Functional Specification Template

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| **Student** | | | Eduardo Sánchez Bautista | | **Date** | 04/23/16 |
| **Program** | | | Program 8 | | **Program #** | 8 |
| **Instructor** | | | Pati Benavides | | **Language** | JAVA |
|  | | | | | | |
| **Class Name** | | HistoricData | | | | |
| **Parent Class** | | None | | | | |
| **Attributes** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | w:double[] | | | Array of w data | | |
| 2 | x:double[] | | | Array of x data | | |
| 3 | y:double[] | | | Array of y data | | |
| 4 | z:double[] | | | Array of z data | | |
| 5 | size:int | | | Size of historic data | | |
| **Methods** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | + addProgram(w,x,y):void  + addMultiplePrograms(wl,xl,yl):void  + avgLetter(letter):double  + getLetterList(letter):double[] | | | Add a program  Add multiple porgrams  Get the avg of the letter selected  Get the list of the letter selected | | |

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| **Class Name** | | Gauss | | | | |
| **Parent Class** | | None | | | | |
| **Attributes** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | - data:HistoricData  - matrix:double[][]  - values:double[] | | | The historic data  A double array for the calculations w,x,y  The array for the z values | | |
| **Items** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | + beta0:double  + beta1:double  + beta2:double  + beta3:double | | | Each one of this methods will return the value of the beta | | |

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| **Class Name** | | Range | | | | |
| **Parent Class** | | None | | | | |
| **Attributes** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | - x:SearchXValue  - sigma:Deviation2  - data:HIstoricData  - gauss:Gauss  - result:double  - wk:double  - xk:double  - yk:double | | | For the value of x  The sigma value  The historica data  A gauss object for the betas  The value of the result  Values of each user input | | |
| **Items** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | + result():double | | | Return the value of the range | | |

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| **Class Name** | | Deviation2 | | | | |
| **Parent Class** | | None | | | | |
| **Attributes** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | - wk:double  - xk:double  - yk:double  - data:HistoricData  - betas:Gauss | | | The value of each user input  Historica data  The betas value | | |
| **Items** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | + result():double | | | Return the value of the deviation | | |

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| **Class Name** | | MainZ | | | | |
| **Parent Class** | | none | | | | |
| **Attributes** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | - test1:double[]  - test2:double[] | | | The values of each test | | |
| **Items** | | | | | | |
|  | **Declaration** | | | **Description** | | |
| 1 | + main() | | | Main method | | |