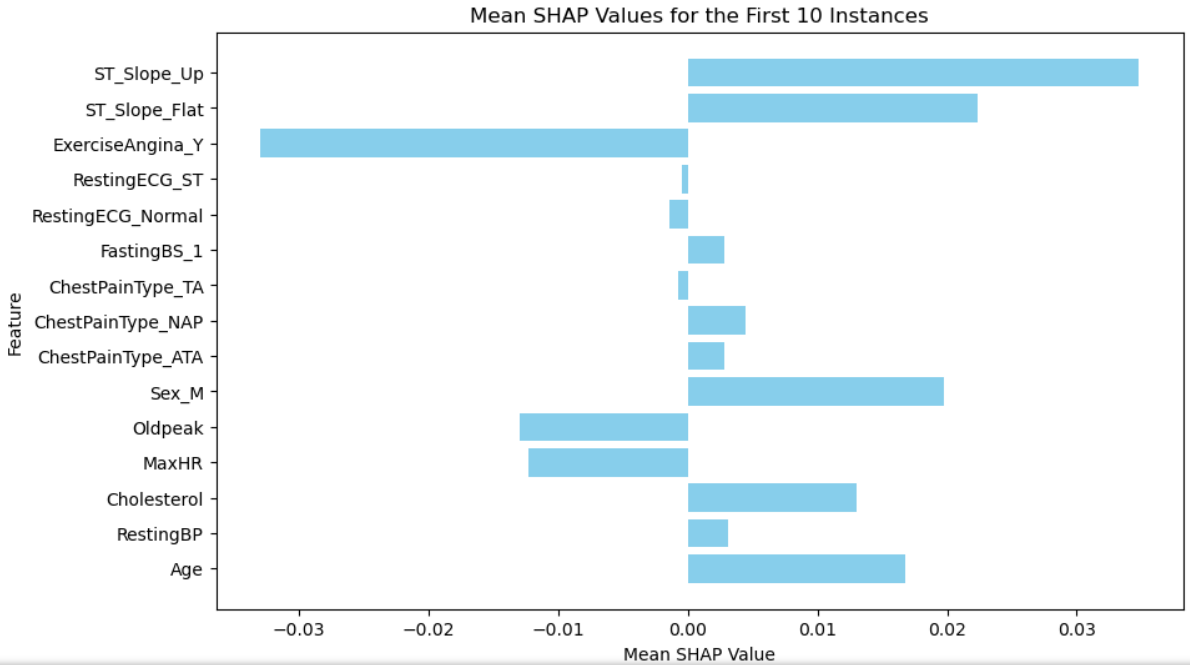
MODIFICATIONS

In the initial report, I focused on explaining the SHAP (SHapley Additive exPlanations) values for a single instance, which provided a limited view of the model's behavior. Upon further consideration and analysis, I recognized the importance of understanding the SHAP values across a broader spectrum of data points. To address this, I extended my analysis to include the SHAP values for the first ten instances in the dataset.

```
Feature: Age, Mean SHAP Value: 0.016792464376753618
Feature: RestingBP, Mean SHAP Value: 0.00306437756812366
Feature: Cholesterol, Mean SHAP Value: 0.013023942331187427
Feature: MaxHR, Mean SHAP Value: -0.01226199437523004
Feature: Oldpeak, Mean SHAP Value: -0.012973072250573797
Feature: Sex_M, Mean SHAP Value: 0.01972898581910888
Feature: ChestPainType_ATA, Mean SHAP Value: 0.002794905002126545
Feature: ChestPainType_NAP, Mean SHAP Value: 0.004442290212862478
Feature: ChestPainType_TA, Mean SHAP Value: -0.000753322111083131
Feature: FastingBS_1, Mean SHAP Value: 0.0028311550421634543
Feature: RestingECG_Normal, Mean SHAP Value: -0.0014312391320940782
Feature: RestingECG_ST, Mean SHAP Value: -0.00043339098829793955
Feature: ExerciseAngina_Y, Mean SHAP Value: -0.03297907347010006
Feature: ST_Slope_Flat, Mean SHAP Value: 0.022379581006588455
Feature: ST_Slope_Up, Mean SHAP Value: 0.034805582774858276
```



Attributes in the SHAP values that are not aligning with the real-life medical scenario or common knowledge about heart disease risk factors:

- ChestPainType_TA (Negative SHAP): In the first set, ChestPainType_TA has a negative SHAP value, implying a lower contribution to the likelihood of heart disease. However, typically, any type of chest pain (including typical angina) is considered a significant symptom of potential heart issues. The negative SHAP value for ChestPainType_TA contradicts this expectation.

- RestingECG_ST (Negative SHAP): The negative SHAP value for RestingECG_ST suggests that having an ECG result showing ST-T wave abnormalities is contributing less to the likelihood of heart disease. However, ST-T wave abnormalities in ECG readings are often indicative of cardiac issues and are closely monitored by medical professionals.