COMP 2522 Object oriented programming 1
Assignment 4 bonus description

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BCIT CST — Due ~~Friday March the~~ 27th Sunday March the 29th at or before 23:59:59

There's a bonus?

You bet there's a bonus.

For a bonus of up to 10% on Assignment 4, please correctly implement the following:

1. **(2.5%) public static <E> ArraySet<E> difference(ArraySet<E> first, ArraySet<E> second)**

   This static method accepts two ArraySets and returns a new ArraySet which contains the elements that are in the difference of the two ArraySet objects passed to the method. This method will obviously not work if the two ArraySet objects passed to it contain elements of different types.

2. **(2.5%) public boolean isSubset(ArraySet<E> candidate)**

   This method returns true if the candidate is a subset of "this" ArraySet, else false.

3. **(5.0%) public ArraySet< ArraySet<E> > powersets( )**

   This challenging method returns an ArraySet of all the subsets of "this" ArraySet. We call this set of all the possible sets a powerset.

   For example, if we have an ArraySet<Integer> called numbers which contains 1, 2, and 3, then invoking numbers.powersets( ) returns an ArraySet of ArraySet<Integer> that contains ~~seven~~ eight ArraySet<Integer>. The seven ArraySet<Integer> contain:

   (a) nothing (an empty ArraySet)
   (b) 1
   (c) 2
   (d) 3
   (e) 1 and 2
   (f) 1 and 3
   (g) 2 and 3
   (h) 1 and 2 and 3 respectively.

For full marks, you must also augment the provided unit test file with tests that sufficiently prove your additional operator(s) are implemented correctly. Top marks will be reserved for implementations that are short and efficient.

Good luck, and have fun!