## **CP5805 – Assessment 5: Advanced Data Analysis**

### **IPO Charts**

main()

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
|  | data\_frame  valid\_menu\_options  menu\_choice  data |  |

display\_main\_menu()

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
|  |  |  |

get\_menu\_choice(valid\_menu\_options)

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| valid\_menu\_options |  | menu\_choice |

load\_data ()

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
|  | file  valid\_file | data |

validate\_file\_pointer(file)

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| file | valid\_file |  |

display\_variable\_menu(data\_frame)

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| data\_frame | variable\_name | number\_of\_variables  data\_frame\_names |

get\_variable\_choice(number\_of\_variables)

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| number\_of\_variables | integer\_input | variable\_choice |

calculate\_statistics(data\_frame\_names, variable\_choice, data\_frame)

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| data\_frame\_names  variable\_choice  data\_frame | chosen\_variable  number\_of\_values  mean  standard\_deviation  standard\_error | statistics |

display\_statistical\_report(data\_frame)

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| data\_frame | number\_of\_variables  data\_frame\_names  variable\_choice  statistics |  |

display\_plotting\_menu()

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
|  |  |  |

get\_plotting\_choice()

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
|  | valid\_plotting\_options | plotting\_choice |

generate\_plot(data\_frame)

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| data\_frame | plotting\_choice |  |