# Heart Disease Prediction Project - Code Explanation

## 1. Importing Libraries

These libraries are essential for:

- pandas/numpy: data manipulation

- matplotlib/seaborn: plotting and visualization

- scikit-learn: model training, scaling, and evaluation

## 2. Loading the Dataset

The dataset is loaded from a CSV file. The `.head()` function shows the first few rows for preview.

## 3. Data Preprocessing

- X contains the features (medical inputs)

- y is the target (whether the person has heart disease)

This splits the data and scales it for better model performance.

## 4. Training the Model

The Random Forest Classifier is trained using the training data.

## 5. Making Predictions

The model makes predictions on unseen test data.

## 6. Evaluating the Model

This calculates and displays the overall accuracy. It also shows the confusion matrix visually.

## 7. Customizing Plot Style with rcParams

These rcParams settings define default plot size and font size for consistent visuals.

## Summary

The notebook performs end-to-end heart disease prediction using Random Forest. It includes:

- Data loading & cleaning

- Feature scaling

- Model training & testing

- Accuracy calculation

- Visualization of results