Java SE 8 Programming Language

Training Assignments

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RECORD OF CHANGES

No	Effective Date	Change Description	Reason	Reviewer	Approver
1	01/Oct/2018	Add the new labs	Create new	DieuNT1	VinhNV
2	12/May/2019	Update exercise	Update	DieuNT1	VinhNV
3	01/Jun/2019	Fsoft Template	Update	DieuNT1	VinhNV

Contents

Assignment 1 – Option 2: Basic OOP....4
Objectives:....4
Working Environments:....4
Assignment Descriptions:....4
Functional Requirements:....4
Guidelines:....5

CODE:	JPL.S.A102
TYPE:	SHORT
LOC:	
DURATION:	60 MINUTES

Assignment 1 – Option 2: Basic OOP

Objectives:

After finishing the following exercises, trainees will:

- ✓ Understand and practice with Classes, Object, Access Modifier, Constructors, Super, this keyword.
- ✓ Practice with control-of-flow statements
- ✓ Understand the interface and inheritance
- ✓ Practice with interface and inheritance

Working Environments:

- JDK 1.8
- Eclipse Java IDE for Developer

Assignment Descriptions:

Develop an interface named **Shape** that contains the following methods:

- abstract int ***calculatePerimeter***(): calculate the perimeter of the rectangle
- abstract int ***calculateArea***(): calculate the area of the rectangle
- abstract int ***getLength***(): return the length of the rectangle
- abstract int ***getWidth***(): return the width of the rectangle
- abstract void ***setLengthWidth***(int len, int width): set the length and the width of the rectangle

Use **Shape** created to develop a class named **Rectangle** that contains two properties: the *length* and the *width* of the rectangle. Rectangle implements **Shape** and overrides all the methods provided by Shape.

Write a class named **ShapeTest** that contains the main method to perform the following tasks:

a) Declare an array that contains n rectangles (n > 0, n is entered from the keyboard). The user can input the length and the width for the rectangle.

b) Display the info: the length, width, perimeter and square of n rectangles that were entered from the previous steps.

c) Display the information of the rectangle that has the maximum area.

d) Display the information of the rectangle that has the minimum perimeter.

Functional Requirements:

- Write a java console program to resolve this assignment.

Guidelines:

- Create a project named **JPL.S.A102**, create package ***fa.training.entities*** that contains the above classes/interfaces.
- Create a new package named ***fa.training.main*** contains **ShapeTest** class.

--THE END-