Arrays vs ArrayLists

Arrays
random-access, linear data structure
fixed size once created
can contain objects and primitives
must declare element type
safe: run-time bounds checking

ArrayLists
random-access, linear data structure
dynamic size; grows automatically
can only contain objects
element type is Object
safe: run-time bounds checking

Code Examples:

Declaring, Constructing, and Initializing

AquaFish[] myFishies = new AquaFish[15];
myFishies[index] = new AquaFish(aqua);

ArrayList myFishies = new ArrayList();
myFishies.add(new AquaFish(aqua));
myFishies.set(index, new AquaFish(aqua));

Accessing items in the list

AquaFish f = myFishies[index];

AquaFish f = (AquaFish) myFishies.get(index);

Using methods on items in the list

myFishies[index].move();

((AquaFish) myFishies.get(index)).move();

Moving through the entire list

for ( int k = 0; k < myFishies.length; k++ )
    System.out.println(myFishies[k]);

for ( int k = 0; k < myFishies.size(); k++ )
    System.out.println((AquaFish)myFishies.get(k));