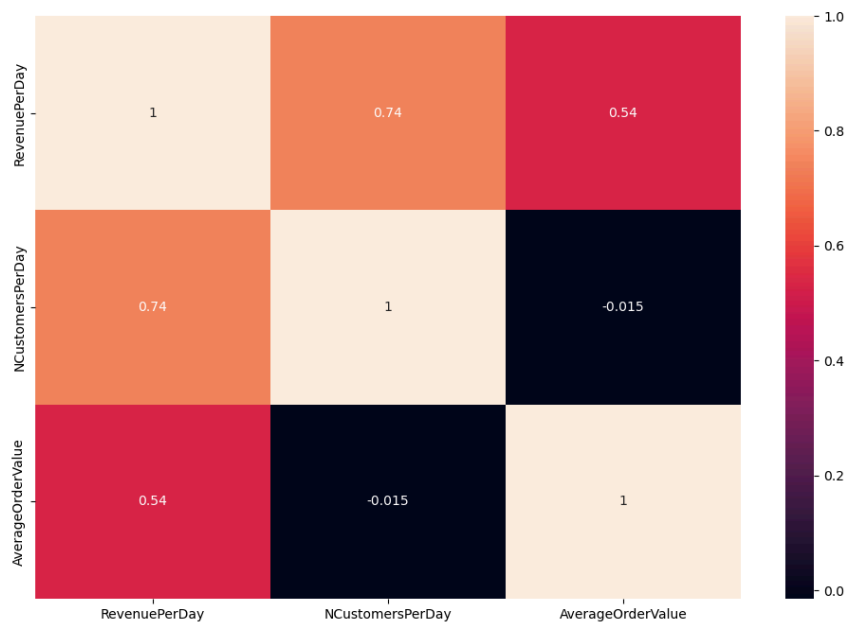# Polynomial regression Assignment
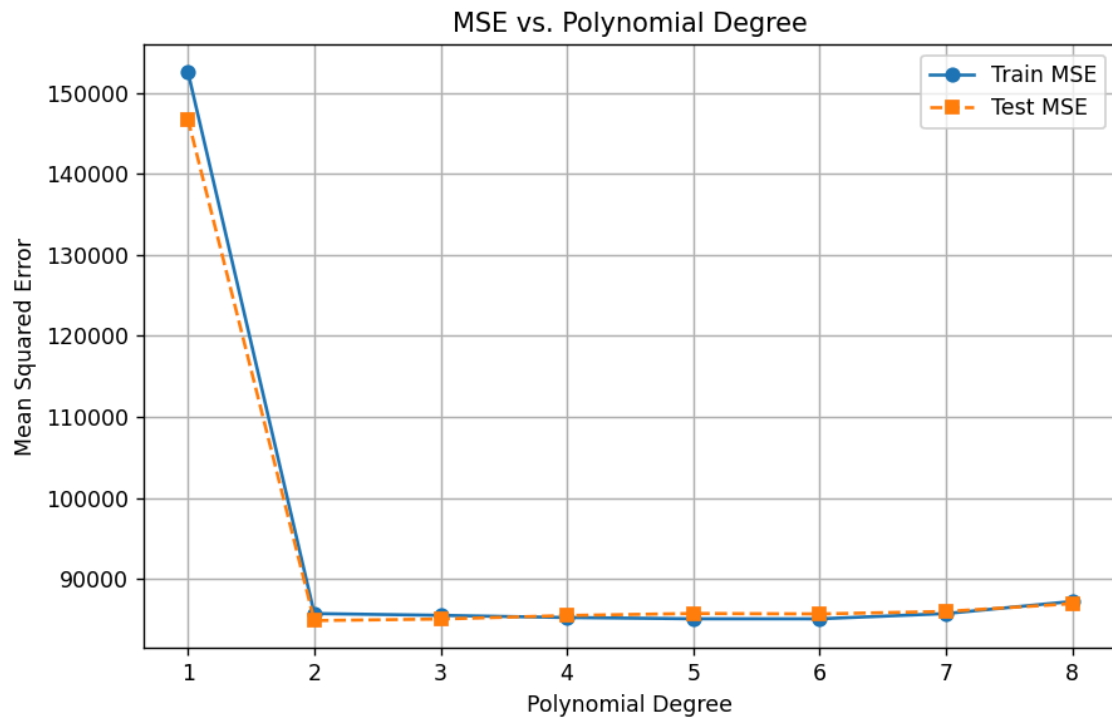
Name: Roaa mohamed lotfy mohamed

id : 2022170162

Department : Scientific computing (SC)

UMS level: 3

After inspecting the heap map the best 2 features are NCustomersPerDay, AverageOrderValue

MSE vs. Polynomial Degree

Conclusion: best degree is 3 as The MSE drops significantly from degree 1 to 2, showing that adding polynomial terms improves the model, Overfitting Starts After Degree 5 as Train MSE remains low, but Test MSE starts increasing slightly from degree 5 onwards indicating that higher-degree polynomials are fitting the training data well but are losing generalization ability for unseen data.