

## **1. Matrix Operations and Array Manipulation**

1. Create a 2D Array and Perform Slicing Operations
  2. Matrix Operations: Addition, Subtraction, Multiplication, Division, Transpose, and Diagonal Sum
  3. Square Matrix Operations: Inverse, Rank, Determinant, Eigenvalues, and Eigenvectors
  4. Perform Singular Value Decomposition (SVD) and Reconstruct the Matrix
- 

## **2. Data Visualization and Statistical Analysis**

5. Create a Scatter Plot for Sales Data Segments
  6. Bar Graph for Students' Mode of Transportation and Histogram for Age Distribution
  7. Exploratory Data Analysis (EDA) Using Iris Dataset
- 

## **3. Machine Learning and Predictive Analytics**

### **3.1 Supervised Learning**

8. K-Nearest Neighbors (KNN) Classification on Iris Dataset
9. Simple Linear Regression: Student Scores Dataset
10. Multiple Linear Regression: Company Data
11. Naive Bayes Classification: Iris Dataset

### **3.2 Unsupervised Learning**

12. K-Means Clustering for Customer Segmentation