CCPS 109   Final Test   Summer 01

Last Name	
First Name	
Student Number	

Instructions:

1. There are 4 questions on this test paper. **Please answer any 3 questions**. Each question is worth 10 marks which makes the exam worth 30 marks in total.
2. There is a time limit of 2 hours.
3. Write your answers on the blank sheets provided. Make sure you put your name and student # on everything.
4. Clearly identify which question you are answering.
5. Do not unstaple the pages.
6. Please include comments to explain what you are doing.

1) (10 marks) Write a Java class function called **sort_int.** The function accepts a single argument of type int that is a reference to a one-dimensional array. The function should sort the array into ascending order and print it out one value per line. The function should not return anything.

2) (10 marks) Write the Java class called *Car*. *Car* will have a constructor, one other instance method and two class methods.

   1. The constructor will accept a single parameter of type String. This String argument will allow the constructor to set the name (any valid string will do, for example "Mustang", "Subaru", etc.) of the *Car* object being created. The constructor will also add one to a class variable called ***object_count.***
   2. The instance method is called **dump**. It accepts no arguments and returns no values, however it will print out the name of the object that was assigned to it (above).
   3. The first class method is called **count**. It also accepts no arguments but will return a count of the number of objects that have been created.
   4. The second class method is **main**. It should create three objects of class **Car** with "Ford", "Toyota" and "Fiat" as arguments respectively. Choose appropriate variable names for these objects. Invoke the **dump** method for each object and finally call the **count** method and print out the number of objects.

3) (10 marks) Write a class function called **find_row** with the following interface.
   - ❑ Syntax:
     ```
     public static int find_row(int[][] array)
     ```
   - ❑ Semantics:
     find_row() accepts a two-dimensional int array as its only argument. The function should return the row number that contains the first occurrence of the number 8. If there is no 8 the function should return –1.

4) (10 marks) Write a static method call *builder* that accepts two integer arrays called *array1* and *array2* as parmeters/arguements. builder should "build" an array called *array3* that has the contents of *array2* appended onto the contents of *array1*. *array3* should be returned. For example, if array1[] = {1,2,3} and array2[] = {4,5,6,7} then array3[] = {1,2,3,4,5,6,7}.