String Lab

1) Consider the following method. What value is returned by the call eval("jamjarjax", "ja")?

```java
int eval(String str, String check) {
    int m = str.length() / 2;
    String a = str.substring(0, m);
    String b = str.substring(m);
    return a.indexOf(check) + b.indexOf(check);
}
```
2) Consider the following code. What will be printed?

```java
void mystery(String str) {
    if (str.length() < 4) {
        println("D");
    } else {
        print(str.substring(0, 1));
        mystery(str.substring(1));
        print(str.substring(0, 1));
    }
}

mystery("BELLE");
```
3) Write a function `int lastIndexOf(String str, String substr)`, which returns the starting index of the last occurrence of `substr` in `str`.

4) Write a program that splits the numbers in the given `myNums` string, converts them to floats, and prints them to the console. You may assume that all the numbers are comma+single-space separated and they are all floats. However, your code should work for arbitrary many numbers and numbers with an arbitrary number of integer and floating-point positions.

   ```java
   void setup() {
       String myNums = "1.2345, 2.3, .345, 4.0, 5.123345678";

       // Add your code here
   }
   ```

5) Finish the following program, which was designed to count and print the number of duplicate strings in the `myArray` string array.

   ```java
   // Count and print the number of duplicates in myArray
   void setup() {
       int count = 0;

       // Add code here

       println("There are "+count+" duplicates.");
   }
   ```

6) Write a recursive function `boolean palindrome(String str)` that takes a String argument `str` and returns true if `str` is a palindrome and false otherwise.