

Unit 5 – Practice Test (Exceptions)

Import the JAR file from Schoology to get started.

Then, implement the changes described for each task.

As this is a practice test, there is no need to submit anything.

Task 1 – Comparing Cases

Complete the method *compareCases* to count the number of lowercase and the number of uppercase letters in a String. *compareCases* should return the difference in the number of lowercase and uppercase letters.

Examples:

```
compareCases ("ABbH") should return 2
compareCases ("MaGdHiJ") should return -1
compareCases ("JHGFKJSL") should return 8
```

Exceptions:

If a character other than a letter is in the String, *compareCases* must throw an *IllegalArgumentException*. The following calls should throw an exception:

```
System.out.println(compareCases ("g5"));
System.out.println(compareCases ("m?h"));
```

Important Note:

IllegalArgumentException is an existing class and it is a *RuntimeException*. Therefore, we don't need to change main to catch this exception.

Task 2 – Creating a Circle

The radius of a circle must be greater than zero. In this exercise, you will correct the existing Circle class to ensure this rule is followed.

Specifically:

1. Create a new *IllegalRadiusException* as an Exception.
2. Update the Circle constructor to throw *IllegalRadiusException* when the passed radius is less than or equal to zero.
3. Update CircleTest to catch the exception and print the following message to the user when the exception occurs:

```
Illegal radius.
```

Output:

With these changes, CircleTest should print the following when run:

```
43.982297150257104
Illegal radius.
```