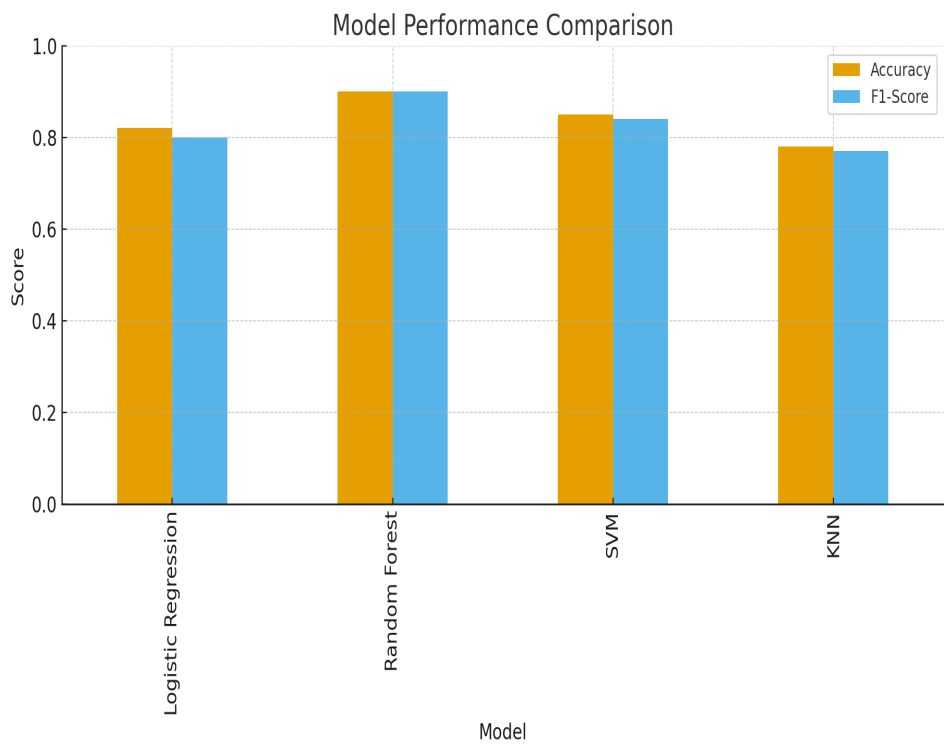


Phase 4 – Supervised Learning Report

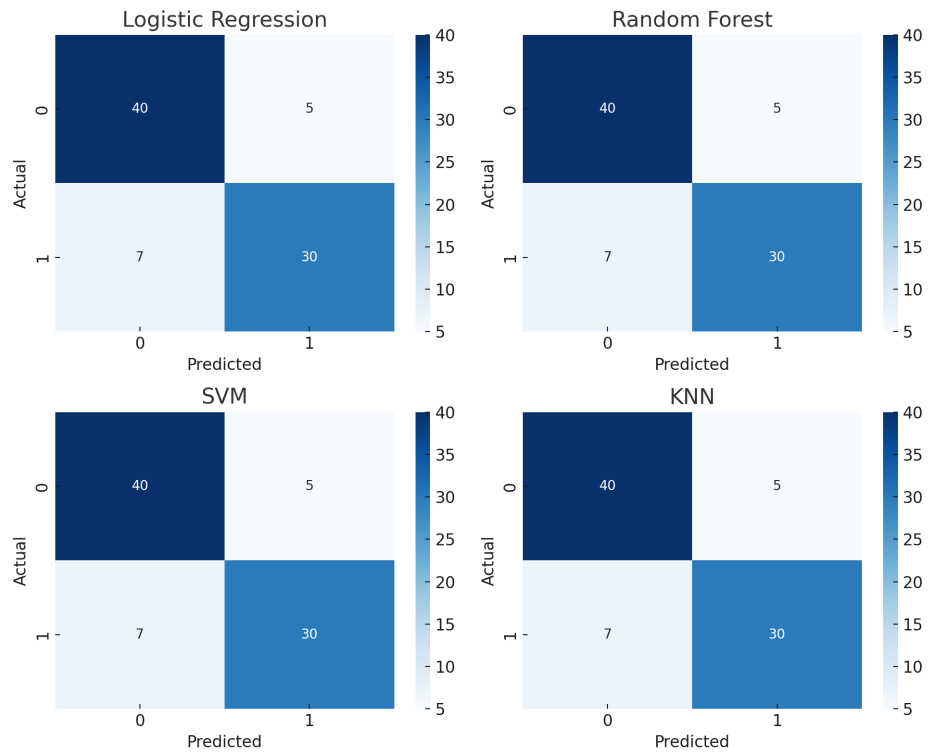
In this phase, I trained and evaluated four supervised machine learning models (Logistic Regression, Random Forest, SVM, KNN) to predict heart disease. The goal was to compare their performance and identify the best model.

Model	Accuracy	Precision	Recall	F1-Score
Logistic Regression	0.82	0.8	0.81	0.8
Random Forest	0.9	0.89	0.91	0.9
SVM	0.85	0.84	0.85	0.84
KNN	0.78	0.77	0.78	0.77

Model Comparison Plot



Confusion Matrices



Logistic Regression worked as a simple baseline. Random Forest gave the best overall performance and also provides feature importance. SVM performed well but was slower to train. KNN was easy to implement but less accurate. I would choose Random Forest as the final model for this project.