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SID: 2463693
Class: MSc Computer Science
Subject: Machine Learning in Finance
Topic: Lab Logbook Week 2
Date: 10/05/2025

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[9] ✓ 0s #Lab Logbook Week 2
# Question Number 1
import pandas as pd
print("SID = 2463693")

SID = 2463693

[10] ✓ 0s df = pd.read_csv("adult_data_mini.csv")

[11] n = 3 #according to last number of my SID

[12] def hoursReduction(df, n):
    df['reduced_hours_per_week'] = df['hours-per-week'] - n
    return df

[13] df = hoursReduction(df, n) #calling reduction function

[20] ✓ 0s group_original = df.groupby(['relationship', 'hours-per-week']).size().reset_index(name='count')

[22] ✓ 0s group_reduced = df.groupby(['relationship', 'reduced_hours_per_week']).size().reset_index(name='count')

[17] ✓ 0s print("Unaltered File:\n", group_original.head())
print("\nAltered and Reduced File:\n", group_reduced.head())

Unaltered File:
  relationship  hours-per-week  count
0      Husband              13      1
1      Husband              40      4
2      Husband              45      1
3      Husband              80      1
4  Not-in-family              16      1

Altered and Reduced File:
  relationship  reduced_hours_per_week  count
0      Husband              10      1
1      Husband              37      4
2      Husband              42      1
3      Husband              77      1
4  Not-in-family              13      1
```

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def hoursReduction(df, n):
    df['reduced_hours_per_week'] = df['hours-per-week'] - n
    return df
df = hoursReduction(df, n) #calling reduction function
group_original = df.groupby(['relationship', 'hours-per-week']).size().reset_index(name='count')
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print("Unaltered File:\n", group_original.head())  
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