LAB Logbook-2443834

Lab 1

A screenshot of a computer

AI-generated content may be incorrect.

Code:

1. a=np.arange(00,34)

print(a)

1. a=a.reshape(1,-1)

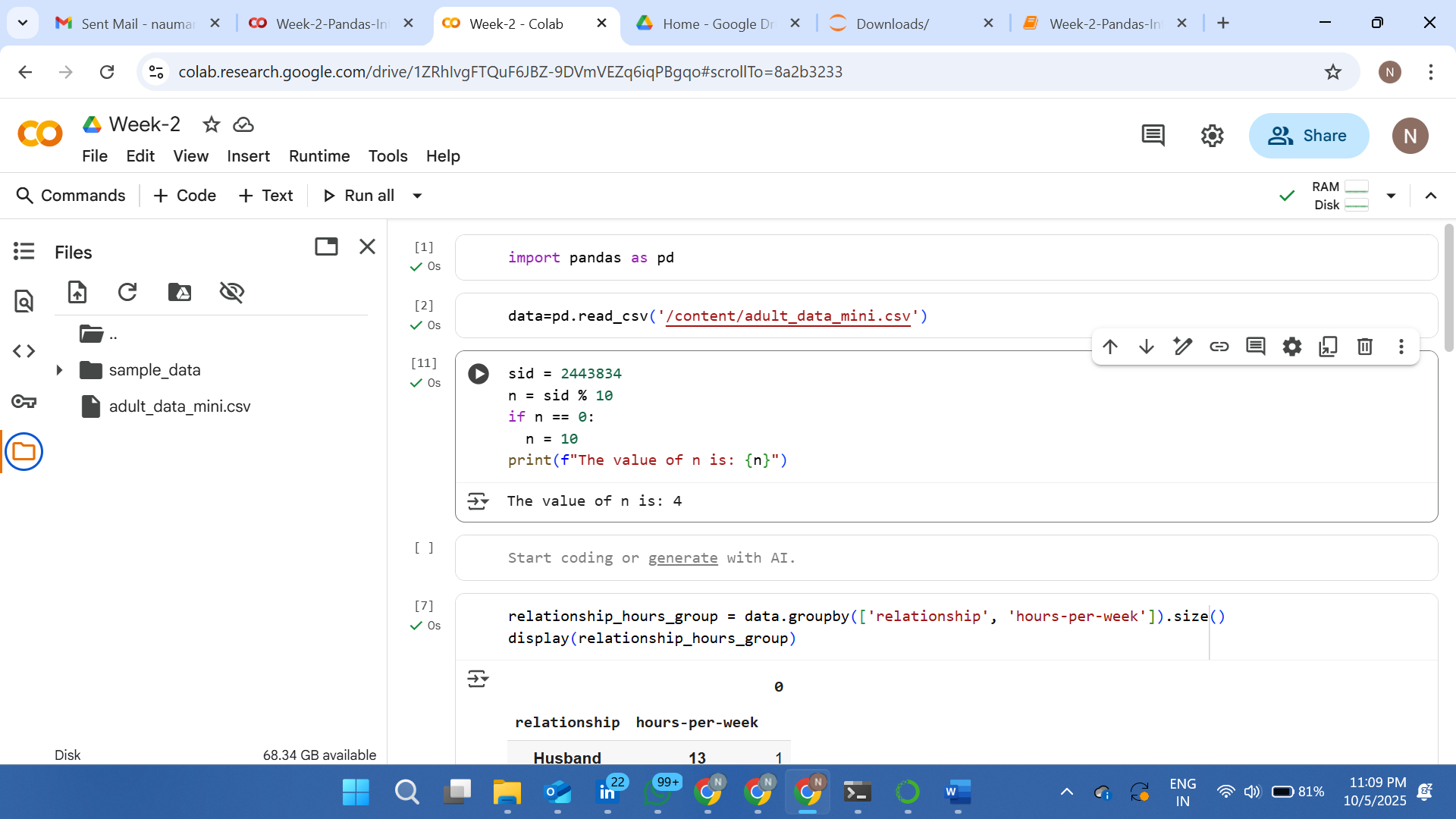
a

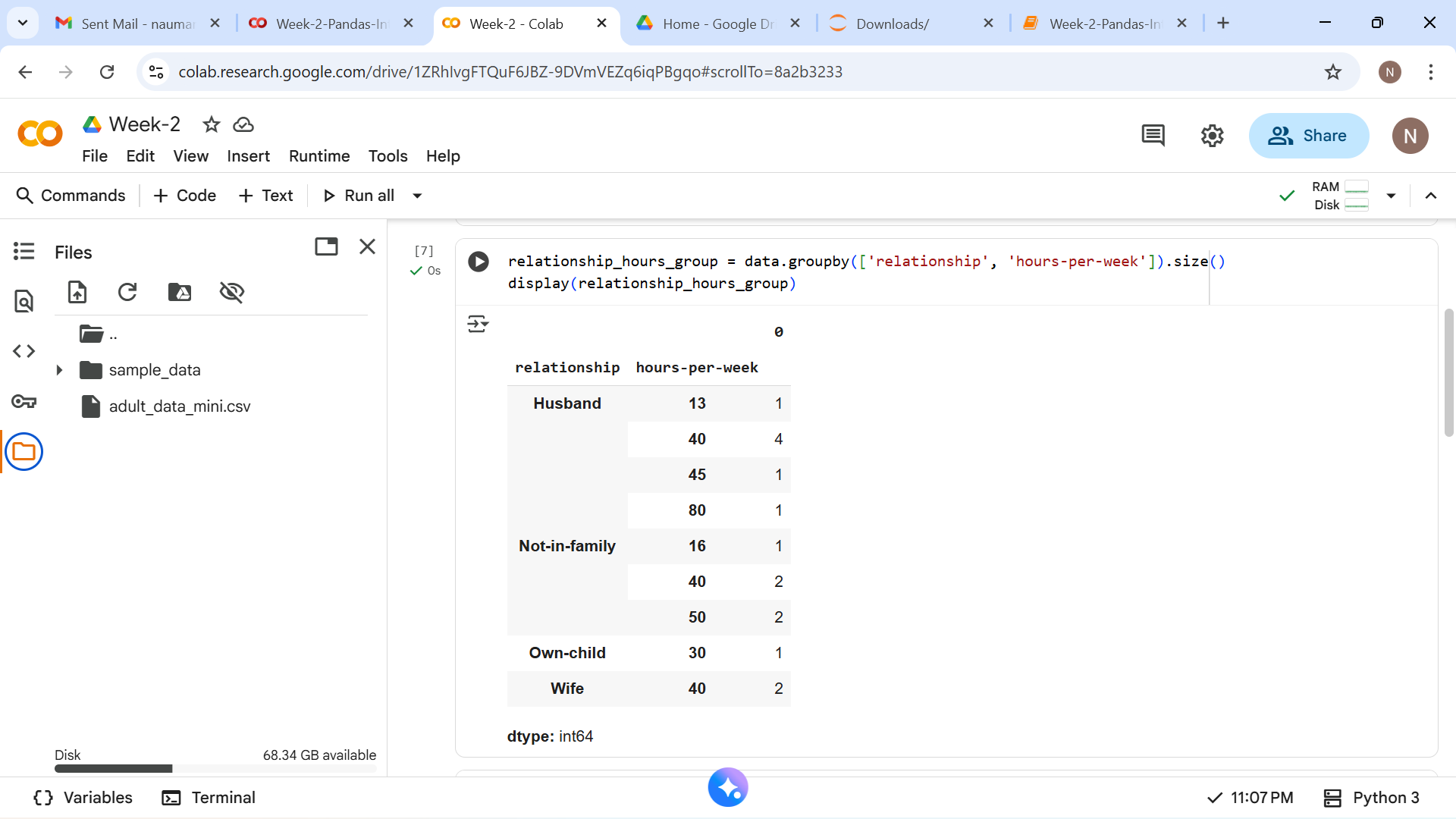
1. print(a.shape)

