Exercise Elementary ST - CODE

**Create a class City:**  
It has two fields: City and State (2 letter abbreviation), a parameterized constructor, and a toString method of that form: {city} ({state}) e.g. Sandy (UT)

**Create a class CityApp** that includes the main method.  
Create a symbol table of type ST that matches cities (values) to zip codes (keys).  
Compare ST to the symbol table implementations below. Which one is most similar to ST?   
BinarySearchST, BST, RedBlackBST, SequentialSearchST

Initialize the symbol table using the data from this csv file: *us\_postal\_codes.csv*Notice: only some of the columns will be used

Complete the following challenges based on the symbol table above.  
Display the answers in sentences (or with labels)

1. Print all keys and their associated cities in order  
   The output should list the zip codes and the corresponding cities in the following format:  
   92629 .. Dana Point (CA)  
   92630 .. Lake Forest (CA)  
   . . .  
   99950 .. Ketchikan (AK)
2. Generate a random 5 digit number n.
   * Is this number a zip code? If so, what is the corresponding city?
   * What is the greatest zip code that is equal to or smaller than n?
   * What is the smallest zip code that is equal or greater than n?
3. What are the smallest and the largest zip codes?
4. Assume your boss comes in with the additional request:  
   You are asked to find out how many zip codes are smaller than n.  
   How could you find the answer given that we used the symbol table ST?  
   Which other symbol table implementation would have made the answer to this question easier?

**Short version:**  
If there is not enough time to read in the values form the csv file these zip codes can be used:

84020 .. Draper UT  
84040 .. Layton UT  
84041 .. Layton UT  
84078 .. Vernal UT  
84079 .. Vernal UT  
84080 .. Vernon UT  
84055 .. Oakley UT  
84057 .. Orem UT  
84058 .. Orem UT  
84059 .. Orem UT  
84090 .. Sandy UT  
84091 .. "Sandy UT  
84092 .. Sandy UT  
84093 .. Sandy UT  
84094 .. Sandy UT  
98008 .. Redmond WA  
98052 .. Redmond WA  
98053 .. Redmond WA  
98073 .. Redmond WA