# Customer Analytics Mini Project

Source Code Documentation

Preksha

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## Contents

# 1 Project Overview

This project performs Exploratory Data Analysis (EDA) on customer data to generate meaningful insights.

The analysis includes:

- Data cleaning
- Missing value analysis
- Summary statistics
- Data visualization

# 2 Project Structure

```
MiniProject1/
|
|-- data_summary.txt
|-- eda_script.py
|-- Final_Report.pdf
|-- MiniProject1_EDA.ipynb
|-- README.md
|-- requirements.txt
```

# 3 README.md

The README file contains:

- Project description
- Installation instructions
- Execution steps

To install dependencies:

```
pip install -r requirements.txt
```

To run the Python script:

```
python eda_script.py
```

# 4 EDA Script (eda_script.py)

This script performs the following tasks:

- Loads the dataset
- Cleans missing values
- Generates summary statistics
- Creates visualizations
- Exports summary results to a text file

# 5 Jupyter Notebook (MiniProject1_EDA.ipynb)

The notebook contains step-by-step analysis including:

- Data inspection
- Data preprocessing
- Visualization using matplotlib and seaborn
- Correlation analysis

# 6 Data Summary (data_summary.txt)

This file contains:

- Statistical summary of numerical columns
- Missing value counts
- Key observations

# 7 Final Report (Final_Report.pdf)

This PDF file presents:

- Project objective
- Methodology
- Key findings
- Visualizations
- Business insights

# 8 System Requirements

- Python 3.9+
- pandas
- numpy
- matplotlib
- seaborn
- jupyter

# 9 Conclusion

The project is well-structured and modular. It demonstrates practical implementation of data cleaning, analysis, and visualization techniques used in real-world data science workflows.