MinMax Scaler,StandardScaler

Coding:

```
import matplotlib.pyplot as plt

from sklearn.preprocessing import MinMaxScaler

from sklearn.preprocessing import StandardScaler

import pandas as pd

shopping=pd.read_excel("file.xlsx")

print(shopping)

print("Min Max Scaler")

numeric_col=shopping.select_dtypes(include='number').columns

scaler=MinMaxScaler()

shopping_normalized=pd.DataFrame(scaler.fit_transform(shopping[numeric_col]),columns=
numeric_col)

print(shopping_normalized.head())

print("Standard Scaler")

numeric_col1=shopping.select_dtypes(include="number").columns

scaler=StandardScaler()

shopping_standardized=pd.DataFrame(scaler.fit_transform(shopping[numeric_col1]),column
s=numeric_col1)

print(shopping_standardized.head())

plt.figure(figsize=(8,6))

plt.hist(shopping['Avg_Price'],bins=10)

plt.title("Distribution of Sales", )

plt.xlabel("Avg_Price")

plt.ylabel("Frequency")

plt.show()
```

```
PS D:\python\week3> & "C:/Program Files/Python313/python.exe" d:/python/week3/ds3.py
       Unnamed: 0  CustomerID Gender Location  ...  Online_Spend  Month Coupon_Code Discount_pct
0               0     17850.0      M  Chicago  ...        2424.5      1      ELEC10         10.0
1               1     17850.0      M  Chicago  ...        2424.5      1      ELEC10         10.0
2               2     17850.0      M  Chicago  ...        2424.5      1      ELEC10         10.0
3               3     17850.0      M  Chicago  ...        2424.5      1      ELEC10         10.0
4               4     17850.0      M  Chicago  ...        2424.5      1      ELEC10         10.0
...           ...         ...    ...      ...  ...           ...    ...         ...          ...
52950       52950         NaN    NaN      NaN  ...           NaN     11        GC20         20.0
52951       52951         NaN    NaN      NaN  ...           NaN     11        NJ20         20.0
52952       52952         NaN    NaN      NaN  ...           NaN     10       AND10         10.0
52953       52953         NaN    NaN      NaN  ...           NaN     11       AND20         20.0
52954       52954         NaN    NaN      NaN  ...           NaN     12       AND30         30.0

[52955 rows x 21 columns]
Min Max Scaler
   Unnamed: 0  CustomerID  Tenure_Months  Transaction_ID  ...  Offline_Spend  Online_Spend  Month  Discount_pct
0    0.000000    0.927068       0.208333        0.000000  ...       0.888889      0.496674    0.0           0.0
1    0.000019    0.927068       0.208333        0.000031  ...       0.888889      0.496674    0.0           0.0
2    0.000038    0.927068       0.208333        0.000534  ...       0.888889      0.496674    0.0           0.0
3    0.000057    0.927068       0.208333        0.000629  ...       0.888889      0.496674    0.0           0.0
4    0.000076    0.927068       0.208333        0.000660  ...       0.888889      0.496674    0.0           0.0

[5 rows x 12 columns]
Standard Scaler
   Unnamed: 0  CustomerID  Tenure_Months  Transaction_ID  ...  Offline_Spend  Online_Spend     Month  Discount_pct
0   -1.732018    1.417059      -1.048214       -1.818890  ...       1.782934      0.658472 -1.695688     -1.224726
1   -1.731953    1.417059      -1.048214       -1.818774  ...       1.782934      0.658472 -1.695688     -1.224726
2   -1.731887    1.417059      -1.048214       -1.816924  ...       1.782934      0.658472 -1.695688     -1.224726
3   -1.731822    1.417059      -1.048214       -1.816577  ...       1.782934      0.658472 -1.695688     -1.224726
4   -1.731756    1.417059      -1.048214       -1.816461  ...       1.782934      0.658472 -1.695688     -1.224726

[5 rows x 12 columns]
```