**Customer Segmentation based on Annual Income and Spending Score**

This repository contains data of customers of a mall with their gender, age, annual income, spending score, profession, work experience, and family size. The data is used to perform customer segmentation based on their annual income and spending score, which can help mall owners to target their customers effectively.

**Data**

The data is provided in the **Mall\_Customers.csv** file, which contains 200 rows and 8 columns.

| **Column Name** | **Description** |
| --- | --- |
| CustomerID | Unique ID assigned to each customer |
| Gender | Gender of the customer |
| Age | Age of the customer |
| Annual Income | Annual income of the customer in dollars |
| Spending Score | Score assigned by the mall based on customer behavior and spending nature |
| Profession | Profession of the customer |
| Work Experience | Work experience of the customer in years |
| Family Size | Size of the customer's family |

**Methodology**

The customer segmentation is performed using K-means clustering algorithm in Python. The algorithm is used to group the customers into different segments based on their annual income and spending score.

**Results**

The results of customer segmentation are presented in the form of a scatter plot, where each customer is represented by a point in the 2-dimensional space of annual income and spending score. The customers are grouped into 5 segments based on their distance from the centroids of the clusters.

**Files**

The repository contains the following files:

* **Mall\_Customers.csv**: The data file containing customer data.
* **customer\_segmentation.ipynb**: The Jupyter Notebook containing the Python code for performing customer segmentation.
* **customer\_segmentation.html**: The HTML version of the Jupyter Notebook.

**Conclusion**

The customer segmentation based on annual income and spending score can help mall owners to identify their target customers and design their marketing strategies accordingly. The K-means clustering algorithm is a powerful tool for customer segmentation and can be used in various other domains as well.