

**Hands-on No. : 6****Topic : Functional interface, Lambda, Method Reference****Date : 11.08.2025****Solve the following problems**

Question No.	Question Detail
1	<p>Write a program that takes a list of email addresses and filters only those that contain "<b>@gmail.com</b>" using a Predicate.</p> <p><b>Sample Input:</b> ["john@gmail.com", "amy@yahoo.com", "raj@gmail.com", "hello@outlook.com"]</p> <p><b>Sample Output:</b> ["john@gmail.com", "raj@gmail.com"]</p>
2	<p>Given a list of product names, write a program using Function&lt;String, String&gt; to convert them to uppercase and store them in a new list.</p> <p><b>Sample Input:</b> ["laptop", "keyboard", "mouse"]</p> <p><b>Sample Output:</b> ["LAPTOP", "KEYBOARD", "MOUSE"]</p>
3	<p>Create a custom functional interface SalaryCalculator with one method calculate(double base, double bonus) that returns total salary. Use a lambda to implement it.</p> <p><b>Sample Input:</b> base = 50000, bonus = 10000</p> <p><b>Sample Output:</b> Total Salary: 60000.0</p>
4	<p>Given a list of names, use a lambda expression with Predicate&lt;String&gt; to filter and print names that start with the letter "S".</p> <p><b>Sample Input:</b> ["Sita", "Ravi", "Shyam", "Anu", "Suresh"]</p> <p><b>Sample Output:</b> ["Sita", "Shyam", "Suresh"]</p>
5	<p>Write program that Use Supplier&lt;Integer&gt; to generate and print 5 random 4-digit OTPs.</p>

***It is going to be hard but, hard does not mean impossible.***



6	Write a program to filter names that <b>start with "A"</b> and are <b>longer than 3 characters</b> using Predicate<String> chaining.
7	Create a class Person with a no-arg constructor that prints "Person created". Use Supplier<Person> and constructor reference Person::new to instantiate the object.
8	Write a Java program that: <ol style="list-style-type: none"><li>1. <b>Filters</b> names longer than 4 characters using Predicate&lt;String&gt;</li><li>2. <b>Converts</b> them to <b>uppercase</b> using Function&lt;String, String&gt;</li><li>3. <b>Prints</b> the processed names using Consumer&lt;String&gt;</li></ol> <b>Sample Input:</b> ["Anu", "Ravi", "Kiran", "Suresh", "Megha"] <b>Sample Output:</b> <b>KIRAN</b> <b>SURESH</b> <b>MEGHA</b>
9.	Use a <b>static method reference</b> to convert a list of numeric strings into a list of integers using the Function interface. You are given a list of strings representing numbers: ["10", "20", "30"] Your task is to: <ol style="list-style-type: none"><li>1. Declare a Function&lt;String, Integer&gt; using a <b>method reference to Integer.parseInt</b>.</li><li>2. Iterate through the list manually (e.g., using a loop).</li><li>3. Convert each string to an integer using the function.</li><li>4. Store and print the final list of integers.</li></ol>
10	You are building an event notification system. You need to: <ol style="list-style-type: none"><li>1. Create a class Notifier with a method void showAlert(String message) that prints the message with a prefix "ALERT: ".</li><li>2. Prepare a list of messages: ["Warning", "Error", "Success"]</li><li>3. Use <b>method reference (Notifier::showAlert)</b> with forEach() to send each message.</li></ol> <b>Sample Output:</b> ALERT: Warning ALERT: Error ALERT: Success

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## HANDS-ON

SmartCliff

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