Problem Set 4 Exercise #03: Fold Tray

Reference: Lecture 10 Unit 1 notes

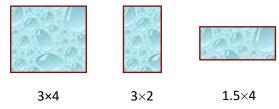
Learning objective: Object-oriented programming

Estimated completion time: 20 minutes

Problem statement:

A client program **PS4_Ex03_FoldTray.java** is provided and should **not** be modified. It computes the minimum perimeter if we fold a rectangle tray into halves once, either along the x-axis or the y-axis.

Below is an illustration of sample run #1:



The client program makes use of a **Tray** class defined in the file **PS4_Ex03_Tray.java**. You are to complete the **Tray** class as follows.

- Add the following two attributes:
 - o private double length; // length of a tray
 - o private double width; // width of a tray
- Write a constructor Tray(double side1, double side2) to create a tray of given size.
- Write the following two member methods:
 - o **void fold()** to fold "this" **Tray** object into halves once, either along the x-axis or the y-axis such that "this" **Tray** object has minimum perimeter after fold.
 - o **double computePerimeter()** to return the perimeter of "this" tray object.

You must write your **Tray** class properly such that running **FoldTray** produces the same output as the sample runs shown below.

Sample run #1:

```
Enter lengths of two sides: 3 4
Min perimeter after fold = 10.0
```

Sample run #2:

Enter lengths of two sides: 3.2 4.5
Min perimeter after fold = 10.9