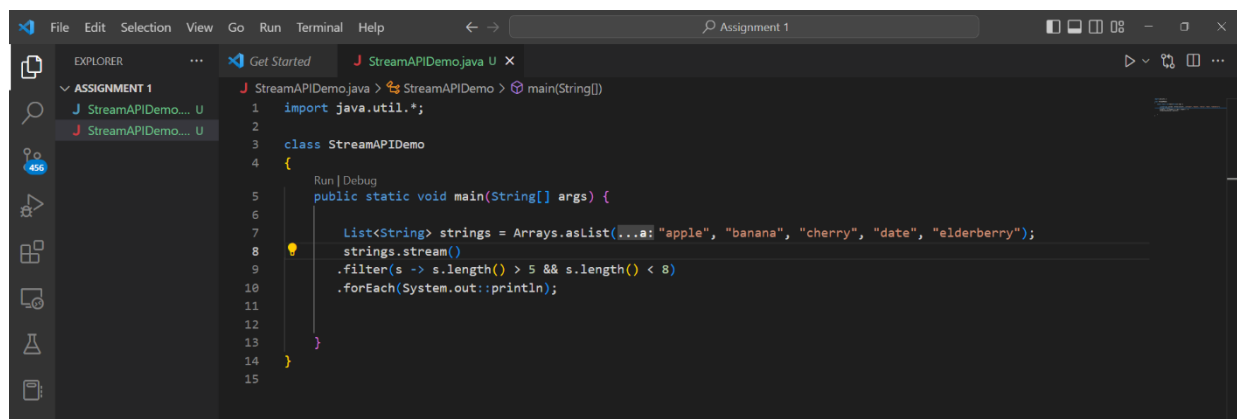
Name : Arijit Saha , College : Future Institute of Engineering and Management ,  
Employee Id : T23010330 , Mail Id: [arijits@trainee.nrifintech.com](mailto:arijits@trainee.nrifintech.com)

Q1.

collection of strings

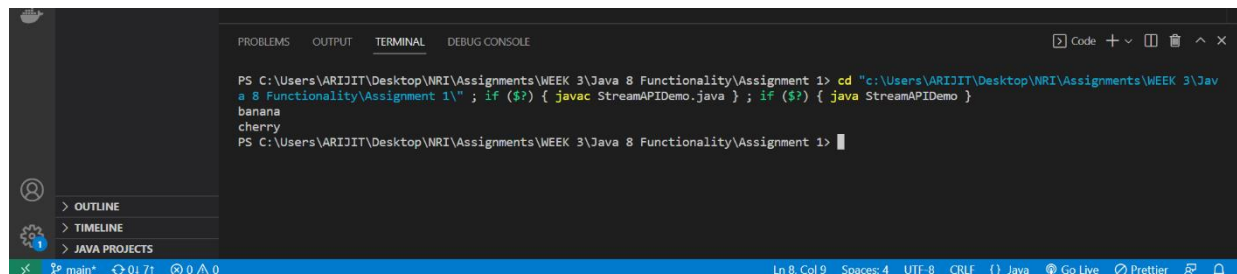
filter -> print strings whose length is >5 and <8 using stream API

StreamAPIDemo.java



```
1 import java.util.*;
2
3 class StreamAPIDemo
4 {
5     public static void main(String[] args) {
6
7         List<String> strings = Arrays.asList("apple", "banana", "cherry", "date", "elderberry");
8         strings.stream()
9             .filter(s -> s.length() > 5 && s.length() < 8)
10            .forEach(System.out::println);
11
12     }
13
14 }
15
```

Output:

