

- 1) Which topic did you choose to apply the data science methodology to?

Hospitals

- 2) Next, you will play the role of the client and the data scientist.

Using the topic that you selected, complete the Business Understanding stage by coming up with a problem that you would like to solve and phrasing it in the form of a question that you will use data to answer.

You are required to:

1. Describe the problem, related to the topic you selected.
2. Phrase the problem as a question to be answered using data.

For example, using the food recipes use case discussed in the labs, the question that we defined was, "Can we automatically determine the cuisine of a given dish based on its ingredients?".

Based on data from several patients how can I determine whether or not a new patient can have a heart attack.?

- 3) Briefly explain how you would complete each of the following stages for the problem that you described in the Business Understanding stage, so that you are ultimately able to answer the question that you came up with.

1. Analytic Approach
2. Data Requirements
3. Data Collection
4. Data Understanding and Preparation
5. Modeling and Evaluation

You can always refer to the labs as a reference with describing how you would complete each stage for your problem.

Analytic Approach: As the problem requires a yes or no answer, the correct one is to use a classification model  
Data Requirements: To create the classification model, it is necessary to enter patient data, such as age, weight, eating habits, heart rate, if the person has been experiencing dizziness, sweating, indigestion or nausea.  
Data Collection: We would use techniques such as descriptive statistics and data evaluation should be implemented at this

stage to ensure we have useful data for our model. Data Understanding and Preparation: At this stage, we need to evaluate the different variables in our data to better understand them, such as mean, median, standard deviation, and also check if there is a correlation between the studied variables. Therefore, we need to assess data quality. In the data preparation phase, we have to prepare the data in a specific way depending on the model. Modeling and Evaluation: Finally, we create a ranking model, evaluate the result and make the corresponding changes until we have a suitable model.