Programming 1

Tutorial 7

# Activity 1

Implement a class Employee. An employee has a name and a salary. Provide a constructor with two arguments:

public Employee(String employeeName, double currentSalary)

and methods:

public String getName()

public double getSalary()

public void raiseSalary(double byPercent)

These methods return the name and salary, and raise the employee’s salary by a certain percentage. Sample usage:

Employee harry = new Employee("Harry Jones", 50000);

harry.raiseSalary(10); // Harry gets a 10 percent raise

Supply an EmployeeTester class that tests all methods.

# Activity 2

Write a program that reads a number between 1,000 and 999,999 from the user and prints it with a comma separating the thousands.

(\*) Use what you’ve learned about exception handling to make sure the user enters a valid integer and that integer is between the required range.

## Expected result

Please enter an integer between 1000 and 999999: 23456

23,456

# Activity 3

Write a program that reads an integer and output its binary form. This exercise was already included in a previous tutorial. However, this time you’re required to implement a **recursive** method to convert a decimal integer into a binary string.

# Activity 4

Write and run a recursive method to reverse a string.

## Expected result

Enter a string: helloworld

The reverse string is: dlrowolleh

# Activity 5

Ask user to enter a password. Measure its strength with the following rules:

* Length:
  + From 8 to 12, 1 point.
  + > 12, 2 points.
* Contains at least one uppercase letter: 1 point
* Contains at least one lowercase letter: 1 point
* Contains at least one digit: 1 point
* Contains non-alphanumeric characters (symbols): 1 point

Then rate the strength:

* 1-2 points: weak
* 3-4 points: medium
* 5-6 points: strong

## Expected result

Case 1:

Enter a new password: 123456

Strength: 1 (weak)

Case 2:

Enter a new password: andrew1974

Strength: 3 (medium)

Case 3:

Enter a new password: peterX124%\_beTTy

Strength: 6 (strong)