Scenario

We want to see whether there is any relationship or correlation between frequency of purchases and average purchase amount.

Hypothesis

H0: There is no significant relationship between purchase frequency and purchase amount.

Ha: There is a significant relationship between purchase frequency and purchase amount.

Sig. Level

0.05 or 5%

Appropriate Test

Pearson correlation

(If normality assumed)

Performing Test

```
from scipy.stats import pearsonr

purchase_freq = preprocessed_data[‘Frequency_of_Purchases’]
purchase_amount = preprocessed_data[‘Average_Purchase_Amount’]

corr, p_value = pearsonr(purchase_freq, purchase_amount)

print("P-value:", p_value)
```

Decision & Conclusion

```
alpha = 0.05

if p_value < alpha:

    print("Reject the null hypothesis. There is a significant relationship between purchase frequency and purchase amount”)

else:

    print("Fail to reject the null hypothesis. There is no significant relationship between purchase frequency and purchase amount”)
```