

Client personality analysis_pro

April 8, 2024

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[2]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from scipy import stats
import os

#
current_dir = os.getcwd()
file_path = os.path.join(current_dir, 'marketing_campaign.csv')
df = pd.read_csv(file_path, sep='\t')

#
df.columns = df.columns.str.strip()
df.dropna(subset=['Income'], inplace=True) #

#
df['Total_Spend'] = df[['MntWines', 'MntFruits', 'MntMeatProducts',
↪ 'MntFishProducts', 'MntSweetProducts', 'MntGoldProds']].sum(axis=1)

#
median_income = df['Income'].median()
df['Income_Level'] = np.where(df['Income'] >= median_income, 'High', 'Low')

#
median_spend = df['Total_Spend'].median()
df['Spend_Level'] = np.where(df['Total_Spend'] >= median_spend, 'High', 'Low')

#
print("
: ")
print(df.groupby('Income_Level').mean(numeric_only=True)[['MntWines',
↪ 'MntFruits', 'MntMeatProducts', 'MntFishProducts', 'MntSweetProducts',
↪ 'MntGoldProds']])

print("\n
: ")
```

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print(df.groupby('Spend_Level').mean(numeric_only=True)[['MntWines',
↳ 'MntFruits', 'MntMeatProducts', 'MntFishProducts', 'MntSweetProducts',
↳ 'MntGoldProds']])

#
corr_matrix = df[['Income', 'Total_Spend']].corr()
print("\n          :")
print(corr_matrix)

#
plt.figure(figsize=(10, 6))
sns.heatmap(df[['Income', 'Total_Spend', 'MntWines', 'MntFruits',
↳ 'MntMeatProducts', 'MntFishProducts', 'MntSweetProducts', 'MntGoldProds']].
↳ corr(), annot=True, fmt=".2f")
plt.title("          ")
plt.show()

#
#
#####
#

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:
Income_Level  MntWines  MntFruits  MntMeatProducts  MntFishProducts \
High          536.996390  45.730144          298.539711          64.148917
Low           73.186823   6.981949          35.452166          11.126354

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MntSweetProducts  MntGoldProds
Income_Level
High              46.821300      65.460289
Low               7.236462      22.470217

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:
Spend_Level  MntWines  MntFruits  MntMeatProducts  MntFishProducts \
High          558.907040  47.259928          308.258123          67.452166
Low           51.276173   5.452166          25.733755          7.823105

```

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MntSweetProducts  MntGoldProds
Spend_Level
High              48.425090      71.704874
Low               5.632671      16.225632

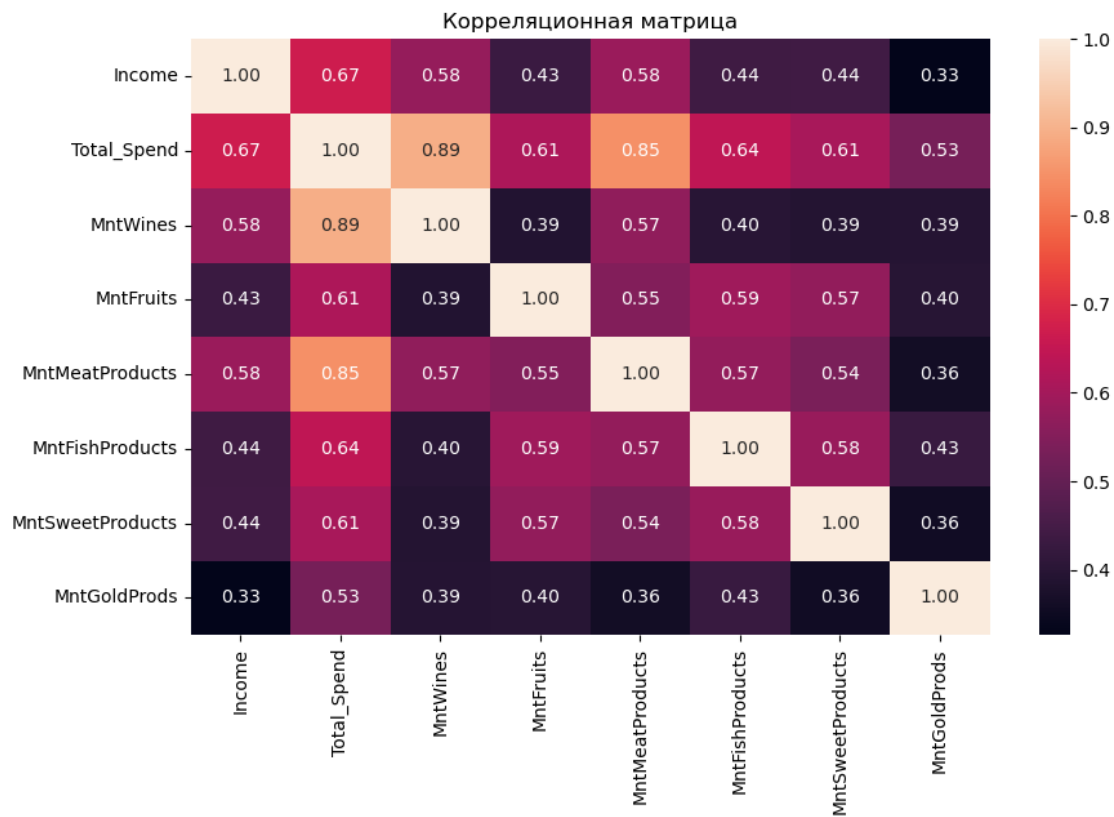
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:
Income  Total_Spend

```

Income	1.000000	0.667576
Total_Spend	0.667576	1.000000



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