Arrays:

2D Arrays:

* The first number represents the rows and the second represents the columns
* Ex: double [][] nums = new double [3][4] (all initialized to zeros in java)
* 2D arrays are an array of arrays
* nums [i] is accessing what is within each of the elements, acts like a pointer to whatever is in each box

Global Arrays:

* Can be found anywhere within the code and must be declared inside the class but not within a method/function
* (GlobalVariables globalNum) access within another class
* public static int globalNum = 0

Lists:

* If you print list, gets the whole lists unlike an array
* Only allow object types
* ArrayList<datatype> = newArrayList<datatype>();
* Much like a pointer in C++
* .add(1,whatever you want to add)
* .add is to just add it to the “backend” of the list
* .get() is used to retrieve whatever within a certain index
  + Ex: .get(2) == “world”
* .indexOf() gives index of where the element is
  + Ex: .indexOf(“world”) gives a 2
* .remove() removes the element and shifts everything to the left, if put in a print statement shows what got remove
  + Ex: .remove(0) == [“newElement, “world”]
* .size() gets size of the list
* Also works with for each loops
* .set( 3[index], ”get”[new element]) Takes the index and inputs the value given after the comma

Objects:

* Class is a template for an object
* Fields or instant objects within the class, declared them private, only within the class Vehicle, otherwise known as encapsulation
* Always make fields private so that it cannot be modified in other classes
* After fields, must write a constructor, how to make an object of the class Vehicle
* Keyword (this.()) refers to field of “this” class, must say this.field when the field is within the method
* Static method is a method is associated with the class and the static method only resides within that class, associated with the whole object
* Instance method is getting the number that is given within that instance, does not include static, associated with the number given for that object
* Public methods can be called from other classes
* Private methods are only included within the class

Project 1:

Spelling Bee

Asks how many contestants outputs number

Enter the names of the contestants outputs names

Create a text file that has the words

For each round, it is knockout, if they both answer incorrectly, then both go into the same round till they one of them gets it wrong