

Ahmadu Bello University
Department of Mathematics
COSC211: Practical Test: June 2014

Instructions

- A. Answer the single question below. Time allowed: 90 min.
- B. Your solution should be submitted in electronic form as Java source files. They should be stored in a directory whose name is your matriculation number.
- C. At the beginning of every file that you submit should be the following identifying marks.
//Your matriculation number
//Your full name
//The number of your practical group
//The number of the question assigned to you (shown below)
//The name you have given your file
... your code follows here ...

Qu29. Create a `Rectangle` class that has two double fields: `sideA` and `sideB`. It should have the necessary getters and setters, and two constructors - a no-args constructor and one that sets the values of the two fields.

The setters should ensure that the two sides have lengths that are not negative.

There should be three methods: `calculateArea()` that returns a double, `calculatePerimeter()` that returns a double and `calculateDiagonal()` that also returns a double.

Write test code that will instantiate at least three objects from this class and demonstrate the use of its methods.

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Qu30. Create a `RightTriangle` class that has two double fields: `sideA` and `sideB`, being the sides that include the right-angle. It should have the necessary getters and setters, and two constructors - a no-args constructor and one that sets the values of the three fields.

The setters should ensure that the two sides have lengths that are not negative.

There should be two methods: `calculateHypotenuse()` that returns a double, `calculatePerimeter()` that also returns a double.

Write test code that will instantiate at least three objects from this class and demonstrate the use of its methods.