**Statistics Assignment**

Topic: Traversing Arrays and Writing and Calling Methods

Write a program that has the following methods. Write a main method that creates test arrays and calls the methods. Print your results to the screen.

**public static void main (String[] args )**

**public static double sum ( double[] array )**

**public static double product ( double[] array )**

**public static double average ( double[] array )**

**public static double min ( double[] array )**

**public static double max ( double[] array )**

**public static double[] mode ( double[] array )**

Preconditions for the methods are:

* The passed array will have at least one element.
* The passed array will have values in the range from 0 to 1000.

Postcondition for the methods is:

* The passed array will not be modified by the methods.

The mode method is the most challenging and is a bonus method.