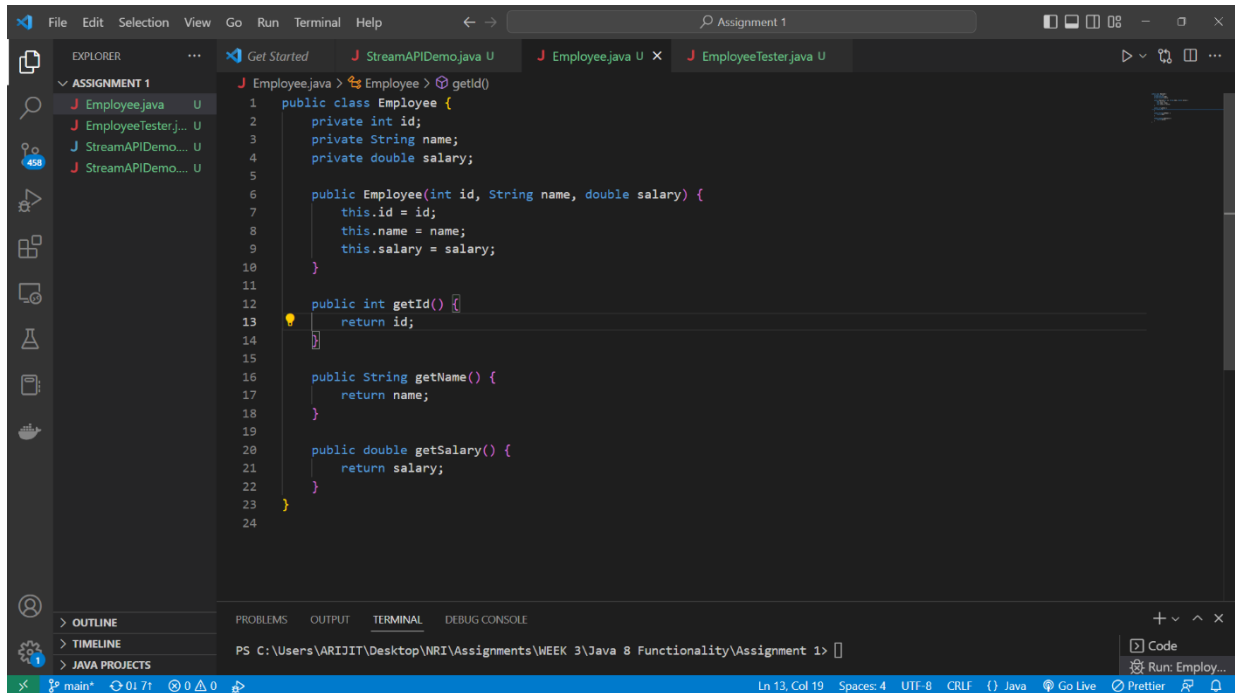


```
PS C:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1> cd "c:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1" & if ($?) { javac StreamAPIDemo.java }; if ($?) { java StreamAPIDemo }
banana
cherry
PS C:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1>
```

Q2. employee -> id, name, salary

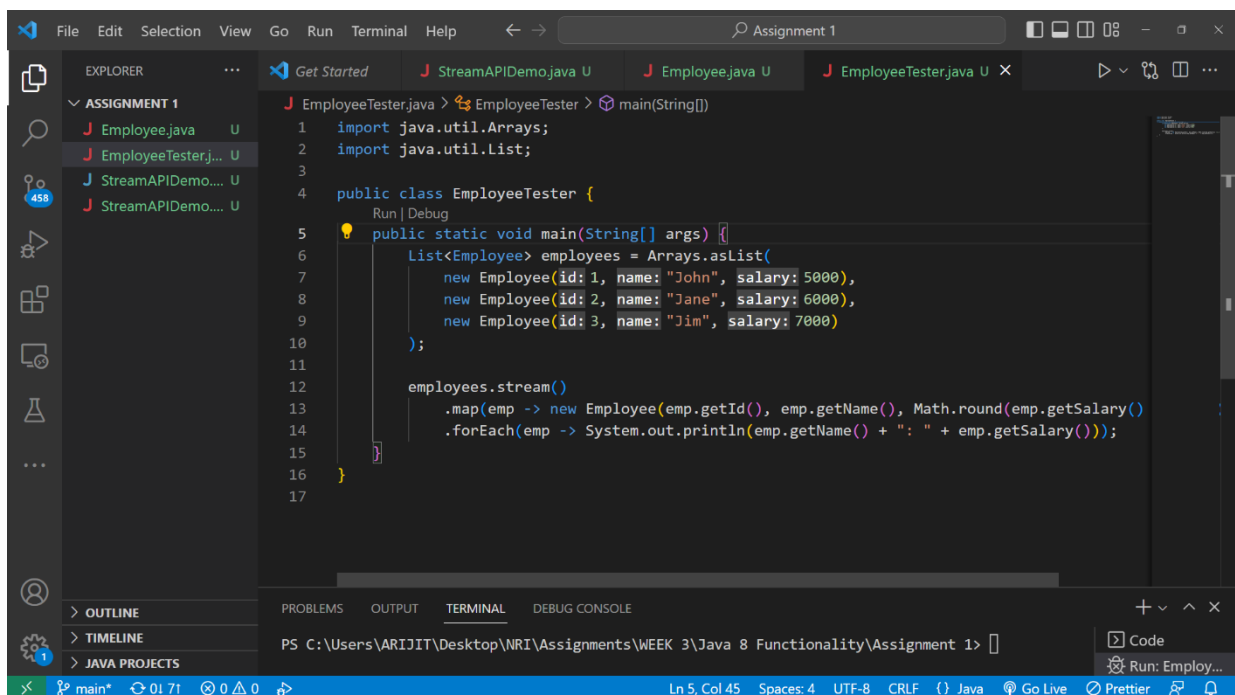
collection of emp objects-> mapper -> salary incremented by 10%

