https://github.com/HemanthLakkimsetti76/NeuralNetworks_Assign4/blob/main/NN_Assignment4.ipynb

Neural Network Deep Learning

1. Data Manipulation

a. Read the provided CSV file 'data.csv'.

b. https://drive.google.com/drive/folders/1h8C3mLsso-R-sIOLsvoYwPLzy2fJ4IOF?usp=sharing

c. Show the basic statistical description about the data.

d. Check if the data has null values. i. Replace the null values with the mean

e. Select at least two columns and aggregate the data using: min, max, count, mean.

f. Filter the dataframe to select the rows with calories values between 500 and 1000.

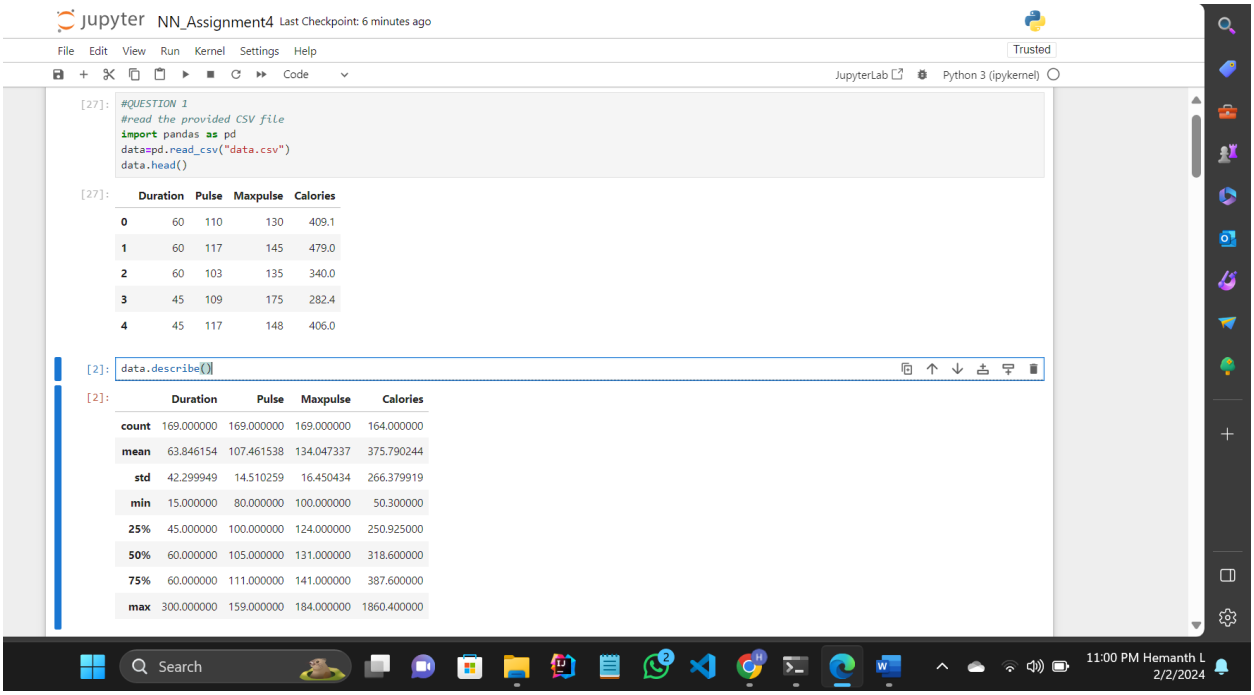
g. Filter the dataframe to select the rows with calories values > 500 and pulse < 100.

h. Create a new "df_modified" dataframe that contains all the columns from df except for "Maxpulse".

i. Delete the "Maxpulse" column from the main df dataframe

j. Convert the datatype of Calories column to int datatype.

k. Using pandas create a scatter plot for the two columns (Duration and Calories).



