

Exceptional Square

Purpose

To become familiar with throwing and catching exceptions.

Directions:

Your task is to write a class called Square. Your class should have the following fields and methods:

private double side

public Square – constructor that initializes the side of this object; this should throw a custom exception called NegativeLengthException if the side argument is negative. The message of this exception should be “Negative length: <length>”

public String toString – returns a String of the form Square with side = <side>

public double getPerimeter() – returns the perimeter of the square

public double getArea() – returns the area of the square

You also need to create a class called Driver.java with a main method. In main:

Prompt the user with the statement “Enter the length of the square’s side: “

Read in the user’s response. If the user enters something that is not a number, catch the associated exception and display the message “Error: you must enter a number” to standard error.

Create a square object, call its toString method and display its perimeter and area. If a NegativeLengthException occurs, display the associated message to standard error.

Example output:

Enter the length of the square's sides: 2

Square with side = 2.0

The perimeter of the square is 8.0

The area of the square is 4.0

Enter the length of the square's sides: -2

Negative length: -2.0

Enter the length of the square's sides: bob

Error: you must enter a number

When your program is working, export your Eclipse project to a zip file (File -> Export -> General -> Archive File) and upload it to the dropbox in Pilot. **Make sure that the correct project in the Project Explorer view is selected when you do the export.** You can right-click on it instead of going through the File menu to be sure.