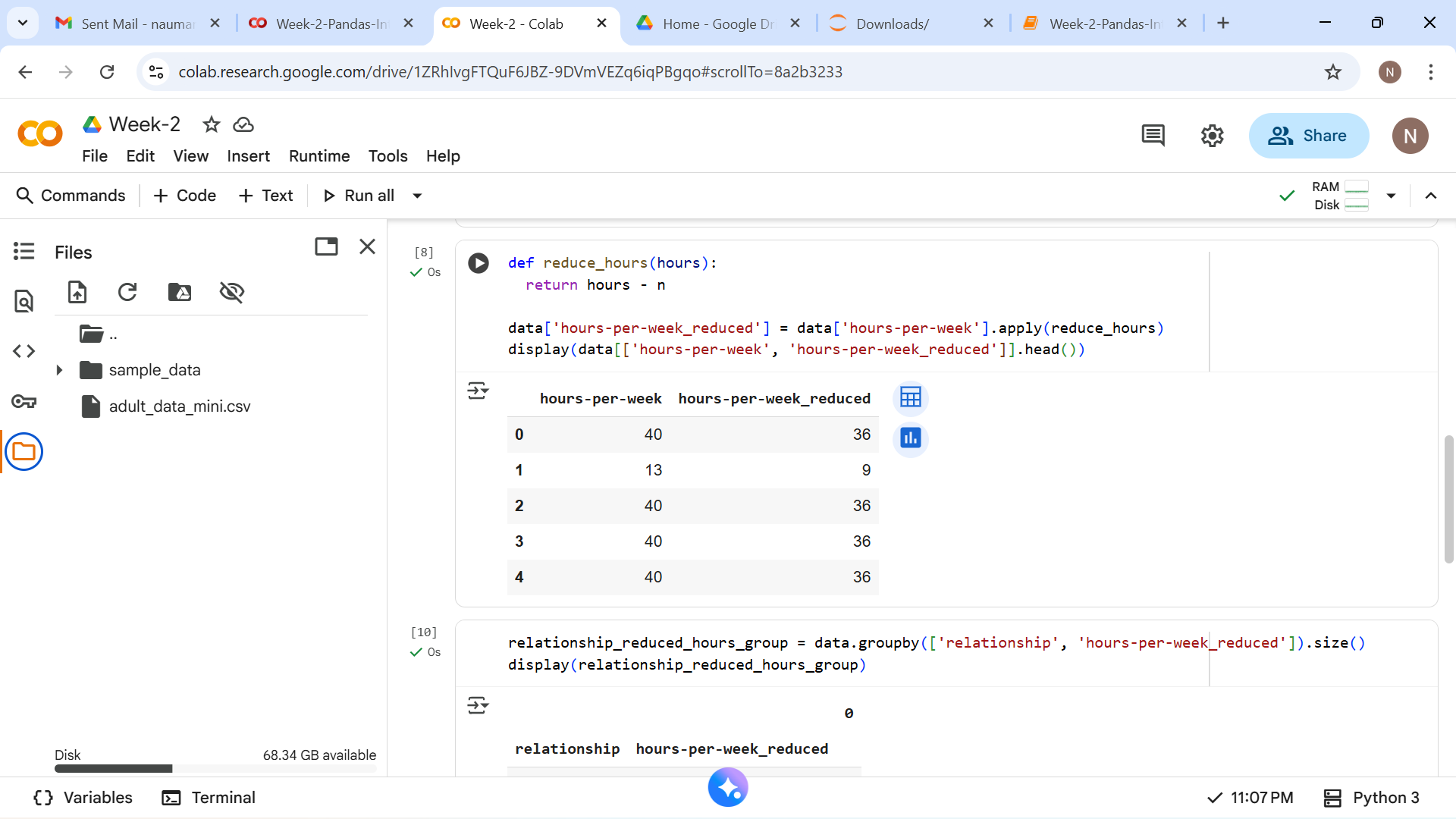
Githublink: <https://github.com/Nauman7861/Log-book/blob/c7f384d4e79525a0be2297ba2ac925b8cc8680cf/Lab_1.ipynb>

