1. **Which topic did you choose to apply the data science methodology to?**

"Improving patient satisfaction and reducing complaints in a hospital using patient feedback data."

2. **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.**
    a. **Requirements:**
        i. **Describe the problem, related to the topic you selected.**
        ii. **Phrase the problem as a question to be answered using data.**

Problem definition and understanding the client's needs - Define the problem of improving patient satisfaction and reducing complaints in a hospital, and understand the client's needs and requirements.
Problem - "What are some reoccurring patient complaints and how can we reduce them to increase patient's satisfaction?"

3. **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.**

- **Analytic Approach**
- **Data Requirements**
- **Data Collection**
- **Data Understanding and Preparation**
- **Modelling and Evaluation**

1. Data collection and exploration - Collect data on past patient feedback, including survey responses, comments, and complaints. Explore and analyze the data to find patterns and trends that might be important to the issue.
2. Data cleaning and pre-processing - Clean and pre-process the data, such as removing irrelevant information or dealing with missing or inconsistent data.
3. Model selection and training - Select and train a model, such as a machine learning algorithm, to identify the factors that contribute to patient satisfaction and complaints.
4. Evaluation and deployment - Evaluate the performance of the model and fine-tune it as necessary. Once the model is satisfactory, develop an action plan to act on the insights and improve patient satisfaction.

By following the data science methodology and using machine learning techniques, the model will be able to identify patterns and anomalies in the feedback data that indicate areas for improvement and predict the likelihood of future complaints based on those patterns