Unit 7 Review 1 worksheet

Name: Key 1-18-24

1. Write a method **findLongest** which accepts an ArrayList of String objects and returns the longest String.

```
public static String findLargest(ArrayList<String> temp)
{
  String longest = temp.get(0);
  for(String t : temp)
    {
      if(t.length() > longest.length())
        longest = t;
    }
  return longest;
}
```

2. An ArrayList contains these values: [8, 5, 2, 4] Write out the state of the data after each pass of a selection sort:

pass 1: 2584

pass 2: 2485

pass 3: 2458

3. An ArrayList contains these values: [8, 5, 2, 4] Write out the state of the data after each pass of an insertion sort:

pass 1: 5824

pass 2: 2584

pass 3: 2458

4. Write code that does the following:

- Create an ArrayList of Frog objects
- Add a Frog
- Make that Frog hop 10 spaces

```
ArrayList<Frog> pond = new ArrayList<Frog>();
pond.add(new Frog());
pond.get(0).hop(10);
```

(continued on back)

5. You are given an ArrayList which already contains over 1000 Strings. The ArrayList is sorted. Write code to delete all duplicate entries.

```
ArrayList<String> stuff = new ArrayList<String>();
//code not shown fills stuff with a wonderful collection of Strings
//code not shown sorts the list
```

```
for(int i = stuff.size()-1 ; i>0 ;i--)
  {
    if(stuff.get(i).equals(stuff.get(i-1)))
      stuff.remove(i);
  }
```

Notes: ① the i>0 is important - otherwise the i-1 in the .equals line would crash when i was zero.

② you must start at the end + move backwards when deleting

6. Write out the contents of the ArrayList after each line of code is run:

`ArrayList<String> stuff = new ArrayList<String>();`	empty
`stuff.add("A");`	A
`stuff.add("C");`	AC
`stuff.add("B");`	ACB
`stuff.add(1,"E");`	AECB
`stuff.set(0,"F");`	FECB
`stuff.add("G"+stuff.size());`	FECB,G4
`stuff.remove(2);`	FE,B,G4

7. Assume many more items have been added to the ArrayList from problem 6. Write code which swaps the values in the first and last spots of the ArrayList.

```
String temp = stuff.get(stuff.size()-1);   ← get a copy of last element
Stuff.set(stuff.size()-1, stuff.get(0));   ← replace last with first
Stuff.set(0, temp);                        ← set first to last from temp variable
```