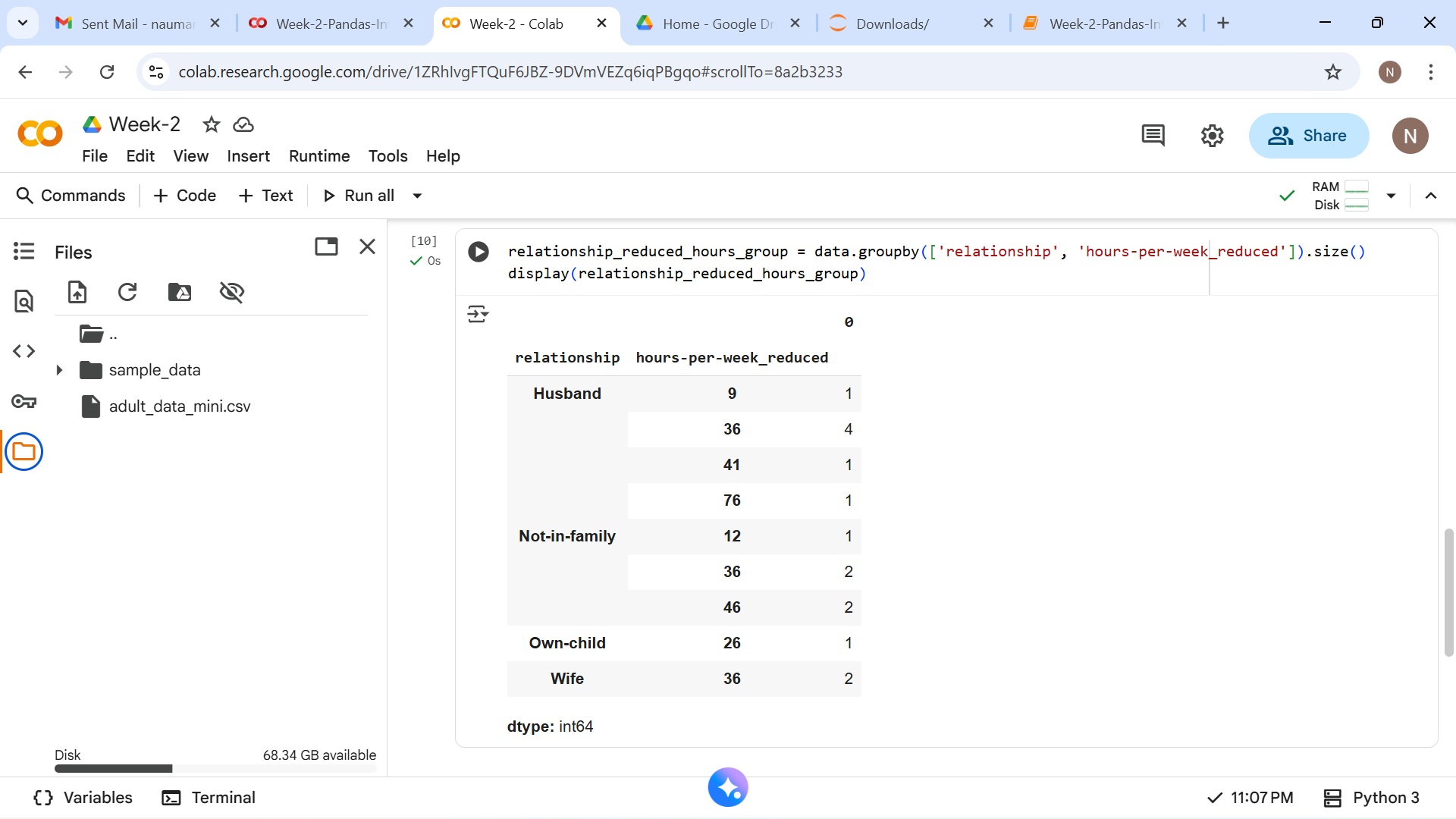
Lab 2

Screenshots:









Code:

1. sid = 2443834

n = sid % 10

if n == 0:

  n = 10

print(f"The value of n is: {n}")

1. relationship\_hours\_group = data.groupby(['relationship', 'hours-per-week']).size()

display(relationship\_hours\_group)

1. def reduce\_hours(hours):

return hours - n

data['hours-per-week\_reduced'] = data['hours-per-week'].apply(reduce\_hours)

display(data[['hours-per-week', 'hours-per-week\_reduced']].head())

1. relationship\_reduced\_hours\_group = data.groupby(['relationship', 'hours-per-week\_reduced']).size()

display(relationship\_reduced\_hours\_group)

<https://github.com/Nauman7861/Log-book/blob/main/Week_2.ipynb>

Lab 3

Code:

