Unit 7 Programming Problems Worksheet

Programming Problem 1 – CycleThrowTryCatch

Revisit the Cycle class in Unit 3.10.1. Modify your application such that the properties, **numberOfWheels** and **weight** are entered as **double** values interactively (at the keyboard). Exception handling will be used to determine whether a type mismatch occurs.

Edit your application such that, in addition to [A], the values for **numberOfWheels** and **weight**, entered interactively, will throw a new exception "Values cannot be less than or equal to zero" only If the values are less than or equal to zero. Add or use the appropriate try and/or catch blocks.

Directions

Examine your application for the class called **Cycle**.

- Add Try and Catch blocks appropriately.
- Add the **throw statement for the new exception.**
- Display an appropriate message if an exception occurs.
- Display the properties of the object.

Note: Verify the contents were written to the text file using notepad (or any word processor).

Grading Rubric

Task	Points
Try and Catch blocks added correctly	1
Appropriate message used for each exception	1
Throw statements used correctly	1
Object properties displayed correctly	1
Proper documentation	1
Program works effectively	1
Total	**6**

Screenshots

```
Enter number of wheels on cycle: 5
Enter cycle mass: 234.3
234.300000 kg cycle with 5.000000 wheels
```

```
Enter number of wheels on cycle: 0
Exception in thread "main" java.lang.IllegalArgumentException: Values cannot be
less than or equal to zero
        at unit_07.problem_01.Cycle.setNumberOfWheels(Cycle.java:31)
        at unit_07.problem_01.U7_Problem1.main(U7_Problem1.java:56)
```

```
Enter number of wheels on cycle: 7
Enter cycle mass: 0
Exception in thread "main" java.lang.IllegalArgumentException: Values cannot be
less than or equal to zero
        at unit_07.problem_01.Cycle.setWeight(Cycle.java:43)
        at unit_07.problem_01.U7_Problem1.main(U7_Problem1.java:61)
```

Programming Problem 2 – CycleFileOutput

Revisit the Cycle class in Unit 3. Modify your application such that the properties will be written to a text file called "CycleOut.txt" instead of to the screen.

Directions

Examine your application for the class called **Cycle**.

- Add an appropriate throws statement in the main method.
- Create a reference to a File class with the appropriate name of a text file (Cycle.txt).
- Use appropriate code to ensure that the text file exist.
- Output the values of the variables to the text file.
- Close the file.

Note: Verify the contents were written to the text file using notepad (or any word processor).

Grading Rubric

Task	Points
Throws clause added in main method	1
Create a reference to the File class and text file	1
Check whether the text file exists	1
Output the properties to the text file	1
Close the text file	1
Proper documentation	1
Program works effectively	1
Total	**7**

Screenshots

```
Enter number of wheels on cycle: 3
Enter cycle mass: 6
az@ASUS-K55A:~/Dropbox/School/CS/CSC_201$ cat cycle.txt
6.000000 kg cycle with 3.000000 wheels
```

Programming Problem 3 – CycleFileInput

Revisit the Cycle class in Unit 3. Modify your application such that the properties will be read from a text file called "CycleIn.txt".

Directions

Examine your application for the class called **Cycle**.

- Add an appropriate throws statement in the main method.
- Create a reference to a File class with the appropriate name of a text file (Cycle.txt). Note: Cycle.txt was created in the previous assignment, CycleFileOutput.
- In your code, check that the text file does exist.
- Input the values from the file to memory.
- Close the file.

Grading Rubric

Task	Points
Throws clause added in main method	1
Create a reference to the File class and text file	1
Check whether the text file exists	1
Read the properties from the text file and output to screen	1
Close the text file	1
Proper documentation	1
Program works effectively	1
Total	**7**

Screenshots

```
az@ASUS-K55A:~/Dropbox/School/CS/CSC_201$ cat cyclein.txt
10.000000 kg cycle with 5.000000 wheels
az@ASUS-K55A:~/Dropbox/School/CS/CSC_201$ java unit_07.problem_03.U7_Problem3
5.000000 kg cycle with 10.000000 wheels
```