

## 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,
  - a. **Country not valid: "The employee should be an Indian citizen for calculating tax"**
  - b. **Employee name not valid: "The employee name cannot be empty"**
  - c. **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

