# K-Means Customer Segmentation  
  
This project uses \*K-Means Clustering\* to segment mall customers based on their \*Annual Income\* and \*Spending Score\*.  
  
## 📌 Objective  
To identify different groups of customers for better marketing strategy using unsupervised learning.  
  
## 📁 Dataset  
- Dataset: [Mall Customer Segmentation Data on Kaggle](https://www.kaggle.com/datasets/vjchoudhary7/customer-segmentation-tutorial)  
- File used: Mall\_Customers.csv  
  
## 📊 Features Used for Clustering  
- Annual Income (k$)  
- Spending Score (1-100)  
  
## 🛠️ Technologies Used  
- Python  
- Pandas  
- Matplotlib  
- Scikit-learn  
  
## 📈 Steps Performed  
1. Loaded the dataset  
2. Selected relevant features  
3. Applied KMeans clustering (with 5 clusters)  
4. Visualized customer groups using a scatter plot  
  
## 🖼️ Output  
The model generated a plot with 5 distinct customer clusters, each represented by a different color based on income and spending behavior.  
  
## ▶️ How to Run  
Make sure you have the dataset in the same directory as the code file.  
  
```bash  
pip install pandas matplotlib scikit-learn  
python kmeans\_customer\_segmentation.py