CSCI-101 Programming II

Lab 10a

Create a directory named **lab10** in your Git repo on cs.bridgewater.edu.

In the **lab10** directory, implement the classes defined in Exam 3.

Write a generic class named **Pair** that satisfies the following requirements.

- The generic type must implement the Comparable interface.
- Has a constructor that takes two elements of the generic type and stores them internally.
- The class has a method named **getFirst()** which returns the value of the first element passed to the constructor.
- The class has a method named **getSecond()** which returns the value of the second element passed to the constructor.
- The class implements the Comparable interface and considers the natural ordering of Pairs to first be according to the natural ordering of the first element of the pairs; and if the first elements are equal then to be according to the natural ordering of the second element of the pairs.

  For example, the following Pairs of Strings are written in order of their natural ordering.

  ("a","a") ("b","b") ("b","c") ("c","c")

Write a program in a class named **Exam3** which satisfies the following.

- Creates an instance of the HashMap class which maps instances of the Pair class (the keys) to Strings (the values).
- Store the following data in the HashMap.

Pair	String
(0,2)	"blue"
(0,0)	"red"
(0,1)	"green"

- Retrieve from the HashMap the String mapped to the point (0,1) and then print the String to the screen.
- Use streams to print to the console all of the values of the key/value pairs stored in the HashMap in lexicographical order.