As you come in...

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

www.cs.duke.edu/courses/spring13/compsci201
public class Picture {
    public static void main(String[] args) {
        Picture p = new Picture();
        p.draw(10);
    }

    private void draw(int loops) {
        String output = "*";
        for (int i = 0; i < loops; i++) {
            System.out.println(output);
            output += "*";
        }
    }
}
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

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