Lab 6

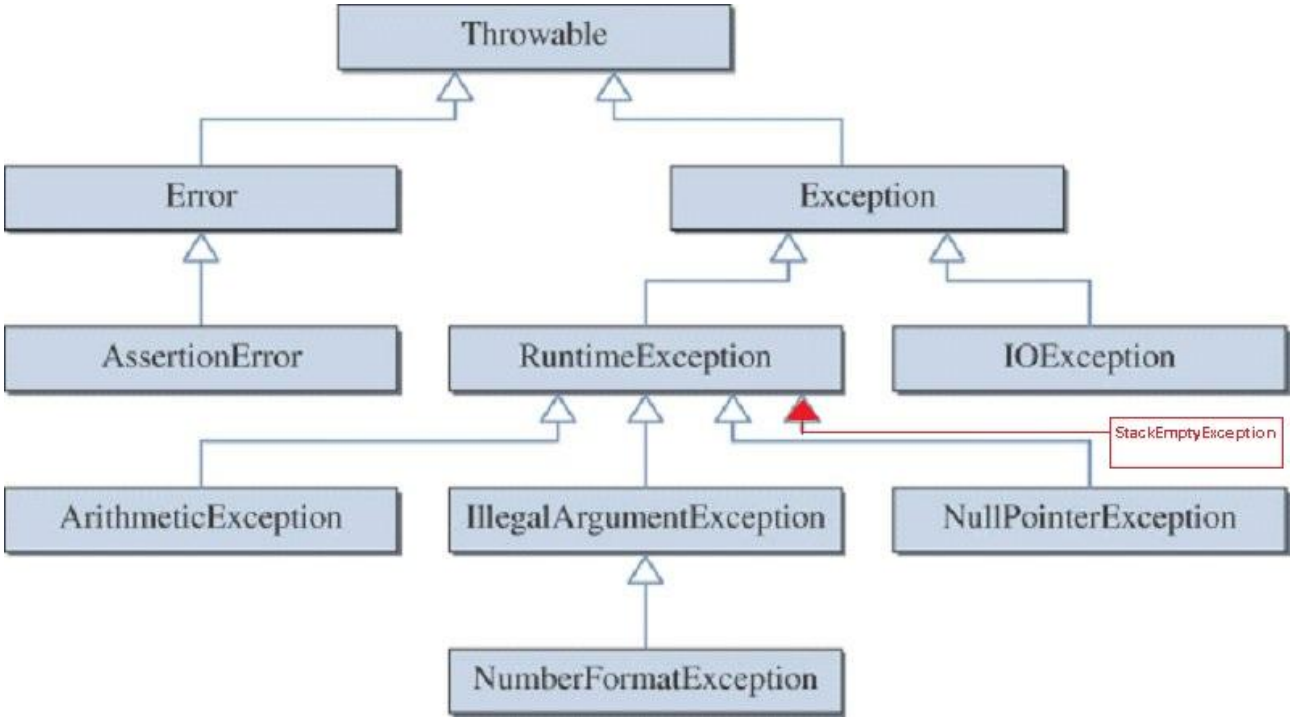
Objectives:

- Sign up for the lab
- Learn to build stack using existing data structure - LinkedList
- Learn to write an application (a simple text browser) using the stack
- Learn to write an exception class and use it
- Submit two file: *LabStack.java*, *Brower.java* at the end of the lab. Click the "Submit" button

A stack is a data structure of ordered entries that can be accessed at only one end. Because of this property, a stack is called a *Last-in/First-Out* data structure (abbreviated LIFO). A stack could be implemented in different ways: an array, a linked list, or from scratch, using a node class. We are going to use the LinkedList class from the standard library.

In the previous labs, we assume that some inputs are valid, but in the real world, we can't assume that. How to handle invalid inputs or actions, for example, pop an empty stack? Today, we are going to learn exceptions.

There are many exception classes in the standard library. They are arranged in a hierarchy:



The StackEmptyException is a sub class of the RuntimeException.

Download Stack.java, LabStack.java and Browser.java. In the Browser.java class, we implement two function of the Firefox browser: the "<-" and "->" buttons. Launch the Firefox browser.

Observe how the buttons work. Simulate the two functions using the LabStack that we just have built.

Use Connex to submit two files: *LabStack.java, Browser.java* at the end of the lab. Make sure you click the "Submit" button.

Note:

1. The image above is downloaded from http://www.csit.parkland.edu/~mbrandyberry/CS2Java/Lessons/CustomExceptions/DerivingExceptions.shtml