administrative stuff

- today’s office hours
- last time: much more on arrays
- today: finish arrays. (start objects?)
- reading: up to ch. 7
Arrays Class

some methods

- `binarySearch(array, value)`
- `copyOf(array, length)`
- `equals(array1, array2)`
- `fill(array, value)`
- `sort(array)`
- `toString(array)`

many others

in the package `java.util`

```java
import java.util.Arrays;
```
or
```java
import java.util.*;
```
Example

```java
import java.util.Arrays;

public class UsingArrays {
    public static void main(String args[]) {
        int A[] = new int[10];

        // sets all elements to value 5
        Arrays.fill(A, 5);

        // what does this print?
        System.out.println(A);

        // better:
        System.out.println(Arrays.toString(A));
    }
}
```
Quick Review: What does this print?

```java
public class PassingPrimitive {
    public static void inc(int x) {
        x++;
    }

    public static void main(String args[]) {
        int x=10;

        System.out.println("before: " + x);
        inc(x);
        System.out.println("after: " + x);
    }
}
```

Why? What’s in x?
Quick Review: What does this print?

```java
public class PassingReference {

    public static void inc(int A[]) {
        for (int i=0; i<A.length; i++) {
            A[i]++;
        }
    }

    public static void main(String args[]) {
        int A[] = {10,20,30};

        System.out.println("before: " + A[0]);
        inc(A);
        System.out.println("after: " + A[0]);
    }
}
```

Why? What’s in `A[]`?
public static void main(String args[]) {
    /* simple stuff */
    int x=10;
    int y;
    y=x;
    y++;
    System.out.println("x=" + x + ", y=" + y);

    /* same idea, but with arrays */
    int A[] = {10,20,30,40,50,60,70,80,90,100};
    int B[];

    /* what's in B at this point? */
    B=A;
    A[0]=11;

    System.out.println(Arrays.toString(A));
    System.out.println(Arrays.toString(B));
}
public static void main(String args[]) {
    int A[] = {10,20,30,40,50,60,70,80,90,100};

    System.out.println("before: " + Arrays.toString(A));
    int B[] = new int[5];

    for (int i=0; i<B.length; i++) {
        B[i]=A[i];
    }
    A=B;
    System.out.println("after: " + Arrays.toString(A));
}
public static void chop(int A[], int newSize) {
    int B[] = new int[newSize];

    int numItemsToCopy=Math.min(A.length, newSize);
    for (int i=0; i<numItemsToCopy; i++) {
        B[i]=A[i];
    }
    A=B;
}

public static void main(String args[]) {
    int A[] = {10,20,30,40,50,60,70,80,90,100};

    System.out.println("before: " + Arrays.toString(A));
    chop(A, 5);
    System.out.println("after: " + Arrays.toString(A));
}
Two-D