CPS 109   Final Test   Fall 00

Last Name	
First Name	
Student Number	
Circle your instructor's name	**Cellini Ferworn McInerney**

Instructions:
1. There are 4 questions in this test. The test is worth 35% of your final mark.
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) (11 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}.

2) (11 marks) In assignment 2 of the course you were asked to implement a stack. Given the following declaration;
$$double [] stack = new double[30];$$
    Write the instance method
        public double pop( )
    and the instance method
        public boolean push(double value);

3) (11 marks) Write a method
        public static boolean isLeapYear(int year)
    that tests whether a year is a leap year: that is, a year with 366 days. Leap years are necessary to keep the calendar synchronized with the sun, because the earth revolves around the sun once every 365.25 days. Actually, that figure is not entirely precise, and for all dates after 1582 the Gregorian correction applies. Usually years that are divisible by 4 are leap years, for example 1996. However, years that are divisible by 100 (for example 1900) are not leap years, but years that are divisible by 400 are leap years (for example 2000). The method returns true if the argument passed in is a leap year.

4) (2 marks) This question is being used to collect statistical information only. You will not be individually identified.
    (a) What was the name of the high school you attended before coming to Ryerson?
    (b) Did you take a course related to "computer science" before entering Ryerson (if so please give short details)?
    (c) Do you think that experience with "computer science" by taking a course before entering Ryerson was/would have been helpful?