**Title: Investigating [Research Paper Title]**

**Introduction**

- Briefly introduce the research paper you selected and its significance.

- State the research question you aim to address through your experiment.

Research Question: To what extent can synthetic data generated from the Bank Marketing dataset effectively preserve privacy while maintaining the utility of the data for predictive analytics, and how does this compare to the privacy risks associated with the original data?

OR

What is the impact of varying the amount of privacy leakage in the original Bank Marketing dataset on the effectiveness of synthetic data in preserving privacy, and how does this relate to GDPR compliance?

- Mention the objectives and scope of your experiment.

**Research Paper Review**

- Summarize the key concepts, methods, and findings of the selected research paper.

- Highlight any critical details related to the code implementation and experiment setup provided in the paper.

**Experimental Setup**

- Describe the hardware and software environment you used for your experiment.

- Explain the modifications you made to the code provided in the paper (if any) to suit your experiment's objectives.

- Present the parameters you plan to vary and the range of values you will test.

- Detail how you will collect data and performance metrics during the experiment.

**Methodology**

- Explain the step-by-step procedure you followed to conduct the experiment.

- Include code snippets or pseudocode to demonstrate how you automated parameter variations and data collection.

- Describe the evaluation metrics you will use to measure the experiment's success.

- If you introduced new variables or features, explain why and how you incorporated them into the experiment.

**Experiment Execution**

- Present the results of your experiment in tables, charts, or graphs.

- Ensure that the code you provide allows readers to replicate your experiment and obtain the same results.

- Include comments in your code to explain its functionality.

**Results**

- Analyze the data obtained from your experiment.

- Discuss any trends, patterns, or significant findings.

- Compare your results with those reported in the original research paper.

- Use tables and graphs to support your analysis.

**Discussion**

- Interpret the implications of your results.

- Address whether your experiment's findings support or contradict the original paper's claims.

- Discuss any limitations of your experiment and potential sources of error.

- Suggest future research directions or improvements to the experiment.

**Conclusion**

- Summarize the main findings of your experiment.

- Restate the research question and whether it was answered.

- Highlight the contributions and significance of your experiment.

**References**

- Cite the research paper you reviewed and any other sources you referenced.

<https://archive.ics.uci.edu/dataset/222/bank+marketing>

<https://towardsdatascience.com/how-to-generate-real-world-synthetic-data-with-ctgan-af41b4d60fde#:~:text=To%20generate%20new%20synthetic%20samples,model%20by%20providing%20its%20path>

<https://pypi.org/project/ydata-synthetic/>

**Appendix: Code**

- Include the code you wrote to conduct the experiment.

- Provide clear instructions on how to run the code and reproduce the results.

**Appendix: Tables and Figures**

- Insert any tables, graphs, or diagrams that help visualize your results.

Ensure that your document adheres to the specified word count range (600-800 words) and includes relevant diagrams or tables. The methodology and code provided should be detailed enough for someone to replicate your experiment without access to the original research paper.