#sid:2443834

col1\_index = 3

col2\_index = 4

column\_list = [

    'Account length',

    'Total day calls',

    'Total day charge',

    'Total eve calls',

    'Total eve charge',

    'Total night calls',

    'Total night charge',

    'Total intl calls',

    'Total intl charge',

    'Customer service calls'

]

col1\_name = column\_list[col1\_index - 1]

col2\_name = column\_list[col2\_index - 1]

plt.figure(figsize=(10, 6))

sns.scatterplot(data=data, x=col1\_name, y=col2\_name, hue='Churn', palette='coolwarm')

plt.title(f'Interaction between {col1\_name} and {col2\_name} by Churn')

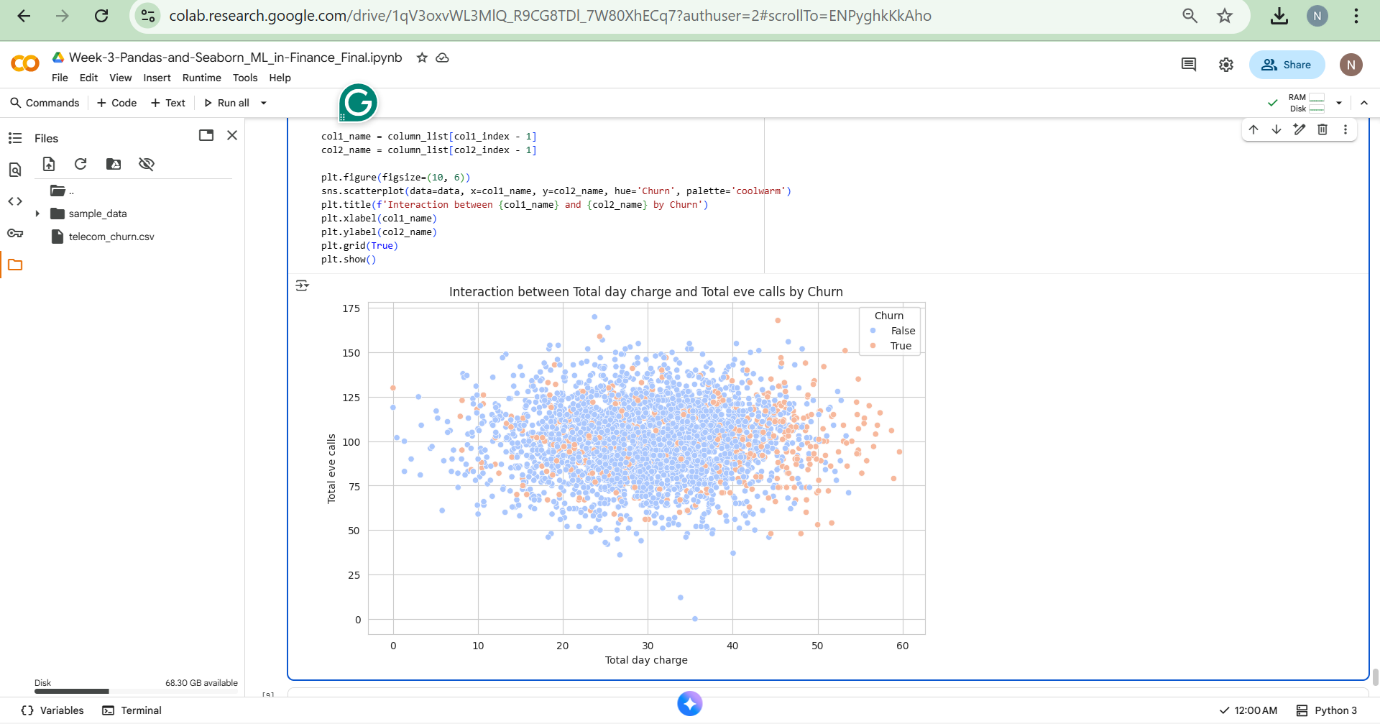
plt.xlabel(col1\_name)

plt.ylabel(col2\_name)

plt.grid(True)

plt.show()

Photos:



Lab 4

Lab 5

Lab 6

Lab 7

Lab 8

Lab 9

Lab 10

Lab 11

Lab 12