## Task 5 – Java Advance

1.Write a program using map() method, to convert a list of Strings into uppercase.If the given List is: Stream names = Stream.of("aBc", "d", "ef");

import java.util.stream.Stream;  
  
public class solution\_1 {  
 public static void main(String[] args) {  
 // Create a Stream of strings  
 Stream<String> s=Stream.*of*("aBc","d","ef");  
 // Convert each string in the stream to uppercase using the map() function  
 // Print each element of the mapped stream using forEach()  
 s.map(String::toUpperCase).forEach(System.*out*::println);  
 }  
}

Output:

A screenshot of a computer program

Description automatically generated

2. Write a program to check whether the Strings in the List are empty or not and print the list having non-empty strings. If the given List is: Liststrings = Arrays.asList("abc", "", "be", "efg", "abcd","", "jkl");

import java.util.Arrays;  
import java.util.List;  
import java.util.stream.Collectors;  
  
public class solution\_2 {  
 public static void main(String[] args) {  
 // Create a list of strings containing some empty strings and non-empty strings  
 List<String> list= Arrays.*asList*("abc", "", "bc", "efg", "abcd", "", "jkl");  
 // Convert the list to a stream, then apply the filter() method to remove empty strings  
 // Collect the filtered elements into a new list  
 List<String> nonEmptyStrings= list.stream().filter(s-> !s.isEmpty()).collect(Collectors.*toList*());  
 // Print the list of non-empty strings  
 System.*out*.println(nonEmptyStrings);  
  
 }  
}

Output:

A screen shot of a computer

Description automatically generated

3. You are a teacher in school. In your class there are 10 students, you have decided to give special gifts to those students whose names start with "A". you are asked to separate those students with the help of a java program.

Requirement:

\* Use List interface to store the student name

\* Use a lambda expression and the Stream API to filter the students

import java.util.Arrays;  
import java.util.List;  
import java.util.stream.Collectors;  
  
public class solution\_3 {  
 public static void main(String[] args) {  
 // Create a list of student names  
 List<String> list= Arrays.*asList*("Anto","Denil","Newlin","Aravind","Abdul","Charles","Arun","Aditi","Carol","Bob");  
 // Convert the list to a stream, then Apply the filter() method to keep names starting with 'A'  
 // Collect the filtered results into a new list using Collectors.toList()  
 List<String> studentsWithA=list.stream().filter(name->name.startsWith("A")).collect(Collectors.*toList*());  
 // Print the names of students whose name start with 'A'  
 studentsWithA.forEach(name->System.*out*.println(name));  
 }  
}

Output:

A screenshot of a computer program

Description automatically generated

4. Rajesh has been given a task to create an app which takes the user's birthdate as input and calculates their age you have to help him to build this app using the java.time.LocalDate class.

Input:

Enter your birthdate (yyyy-mm-dd): 1990-05-15

Output:

Your age is: 33 years, 4 months, and 13 days.

import java.time.LocalDate;  
import java.time.Period;  
import java.util.Scanner;  
  
public class solution\_4 {  
 public static void main(String[] args) {  
 Scanner sc= new Scanner(System.*in*); // Create a Scanner object to read user input  
 System.*out*.println("Enter your birthdate (yyyy-mm-dd): ");  
 // Parse the input string into a LocalDate object representing the birthdate  
 LocalDate birthDate= LocalDate.*parse*(sc.nextLine()); // Get the current date  
 LocalDate currentDate= LocalDate.*now*();  
 Period age=Period.*between*(birthDate,currentDate); // Calculate period (difference) between birthdate and current date  
 // Extract years, months, and days from the calculated period  
 int years= age.getYears();  
 int months= age.getMonths();  
 int days=age.getDays();  
 // Print the calculated age in years, months, and days  
 System.*out*.println(years+" years, "+months+" months, "+days+" days.");  
 }  
}

Output:

A screen shot of a computer

Description automatically generated