



As you come in...

- Read the CirclesCountry APT
 - On class website under the APT tab

www.cs.duke.edu/courses/spring13/compsci201



Recitation Prep

```
1 public class Picture {
2     public static void main(String[] args) {
3         Picture p = new Picture();
4         p.draw(10);
5     }

6     private void draw(int loops) {
7
8         String output = "";
9         for (int i = 0; i < loops; i++){
10            System.out.println(output);
11            output += "*";
12        }
13    }
14 }
```



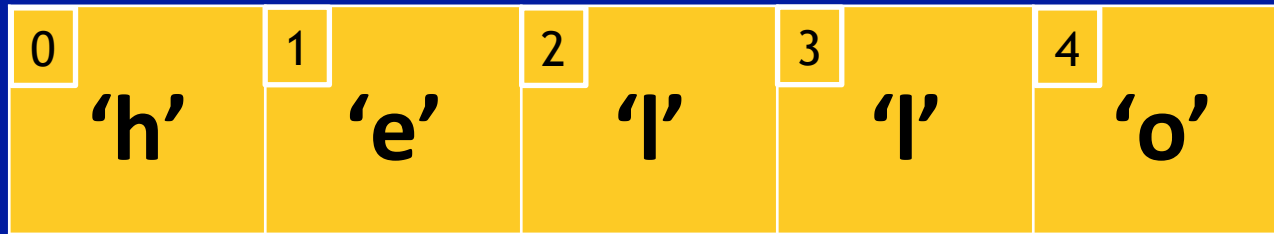
Today

- Arrays
- CirclesCountry APT
- Assignment
 - APT Set 1 due January 17



Arrays

- An array - a collection of items selected by index





Arrays

- Create an array of 5 integers
 - `int[] myArray = new int[5];`
- How do you create an array of 10 Strings?
 - a. `int[] a = new String[10];`
 - b. `String[] b = new String[9];`
 - c. `String[10] c = new String[10];`
 - d. `String[] d = new String[10];`



Arrays

- Have fixed length
 - `int[] a = new int[5];`
 - 5 is the length
- Access the length of an array
 - `int l = a.length;`
- Arrays are type specific
 - `int, char, String, double, etc.`

*Note: arrays are Objects - you can make function calls

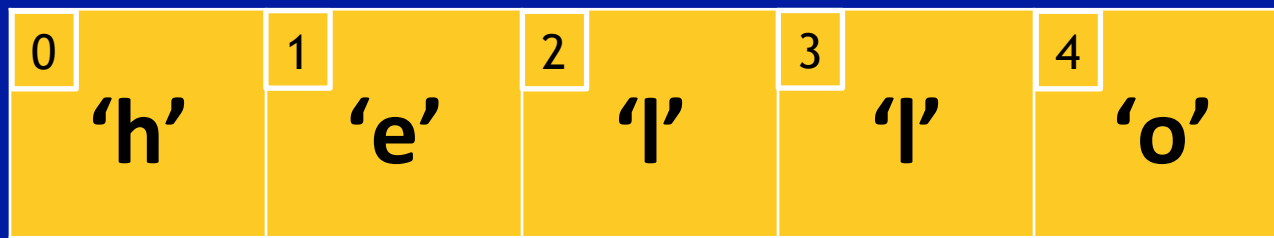




Arrays

- `char[] a = new char[5];`
- `a[0] = 'h'; a[1] = 'e'; ...`
- `char c = a[3];`

*Note: indices start with 0 and end at (n-1)





Coding

- In eclipse
 - Create a class `ArrayPractive.java`
 - Add a method `makeArray` that
 - Creates an array of 50 doubles
 - Puts the number 20.5 into every entry
 - Returns the array



CirclesCountry

- Read CirclesCountry
- Code organization
 - Write a helper method
 - Is a given point in a given circle?
 - What are the parameters?
 - What is the return type?



CirclesCountry

- Which districts can we ignore?
- Which districts do we have to count?



APTs

- Make a java project for each APT set
- Make a new class for each APT
- Class and method names must exactly match the assignment page
 - Helper methods can be names what you want - but use “helpful” names
- Test APT online as many times as you want
- Testing/Debugging
 - Output will appear in online APT tester
 - You can write your own main
 - Use the debugger!



Today

- Arrays
- CirclesCountry APT
- Assignment
 - APT Set 1 due January 17