*Logic Specification Template*

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| **Student** | Gerardo Aldair Ponce Gomez | **Program #** | 7 |

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| **Class Name** | main |

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| **Method Name** | main |

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| **Parameters** |  |
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| Se inicializan las variables |
| Se ingresa el nombre del archivo |
| If que comprueba si el archivo existe{ |
| Se manda a contar el archivo |
| If que comprueba si el archivo no esta vacio{ |
| Se obtienen los valores de wk,xk,yk |
| If que comprueba de que no se hayan leído ningún numero invalido{ |
| Se calcula la matriz |
| Se aplica método gauss |
| Se mandan a imprimir los resultados |
| } |
| Else { |
| Imprime mensaje de error |
| } |
| } |
| Else { |
| Imprime mensaje de error |
| } |
| } |
| Else { |
| Imprime mensaje de error |
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| **Class Name** | Imprimir |

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| **Method Name** | imprimeResultados |

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| **Parameters** | N: float |
|  | wk: float |
|  | xk: float |
|  | yk: float |
|  | B0: float |  |
|  | B1: float |  |
|  | B2: float |  |
|  | B3: float |  |
|  | zk: float |  |
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| Imprime N | | |
| Imprimei wk | | |
| Imprime xk | | |
| Imprime yk | | |
| Imprime B0 | | |
| Imprime B1 | | |
| Imprime B2 | | |
| Imprime B3 | | |
| Imprime zk | | |
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| **Class Name** | | Imprimir |

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| **Method Name** | imprimeNoexiste |

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| **Parameters** |  |
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| **Class Name** | Imprimir |

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| **Method Name** | vacioArchivo |

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| **Parameters** |  |
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| Imprime mensaje de archivo vacio |
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| **Class Name** | Imprimir |

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| **Method Name** | imprimeMayor0 |

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| **Parameters** |  |
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| **Class Name** | Lectora |

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| **Method Name** | getwk |

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| **Parameters** |  |
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| Retorna el valor de wk |
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| **Class Name** | Lectora |

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| **Method Name** | getxk |

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| **Parameters** |  |
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| Retorna el valor xk |
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| **Class Name** | Lectora |

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| **Method Name** | getyk |

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| **Parameters** |  |
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| Retorna el valor de yk |
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| **Class Name** | Lectora |

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| **Method Name** | existeArchivo |

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| **Parameters** |  |
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| IF archivo abierto |
| Regresa true |
| Else |
| Regresa false |
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| **Class Name** | Lectora |

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| **Method Name** | vacioArchivo |

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| **Parameters** |  |
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| Imprime mensaje de archivo vacio |
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| **Class Name** | Lectora |

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| **Method Name** | getTotales |

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| **Parameters** |  |
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| Retorna el valor de totales |
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| **Class Name** | Lectora |

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| **Method Name** | getNumError |

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| **Parameters** |  |
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| Retorna el valor de numerror |
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| **Class Name** | Lectora |

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| **Method Name** | contar |

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| --- | --- |
| **Parameters** | Numy: vector <float> |
|  | Numx: vector <float> |
|  | Numz: vector <float> |
|  | Numw: vector <float> |
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| --- |
| Inicializa variables |
| Ciclo while para leer archivo |
| Lee la primera linea |
| If para saber si es primera linea{ |
| Cambia valor de error |
| Aumenta el numero de líneas |
| Cambia variable vacio |
| } |
| If para saber si es el primer renglón{ |
| Agarra el valor wk, xk y yk |
| Aumenta el numero de renglones |
| Verifica que el dato sea valido |
| } |
| Else if para verificar que no sea el primer renglón{ |
| Lee la linea y substrae los valores y los almacena en los vectores |
| Verifica que los valores sean correctos |
| Aumenta el numero de líneas |
| } |
| } |
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| **Class Name** | Gauss |

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| **Method Name** | CalculaX |

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| --- | --- |
| **Parameters** | B0: float |
|  | B1: float |
|  | B2: float |
|  | B3: float |
|  | zk: float |
|  | Matriz: float |
|  | Totals: float |
|  | Wk: float |
|  | Xk: float |
|  | Yk: float |

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| --- |
| Ciclo for que recorre la matriz por el total de incógnitas{ |
| For que busca en la matriz por el valor máximo{ |
| Se obtiene el máximo y se almacena su posición |
| } |
| } |
| For para ordenar la columna{ |
| Se ordena la matriz |
| } |
| Ciclo que va igualando a 0 la matriz{ |
| Se iguala la matriz a 0 |
| } |
| } |
| Se despejan las variables |
| Se calcula zk |
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| **Class Name** | Matriz |

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| **Method Name** | calcuRenglones |

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| --- | --- |
| **Parameters** | Numy: vector <float> |
|  | Numx: vector <float> |
|  | Numz: vector <float> |
|  | Numw: vector <float> |
|  | Totals: floar |
|  | Matriz: float |

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| --- |
| For para calculary la posición 0,0{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 0,1{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 0,2{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 0,3{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 0,4{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 1,0{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 1,1{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 1,2{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 1,3{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 1,4{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 2,0{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 2,1{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 2,2{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 2,3{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 2,4{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 3,0{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 3,1{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 3,2{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 3,3{ |
| Se calcula |
| } |
| Se mete en la matriz |
| For para calculary la posición 3,4{ |
| Se calcula |
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| Se mete en la matriz |
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