*Functional Specification Template*

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| **Student** | | Gerardo Aldair Ponce Gomez | | | **Program #** | 7 |
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| **Class Name** | | | Main | | | | |
| **Parent Class** | | | - | | | | |
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| **Attributes** | | | | | | | |
|  | **Declaration** | | | **Description** | | | |
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| **Items** | | | | | | | |
|  | **Declaration** | | | **Description** | | | |
|  | Main() | | | Llama a las distintas clases con las cual se realizan todos los cálculos y se imprimen los resultados | | | |
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| **Class Name** | | Matriz | |
| **Parent Class** | | - | |
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| **Attributes** | | | |
|  | **Declaration** | | **Description** |
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| **Items** | | | |
|  | **Declaration** | | **Description** |
|  | Void calcuRenglones(NumW: vector<float> , NumX: vector<float> , NumY: vector<float> , NumZ: vector<float>, totales: float, matriz[][5]: float) | | Clcula y genera la matriz que será usada para el método de gauss |
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| **Class Name** | | Gauss | |
| **Parent Class** | | - | |
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| **Attributes** | | | |
|  | **Declaration** | | **Description** |
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| **Items** | | | |
|  | **Declaration** | | **Description** |
|  | Void calcular (b0: float, b1: float, b2: float, b3: float, zk: float, matriz[][5]: float, totales: float, wk: float, xk: float, yk: float) | | Calcula el valor de la matriz por el método de gauss |
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| **Class Name** | | Imprimir | |
| **Parent Class** | | - | |
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| **Attributes** | | | |
|  | **Declaration** | | **Description** |
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| **Items** | | | |
|  | **Declaration** | | **Description** |
|  | Void imprimeResultados(N: int, wk: float, xk: float, yk: float, b0: float, b1: float, b2: float, b3: float, zk: float) | | Imprime los valores en el formato estipulado |
|  | Void imprimenoexiste() | | imprime el mensaje de archivo inexistente |
|  | void vacioArchivo() | | imprime mensaje de archivo vacio |
|  | void imprimeMayor0() | | imprime mensaje de error en caso de que los datos no sean mayores o iguales a 0 |
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| **Class Name** | | Lectora | |
| **Parent Class** | | - | |
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| **Attributes** | | | |
|  | **Declaration** | | **Description** |
|  | Archive: fstream | | Contiene el archivo |
|  | wk: float | | Almacena el primer valor de la primera linea del archivo |
|  | xk: float | | Almacena el segundo valor de la primera linea del archivo |
|  | yk: float | | Almacena el tercer valor de la primera linea del archivo |
|  | totales: int | | Cuenta el total de datos |
|  | vacioArch: bool | | Valor que almacena si un archivo esta vacio |
|  | Numerror: bool | | Valor que almacena si un archivo tiene números erroneos |
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| **Items** | | | |
|  | **Declaration** | | **Description** |
|  | Lectora (nombre: string) | | Constructor que inicializa el archivo |
|  | ~Lectora() | | Destructor que cierra el archivo |
|  | float getwk() | | Funcion que obtiene el valor de wk |
|  | float getxk() | | Funcion que obtiene el valor de la cantidad de xk |
|  | float getyk() | | Funcion que obtiene el valor de yk |
|  | bool getVacioArchivo() | | Funcion que comprueba si el archivo esta vacio |
|  | float getTotales() | | Funcion que retorna el conteo de total de datos |
|  | bool getNumerror() | | Funcion que retorna el booleano de numerror |
|  | void Contar(NumX: vector<float>,NumY: vector<float>, NumZ: vector<float>, NumW: vector<float>) | | Funcion que cuenta y lee los datos del archivo y los almacenas |
|  | Bool existeArchivo() | | Funcion que comprueba si existe el archivo |
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