**IS 312: Web Design and Programming**

**PE08: Programming Exercise**

**Revised: Fall 2022**

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**Objective: Validating Input, Catching Errors.**

For this exercise we will be working with validating user input, using Try, Catch, and Exceptions.

**Task #1: Textbook Exercise – Retry (Chapter 8)**

To complete this task, please examine the Chapter 8 exercise Retry. When you have completed the exercise in the book, paste your source code into your lab report.

**Questions:**

1. **What is the advantage to writing your own extension to the basic Error class?**
2. **What are the benefits of using a loop? Of using recursion?**
3. **What are the disadvantages of using a loop? Of using recursion?**
4. **What was the one thing you found the most confusing or difficult? Why? How did you overcome it?**

**Task #2: Textbook Exercise – The Locked Box (Chapter 8)**

To complete this task, please examine the Chapter 8 exercise Retry. When you have completed the exercise in the book, paste your source code into your lab report.

**Questions:**

1. **What happens if you try to lock the box when it was already locked?**
2. **Why does it throw the error?**
3. **Is there any way this code does not throw an error?**
4. **What was the part of this exercise you found most interesting? What caused you difficulties? Why? How did you overcome those challenges?**

**Task #3: Use Try…Catch & Throw.**

For this task you will be revisiting your Prompt & User Input Validation functions from Programming Exercise 05.

In PE05 you were asked to get user input, and verify that it was a number between 1 and 20. For this exercise, I would like for you to rewrite those functions, into a single function that uses exceptions and exception handling to process and validate user input from a prompt ( See HTML document attached to this exercise in Brightspace for a basic HTML page with a button to use for the UI and the associated .js file for your JS code to be placed into for testing). Chapter 8 of this week’s readings covers this in detail.

**Questions:**

1. **What did you find to be the most surprising results when writing & testing your code?**
2. **What gave you the most difficulty?**
3. **How did you overcome any difficulties or errors your code caused?**
4. **What do you think is the advantage of using exception handling over the way you wrote the functions in PE05?**

**Submission:**

To submit this assignment, you should submit your completed lab report to Brightspace.