Refer to this document after framing your own responses for the exercise given in “***Methodology Exercise.docx***”

**Exercise example responses**

Step 1:

Carmen is an expert in selling widgets but not an expert of data science. She excels at finding opportunities to sell widgets and is continuously exploring new avenues for growth. Carmen explicitly wanted to understand the following information about this new AI model that Priya led development of: What the model does for her business? How the does the model's predictions serve to sell more widgets? Are there biases in the model or data that she needs to be aware of when making decisions? Carmen hopes that the model's predictions will identify new market opportunities and increase return on revenue for advertising due to better targeting of customers who may be interested in buying widgets.

Since Carmen is not a data scientist, she'll need some additional text to explain data science concepts and would prefer to see the results of the model contextualized in her business use case. She's particularly interested in mapping model results to business outcomes, so she wants to have those relationship explicitly mapped. Finally, she wants to know how bias can affect model outcomes to minimize any risk to her business or her company’s image.

Step 2:

Priya is an experienced data scientist who was responsible for developing this predictive model. As the lead, she's talked with the salespeople responsible for selling widgets and incorporating their domain knowledge in the model. Priya does a good job of documenting code in the finished model, but since she's rather busy, she doesn't keep track of the details of how she cleaned the data set or why particular details of feature engineering. Thus, these details live only in her head, and only she can write down these details.

Priya has worked with Carmen for several years now and has lots of experience explaining key data science concepts to Carmen. She has an intuition about which kind of explanations work and how important it is to explain things in context.

Priya has not done any formal bias measurement techniques and will have to find ways of evaluating and potentially mitigating model bias after the fact.

Step 3: Categories and sub questions:

* **What the model does for her business?**
  + Model purpose:
    - What is the intended purpose of the model?
  + Business goal:
    - What is the business goal that the model is helping solve? How?
* **How the does the model's predictions serve to sell more widgets?**
  + How to interpret model results:
    - How do the model metrics map to the business goal?
  + Model performance metrics:
    - What are the measures of model accuracy and other performance factors?
  + Expected sales compared to now:
    - What do initial model test results tell us about its expected performance and impact on business?
* **Are there biases in the model or data that she needs to be aware of when making decisions?**
  + Bias assessment
    - What bias assessments were done on the data and the model?
  + Bias mitigation strategy
    - How has the bias of the data and model been mitigated?
  + Bias mitigation results
    - What are the results of the mitigation compared to before mitigation?