**BACK END:** Steps for Problem 1 Answer: Using Data Correlation

(Required Program: Jupyter Notebook on Anaconda Navigator)

**Prerequisites**:

* Installing Anaconda Navigator on your devices
  + <https://anaconda.org/anaconda/anaconda-navigator>
* Installing Jupyter Notebook within the Anaconda Navigator environment
* Installing Python Libraries
  + Numpy: <https://numpy.org/install/>
  + Pandas: <https://pandas.pydata.org/getting_started.html>
  + Seaborn: <https://seaborn.pydata.org/installing.html>
  + MatPlotLib: <https://matplotlib.org/stable/users/installing.html>

\*Note: Create a single folder that contains all your necessary data frame (.csv), then create an .ipynb file onto the same folder.

1. **Import libraries in your .ipynb file**

Text

Description automatically generated

1. **Import .csv file as data frame**

Graphical user interface, text, application

Description automatically generated

1. **Parse the date column that indicates the date for last medication intake, make an array for the unique dates.**

Table

Description automatically generated with medium confidence

1. **Transform all the information contained in the previously created array to a logic ‘1’ by replacing every unique element with ‘1’. Then fill all the NaT value with ‘0’ to act as our logic ‘0’.**

Graphical user interface, text, application

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1. **Make a contingency table for our Chi-square analysis**

Table

Description automatically generated with low confidence

1. **Create the heatmap for the Contingency Table**

A picture containing chart

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1. **Run chi2\_contingency for Chi-square analysis.**

Graphical user interface, application

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**BACK END:** Steps for Problem 2 Answer: Making AI Model for Parameters with Correlation

(Required Program: Jupyter Notebook on Anaconda Navigator)

**Prerequisites**:

* Correlation Analysis for Each Parameter

\*Note: Do this step only to Parameters with Positive Correlation (ρ > 0)

1. **Create a Feature and Label column for your model**

A picture containing text

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1. **Create your whole data set, note that for the model to run, make sure that your logic values (1’s and 0’s as your adherence indicator) should be an integer data type. Translate your categorical values to a corresponding integer**

Graphical user interface, text, application, email

Description automatically generated

1. **Create your training features, separating the training labels and your testing labels**

Graphical user interface, text, application

Description automatically generated

1. **Using the *build\_and\_compile\_mode()l* function, define the conditions of your layers, then compile your model. After returning, set your *build\_and\_compile\_mode()* as a variable**

Graphical user interface, text, application

Description automatically generated

1. **Fit the model, make sure that you have a good accuracy in every run**

Table

Description automatically generated

1. **Evaluate your test features**

Graphical user interface, application

Description automatically generated

1. **Save your model**

Graphical user interface, text

Description automatically generated