KADİR HAS UNIVERSITY
CE 343 Object Oriented Programming Languages
2018-2019 Fall
HW 4 – Exception Handling, Abstract Class, Interface
Due Date: Monday 17/12/2018 23:59

Submit your **compile-able** and **executable project folder** as an archive in **.zip format** via BlackBoard before the due date.
Maximum 2 students can work together. The source files (.java) should contain the name of group members.
Any type of **shared** work with different groups will be considered **cheating**. Thus, do **not** share your work.

Task#1

Design an interface named **Colorable** with a **void** method named **howToColor()**.
Design a class named **Triangle** extending **GeometricObject** and implementing **Colorable**.
Triangle implements **howToColor** method to display the message "**Color all three sides**".
Triangle implements **toString** method to display its **color** and its **sides**.
In a triangle, the sum of any two sides is greater than the other side. The Triangle class must adhere to this rule.
Create the **TriangleException** class, and complete and implement the constructor of the **Triangle** class to throw an **TriangleException** object if a triangle is created with sides that violate the rule.
You are expected to complete the missing parts of the given source file **Task1.java**.
Read **carefully** the comments in the source file **Task1.java**.

Task#2

- Define a class **MyInputException** that should be a subclass of **Exception**. It should specify the default message "Invalid input!", but should also enable the programmer to specify a custom message as well.
- Complete the class **Task2**. Not only should **Task2** check for division by zero and valid integer input, it should also ensure that the integers being input are positive. If they are not, it should throw an **MyInputException** with the message "Positive numbers!". The program should catch this exception and display an error message.
- The output of the program should be as indicated below:

```
Enter an integer numerator: -100
Enter an integer denominator: 5
task2.MyInputException: Positive numbers!

Enter an integer numerator: 100
Enter an integer denominator: -5
task2.MyInputException: Positive numbers!

Enter an integer numerator: 100
Enter an integer denominator: hello
java.util.InputMismatchException
Enter integers!

Enter an integer numerator: 100
Enter an integer denominator: 0
java.lang.ArithmeticException: / by zero
Invalid denominator!

Enter an integer numerator: 100
Enter an integer denominator: 5
100 / 5 = 20
```