/\*\*

\* A Class in which will calculate Varience, Standard deviation, Mean|Average, and \* \* Margin of error

\* given a data set

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\*

\*/

public class DataSet {

//Member Variables

private double sum;

private double sumSquared;

private int count;

private double[] data;

private final int DEFAULT\_CAP = 500;

//Constructor

/\*\*

\* Constructs a DataSet with default parameters

\*/

public DataSet()

{

Allocates All private member variables

}

/\*\*

\* Constructs a DataSet with a pre-made set

\* **@param** double[] set

\*/

public DataSet(double[] set)

{

Initializes the object with an array

}

//Class Methods

/\*\*

\* Adds a single value to the recorded set

\* **@param** double value

\*/

public void add(double value)

{

Adds the values to sum, and sum squared as well as tick up the count

}

/\*\*

\* Adds an entire set to the pre-existing recorded values

\* **@param** set

\*/

public void addSet(double[] set)

{

Adds an entire set to the data set.

}

/\*\*

\* Returns an average from recorded data

\* **@return** Average from recorded Data

\*/

public double getAverage()

{

return sum/count;

}

/\*\*

\* Returns a double array in which contains the data set

\* **@return** double[] set

\*/

public double[] getSet()

{

return data;

}

/\*\*

\* Returns the amount of entries in this run

\* **@return** Count

\*/

public double getCount()

{

return count;

}

/\*\*

\* Returns the sum of the data set

\* **@return** sum

\*/

public double getSum()

{

return sum;

}

/\*\*

\* Uses an Unstable Numerical Based equation in order to calculate for Standard Deviation

\* **@return** Standard Deviation | 97% accuracy

\* WARNING: RELATIVELY INACCURATE FROM THE MORE STABLE FORMULA

\*/

public double getUnstableStandardDeviation()

{

Using the unstable version of the formula, returns the inaccurate Standard deviation.

}

/\*\*

\* Uses an array to calculate Standard Deviation

\* **@return** Standard Deviation

\*/

public double getStandardDeviation()

{

Using the correct formula as well as the array stored within the object to fulfill the formula giving a more accurate standard deviation.

}

/\*\*

\* Calculates the Margin of error with the recorded values

\* **@return** Margin of Error

\*/

public double getMarginOfError()

{

return getStandardDeviation()/Math.*sqrt*(count);

}

/\*\*

\* Calculates the Variance of the data set

\* **@return** Variance

\*/

public double getVariance()

{

return Math.*pow*(getStandardDeviation(),2);

}

/\*\*

\* Clears all data stored and sets all parameters to 0

\*/

public void reset()

{

Resets all data stored within the object to default parameters.

}

}