

Functional Specification Template

Student José Alberto Esquivel Patiño

Program # 6

Class Name	DataSet
Parent Class	

Attributes	
Declaration	Description
dSig : double	Variable with the significance of the data set.
dRan : double	Variable with the prediction interval range.
dLI : double	Variable with the prediction interval lower bound.
dLS : double	Variable with the prediction interval upper bound.
dXs : ArrayList<double>	Variable with all the X points of the DataSet.
dYs : ArrayList<double>	Variable with all the Y points of the DataSet.

Items	
Declaration	Description
void calculateSignificance()	Method that calculates the significance of the correlation based on the correlation coefficients for the DataSet and integrating the t-distribution to get the area under the tails of the curve for these DataSet.
void calculateStandardDeviation()	Method that calculates the standard deviation of the data pairs in the class variables dXs and dYs.
void calculateRange()	Method that calculates a likely range around the yk prediction calculated with the calculate() method. The t-distribution and the standard deviation of the data is used to calculate this. This method sets the following variables: dRan, dLI, dLS
void DataSet()	Method that initialises in default starting values (mostly 0s) all the class variables.

void calculate()	Method that calculates all the statistics class variables based on the input data in the DataSet. These variables are: correlation coefficients (r and r2) lineal regression parameters (B0 and B1) Improved prediction (yk) Correlation significance (dSig) Prediction interval at 70% (dRan, and upper and lower bounds)
void addPair()	Method that adds a data pair to the DataSet class. It does some intermediate calculations to simplify the calculate() method's work. This method sets the following variables: dSumX, dSumY, dSumX2, dSumY2, dSumXY, iN
String toString()	Method that returns a String representation of the object. In the following format: VARIABLE[3 spaces]=[1 space]VALUE In the following order and with the following decimals per variable: N(0), xk(0), r(5), r2(5), b0(5), b1(5), yk(5), sig(10), ran(5), LS(5), LI(5)

nota:

Debido a la pregunta que le contestó a Bernardo en blackboard, solamente hice las plantillas para lo que cambió de mis clases base o agregué. Esto equivale a solamente los métodos y variables de la clase que declaré arriba. Solamente cambiaron o agregué las variables y métodos a la clase DataSet de arriba.