1. AreaCode

Write a ConsoleProgram named AreaCode that reads a city name from the user and prints the telephone area code of that city, according to the following table:

- Istanbul: 212
- Ankara: 312
- Izmir: 232
- Van: 432

If the user enters a city name that does not exist above, print "Area code is unknown".

Hint: For this question, you need to review the slides about checking equality of Strings.

2. Smallest Character

Create a ConsoleProgram named StringSort. In this class, write a Java method named smallestChar that takes a string and returns the argument's smallest character (according to alphabetical ordering). You may assume that the input string contains lowercase letters only.

In the run() method, read a string input from the user and give it to your smallestChar method as an argument. Test with various inputs.

```java
public class StringSort extends ConsoleProgram {
    public void run() {
        String input = readLine("Enter a string: ");
        println("Smallest char is " + smallestChar(input));
    }

    public ??? smallestChar(String str) {
        ???
    }
}

Hint: For this question, study the MaxOfNIntegers program we wrote a while ago.

3. Index of the Smallest Character

In the StringSort class, write a Java method named indexOfSmallestChar that takes a string and returns the index of the first occurrence of the smallest character in the argument. Again, you may assume that the input string contains lowercase letters only. Test your method with several inputs.
public class StringSort extends ConsoleProgram {
    public void run() {
        String input = readLine("Enter a string: ");
        println("Smallest char is " + smallestChar(input));
        println("Index of the smallest char is " + indexOfSmallestChar(input));
    }

    public ??? smallestChar(String str) {
        ???
    }

    public ??? indexOfSmallestChar(String str) {
        ???
    }
}

4. StringSort

In the StringSort class, write a Java method named sort that takes and returns a String. The returned value should contain all the characters of the input sorted in ascending order.

Hint: Use smallestChar, indexOfSmallestChar, and substring. Get help from the course staff in finding the algorithm.

Enter a string: jslenamnbkcwkoebqfca
Smallest char is a
Index of the smallest char is 5
Sorted: aabbcceefjkkllmnnoqsw

public class StringSort extends ConsoleProgram {
    public void run() {
        String input = readLine("Enter a string: ");
        println("Smallest char is " + smallestChar(input));
        println("Index of the smallest char is " + indexOfSmallestChar(input));
        println("Sorted: " + sort(input));
    }

    public ??? smallestChar(String str) {
        ???
    }

    public ??? indexOfSmallestChar(String str) {
        ???
    }

    public String sort(String str) {
        ???
    }
}