## Employee.java



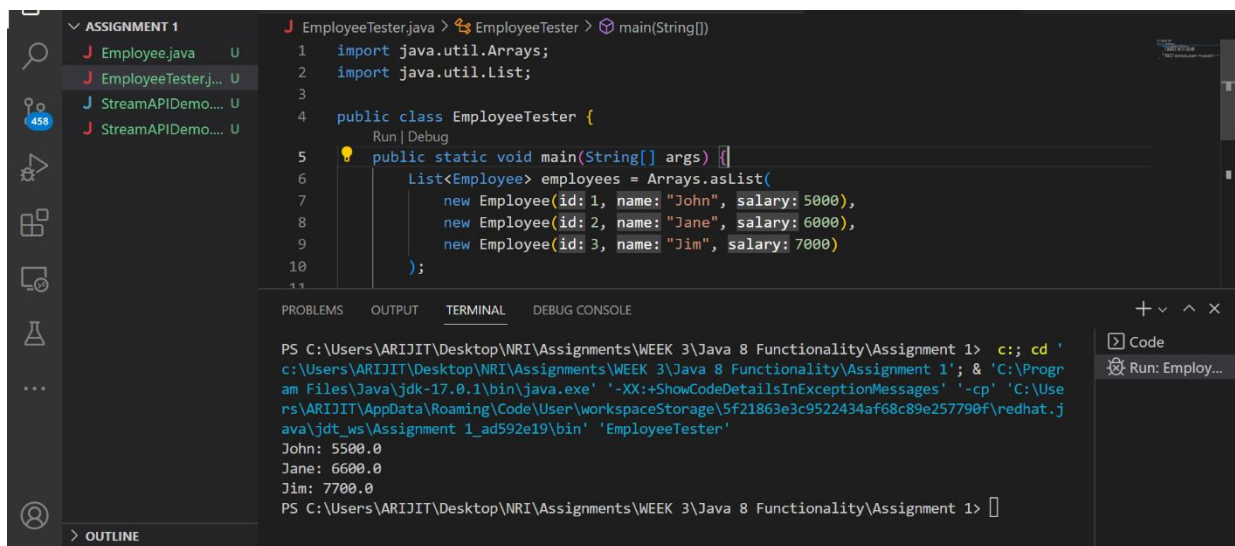
```
1 public class Employee {
2     private int id;
3     private String name;
4     private double salary;
5
6     public Employee(int id, String name, double salary) {
7         this.id = id;
8         this.name = name;
9         this.salary = salary;
10    }
11
12    public int getId() {
13        return id;
14    }
15
16    public String getName() {
17        return name;
18    }
19
20    public double getSalary() {
21        return salary;
22    }
23 }
24
```

## EmployeeTester.java



```
1 import java.util.Arrays;
2 import java.util.List;
3
4 public class EmployeeTester {
5     public static void main(String[] args) {
6         List<Employee> employees = Arrays.asList(
7             new Employee(id: 1, name: "John", salary: 5000),
8             new Employee(id: 2, name: "Jane", salary: 6000),
9             new Employee(id: 3, name: "Jim", salary: 7000)
10        );
11
12        employees.stream()
13            .map(emp -> new Employee(emp.getId(), emp.getName(), Math.round(emp.getSalary()
14            .forEach(emp -> System.out.println(emp.getName() + ": " + emp.getSalary())));
15    }
16 }
17
```

