CPSC 3200 Object-Oriented Development

Programming Assignment #4: Due Wednesday October 28, 2020 before MIDNIGHT

This assignment exercises your understanding of operator overloading in C++
You must overload all appropriate operators. ***Focus on the expectations of the client.***
As with other design details, type definition is concerned with consistency.
Use ProgrammingByContract for documentation. ***DO NOT hard code***

Part I: Class design

Overloaded all appropriate operators for the classes from P2: **jumpPrime** and **duelingJP**
The class (type) definitions are the same EXCEPT now may encapsulate a 3-digit number as well as those of 4 or more digits.

A primary design goal is to streamline manipulation of **jumpPrime** and **duelingJP** objects.

Comparison should be widely supported for all types.

Addition MUST be supported consistently for both types: you decide the meaning and extent.

Consider, for example, if it is reasonable to: add a ***duelingJP*** to a ***duelingJP***? a ***jumpPrime*** to a ***duelingJP***? a ***jumpPrime*** to a ***jumpPrime***? etc.

Determine the ripple effect(s) of supporting addition, including mixed-mode, short-cut assignment and pre & post increment. Make reasonable design decisions so that your classes satisfy the stated goals, communicate assumptions and use, and yield clear and maintainable software

Clearly, many, many details are missing. **You must use operator overloading.**

Use ProgrammingByContract to specify:
- pre and post conditions; interface, implementation and class invariants.
- Intent of operator overloading should be well-documented

Part II: Driver

Design a ***functionally decomposed*** driver to demonstrate program requirements.
- Clearly specify the intent and structure of your driver

You should have arrays of distinct objects, initialized appropriately, i.e.
- random distribution of objects with arbitrary, initial, reasonable values
- meaningful values for non-arbitrary initial values, etc.
- do NOT use vectors, lists, etc.

Comments from previous assignments still apply.
Upload your files to BOTH Canvas and cs1
Do NOT upload zip files