• Choice of machine learning algorithm and justification.

Logistic Regression and Random Forest are well-suited for predicting weight categories based on demographic information, eating habits, and physical condition. Logistic Regression provides interpretable results, making it easy to understand the impact of each feature on the prediction. While assuming linearity, it can still capture non-linear relationships through appropriate feature engineering. On the other hand, Random Forest naturally handles non-linear relationships and complex interactions in the data, making it robust and effective. Despite being sensitive to outliers, Logistic Regression is computationally efficient and performs well with linear separable data. In contrast, Random Forest's ability to handle complex datasets and high dimensionality makes it a go-to choice for classification tasks. Overall, the balance between interpretability, performance, and robustness makes Logistic Regression and Random Forest suitable options for this prediction task.