Output:

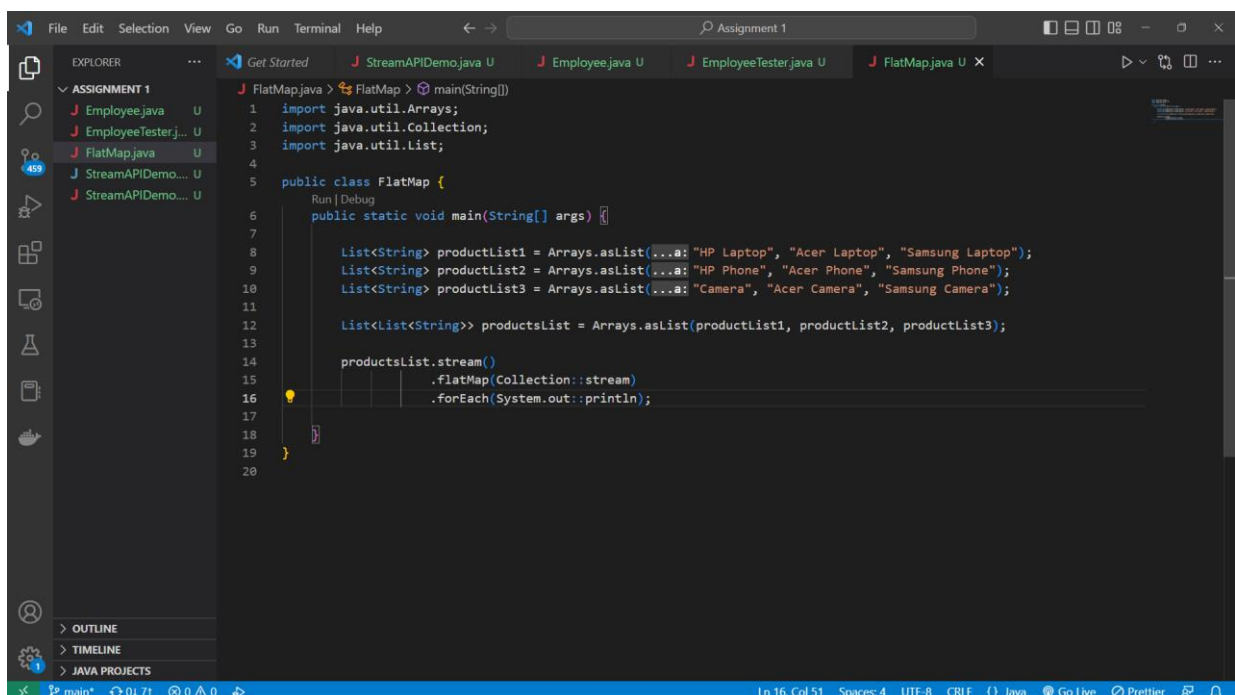


```
EmployeeTester.java > EmployeeTester > main(String[])
1  import java.util.Arrays;
2  import java.util.List;
3
4  public class EmployeeTester {
5      public static void main(String[] args) {
6          List<Employee> employees = Arrays.asList(
7              new Employee(id: 1, name: "John", salary: 5000),
8              new Employee(id: 2, name: "Jane", salary: 6000),
9              new Employee(id: 3, name: "Jim", salary: 7000)
10         );
11     }
12 }
```

```
PS C:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1> c:: cd '
c:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1'; & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ARIJIT\AppData\Roaming\Code\User\workspaceStorage\5f21863e3c9522434af68c89e257790f\redhat.java\jdt_ws\Assignment_1_ad592e19\bin' 'EmployeeTester'
John: 5500.0
Jane: 6600.0
Jim: 7700.0
PS C:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1>
```

