Review

- Lab 5 is now available.
- Remember to take the quiz for assignment 06 after you do Lab 5!
- · String declarations and creations

```
- String s = "abc";
- String s = new String("abc");
```

- length(), indexOf()
- equals()

2D array exercise

Find the average of each column of the 2D array int
[][] ages; Store the averages in a oneD array
float[] ageAverages. The length of
ageAverages should be the number of columns in
ages.

More String functions

- indexOf used with a substring
 - String str = "abcdefghi";
 println(str.indexOf("def"));
 println(str.indexOf("bb"));
- substring(beginIndex, endIndex)
 - beginIndex is inclusive, endIndex is exclusive
 - String str1 = str.substring(3);
 - String str2 = str.substring(3, 6);

Exercise

- String msg = "The quick brown fox jumps over the lazy dog."
- Write code to create substring "fox jumps"
- Write code to create substring "lazy dog"

2-parameter indexOf

- String s = "a man, a plan, a canal Panama";
- int i = s.indexOf("an"));
- int i = s.indexOf("an", 4));
- println(s.indexOf("an", i+1));

toString

- toString() is a method defined to return a String, which is meant to be the string representation of an object
- It is what println and print will use when called on an object
- Every object/class inherits from a superclass Object which comes with a toString() method
- Overwrite the toString to how you want your object printed.

Array of String

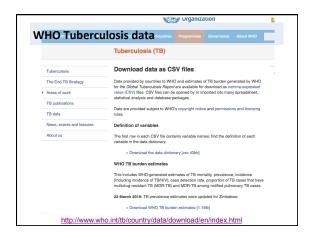
Declarations

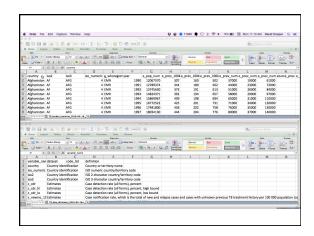
```
- String[] strs = new String[10];
- String[] strs = {"ab", "cde", "f"};
```

Write a function that takes an array of strings strs
and another string s and return how many of the
strings in the array contain the string s as a
substring.

split() and splitTokens()

- String s = "a man, a plan, a canal Panama";
- String[] strs = splitTokens(s, ",");
- String[] strs = s.split(",");
- What will be the length of strs?
- What will be the value of strs[1]?
- Write the expression that gives the number of elements in strs.





```
country, year, e_pop_num, e_inc_100k
Afghanistan, 1990, 12067570, 189
Afghanistan,1991,12789374,191
Afghanistan, 1992, 13745630, 191
Afghanistan, 1993, 14824371, 189
Afghanistan, 1994, 15869967, 188
Afghanistan,1995,16772522,188
Afghanistan, 1996, 17481800, 188
Afghanistan, 1997, 18034130, 189
Afghanistan, 1998, 18511480, 189
Afghanistan, 1999, 19038420, 190
Afghanistan, 2000, 19701940, 190
Afghanistan,2001,20531160,189
Afghanistan, 2002, 21487079, 189
Afghanistan, 2003, 22507368, 189
Afghanistan, 2004, 23499850, 189
```

```
// parseFile1
String[] data;
void setup() {
    // Load data from a file as array of strings
    data = loadStrings("reduced.csv");
    for (int i=0; i<data.length; i++) {
        println(data[i]);
    }
}</pre>
```

```
// parseFile2
String[] data;
Item[] items;
int count = 0;
void setup() {
    // Load data as array of strings
    data = loadStrings(Tenduced.cw*);
    //create object array
    //length-l because we throw away line 0
    items = mer trees[data.length-1];
    //split each line into pieces on ",
    String[] pieces = data[i.split(",");
    items[i-1] = mer trees[pieces[0],
        int pieces[1],
        int (pieces[1]),
        int (pieces[3]));
    }
    for (int i=0) i<items.length; i++) {
        printin(items[i]);
    }
}</pre>
```



