|  |
| --- |
| Hands-on Exercise Objective |
| After completing the hands-on exercises, you will be able to:   * Create Custom Exceptions and handle it using Try/Catch/Finally blocks. |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Problem Statement 1: Develop a simple java application to calculate the tax for a particular employee based on his salary.  Develop a class named “**TaxCalculator“** with a method named **calculateTax** with the following method parameters,   |  |  | | --- | --- | | Variable Name | Data Type | | empName | String | | isIndian | boolean | | empSal | double |   This method should return a double taxAmount.  The business logic for calculating the tax is as follows, this has to be implemented inside the method,  If the employee is not a Indian  The calculator should throw a ***CountryNotValidException***  If the employee name is null or empty  The calculator should throw a ***EmployeeNameInvalidException***  If empSal is greater than one lakh and isIndian true  taxAmount =empSal \*8/100  Otherwise If empSal is between 50K and 1lakh and isIndian true  taxAmount =empSal \*6/100  Otherwise If empSal is between 30 and 50 Thousand and isIndian true  taxAmount =empSal \*5/100  Otherwise If empSal is between 10 and 30 Thousand and isIndian true  taxAmount =empSal \*4/100  Otherwise  The calculator should throw a ***TaxNotEligibleException.***  Develop a main class ***CalculatorSimulator***  , implement the following logic in main method   1. Execute the calculateTax Method and print the tax amount as **“Tax amount is “<Tax Amount>** 2. In case the calculateTaxMethod throws exceptions, this method needs to catch the appropriate exception print the stack trace and display the following messages,    1. **Country not valid:**  “**The employee should be an Indian citizen for calculating tax**”    2. **Employee name not valid:**  “**The employee name cannot be empty**”    3. **Not eligible for Tax calculation:**  “**The employee does not need to pay tax**”   The following test cases to be executed, change the data in main method and run it and verify the output messages   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Test Cases** | **Employee Name** | **Employee Salary** | **Is Indian** | **Message Expected** | | Test Case 1 | Ron | 34000 | **False** | **The employee should be an Indian citizen for calculating tax.** | | Test Case 2 | Tim | 1000 | **True** | **The employee does not need to pay tax** | | Test Case 3 | Jack | 55000 | **True** | **Tax amount is 3300** | | Test Case 4 |  | 30000 | **True** | **The employee name cannot be empty** | |