Hands-on Exercise Objective

After completing the hands-on exercises, you will be able to:

- You will learn about the usage of arithmetic, relational, logical operators and type casting.

Scenario: Developers need to develop a tax calculator for calculating tax using arithmetic, relational and logical operators.

Problem Statement 1: Declaring instance variables.

Develop a class "*TaxCalculator*" inside a package "*com.cognizant.tax*". The class should have an instance float variable named "*basicSalary*" and a boolean variable named "*citizenship*".

Problem Statement 2: Usage of Arithmetic operators.

In the TaxCalculator class create a method named *calculateTax()* that should calculate and print the tax, the tax should be calculated as follows

tax = 30*basic salary/100

NOTE: The value stored in the instance variable" *basicSalary*" should be used in the above calculation.

The calculated tax needs to be stored in another instance float variable "*tax*".

This method will display the following message in the console.

"*The Tax of the* employee for the <basic Salary> is <tax>"

Problem Statement 3: How to type cast?

In the TaxCalculator class create a method named *deductTax()* method this should reduce the tax calculated in problem statement 1 from the basic salary and store it in a instance int variable named "*nettSalary*".

NOTE: Ensure to use casting for converting float to int.

This method will also display the following message in the console.

"*The nett salary of the* employee" <nettSalary>

Problem Statement 4: Usage of relational operator

In the TaxCalculator class create a method named validateSalary() method should display a message as below if the **basicSalary** is greater than 1 lakh and **citizenship** is true.

"**The salary and citizenship eligibility:** " <response>

<response> - The value would be printed as *true* if basic salary > 1 lakh and citizenship is true.
                The value would be printed as false for other conditions.

Problem Statement 5: Execute the methods

Develop another class **"EmployeeTax"** inside the package " *com.cognizant.tax*" add a main method which sets the values and invoke the following methods in the *TaxCalculator* object.

Test Case 1: Specify the following values and run the main method

  1. Set the value of citizenship as true, basicSalary as **25000.**
  2. Invoke the methods calculateTax(), deductTax(), validateTax().

Output: The following messages should be displayed in the console

  The Tax of the employee for the   25000 is 7500

  The nett salary of the employee 17500

  The salary and citizenship eligibility: false

Test Case 2: Specify the following values and run the main method

  1. Set the value of citizenship as true, basicSalary as **125000.**
  2. Invoke the methods calculateTax(), deductTax(), validateTax().

Output: The following messages should be displayed in the console

  The Tax of the employee for the   125000 is 37500

  The nett salary of the employee 87500

  The salary and citizenship eligibility: true