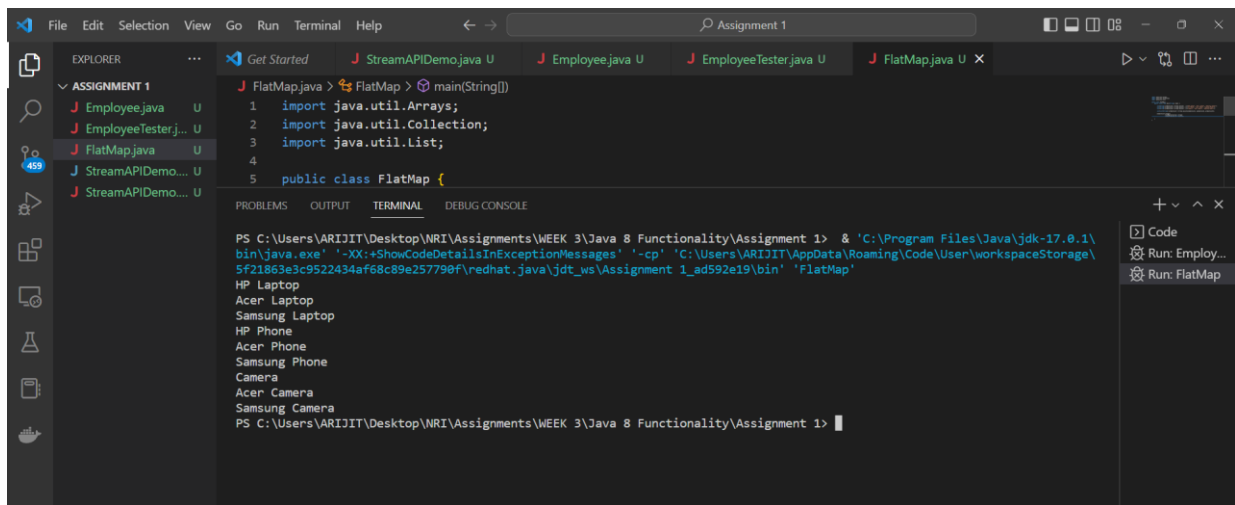
Q3. collection -> productList1-> hp laptop, acer laptop, samsung  
productList2-> hp phone, acer, samsung  
productList3-> camera , acer, samsung  
final collection productList -> productList1, productList2, productList  
flatMap -> list collection products -> print names of all products

FlatMap.java



```
FlatMap.java > FlatMap > main(String[])
1  import java.util.Arrays;
2  import java.util.Collection;
3  import java.util.List;
4
5  public class FlatMap {
6      public static void main(String[] args) {
7
8          List<String> productList1 = Arrays.asList("HP Laptop", "Acer Laptop", "Samsung Laptop");
9          List<String> productList2 = Arrays.asList("HP Phone", "Acer Phone", "Samsung Phone");
10         List<String> productList3 = Arrays.asList("Camera", "Acer Camera", "Samsung Camera");
11
12         List<List<String>> productsList = Arrays.asList(productList1, productList2, productList3);
13
14         productsList.stream()
15             .flatMap(Collection::stream)
16             .forEach(System.out::println);
17     }
18 }
19
20
```

Output :



The screenshot shows an IDE window titled "Assignment 1". The Explorer panel on the left shows a project named "ASSIGNMENT 1" with files: Employee.java, EmployeeTester.java, FlatMap.java, StreamAPIDemo.java, and StreamAPIDemo.java. The main editor displays the code for FlatMap.java, which includes imports for java.util.Arrays, java.util.Collection, and java.util.List, and a public class FlatMap with a main method. The Terminal panel at the bottom shows the command to run the FlatMap class, and the output lists various devices: HP Laptop, Acer Laptop, Samsung Laptop, HP Phone, Acer Phone, Samsung Phone, Camera, Acer Camera, and Samsung Camera.

```
PS C:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1> & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ARIJIT\AppData\Roaming\Code\User\workspaceStorage\5f21863e3c9522434af68c89e257790f\redhat.java\jdt_ws\Assignment_1_ad592e19\bin' 'FlatMap'
```

HP Laptop  
Acer Laptop  
Samsung Laptop  
HP Phone  
Acer Phone  
Samsung Phone  
Camera  
Acer Camera  
Samsung Camera  
PS C:\Users\ARIJIT\Desktop\NRI\Assignments\WEEK 3\Java 8 Functionality\Assignment 1> |