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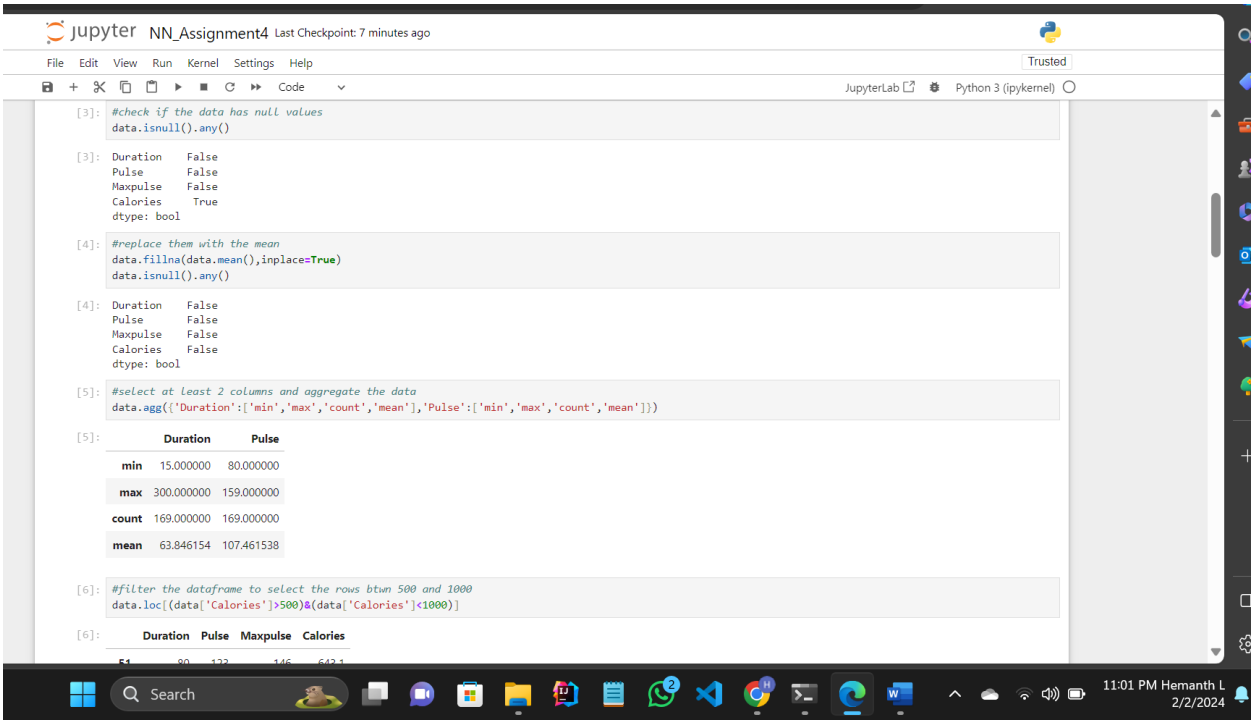

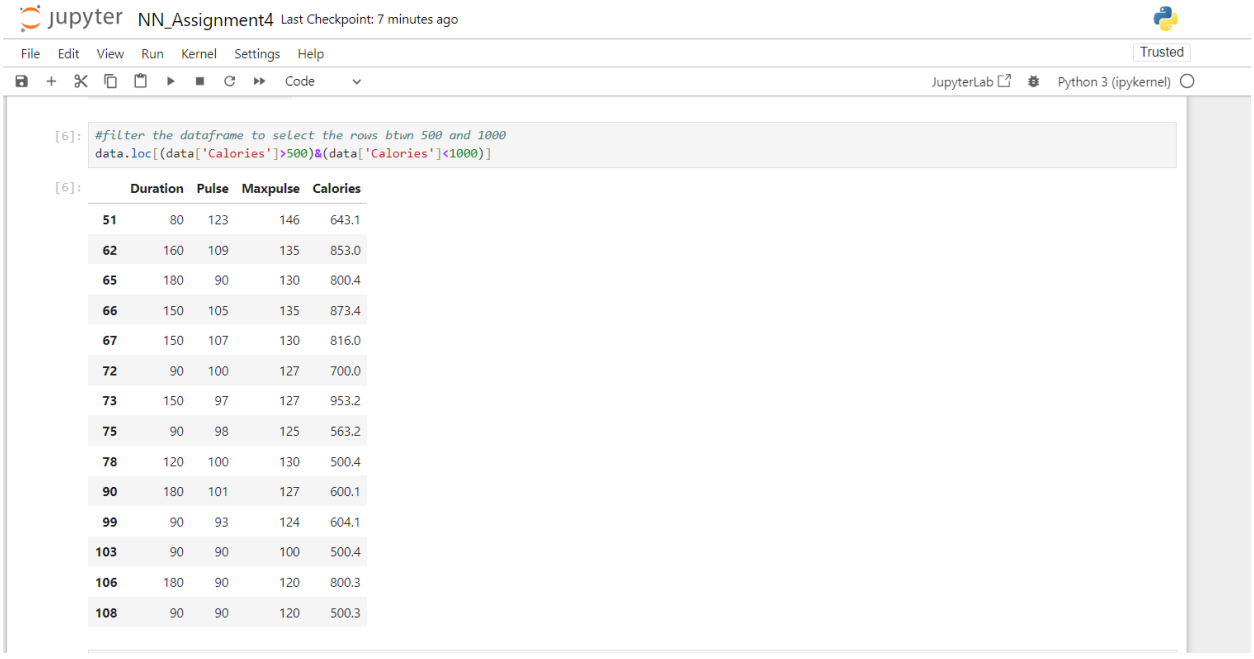

	Duration	Pulse	Maxpulse	Calories
51	80	123	146	643.1
62	160	109	135	853.0
65	180	90	130	800.4
66	150	105	135	873.4
67	150	107	130	816.0
72	90	100	127	700.0
73	150	97	127	953.2
75	90	98	125	563.2
78	120	100	130	500.4
90	180	101	127	600.1
99	90	93	124	604.1
103	90	90	100	500.4
106	180	90	120	800.3
108	90	90	120	500.3

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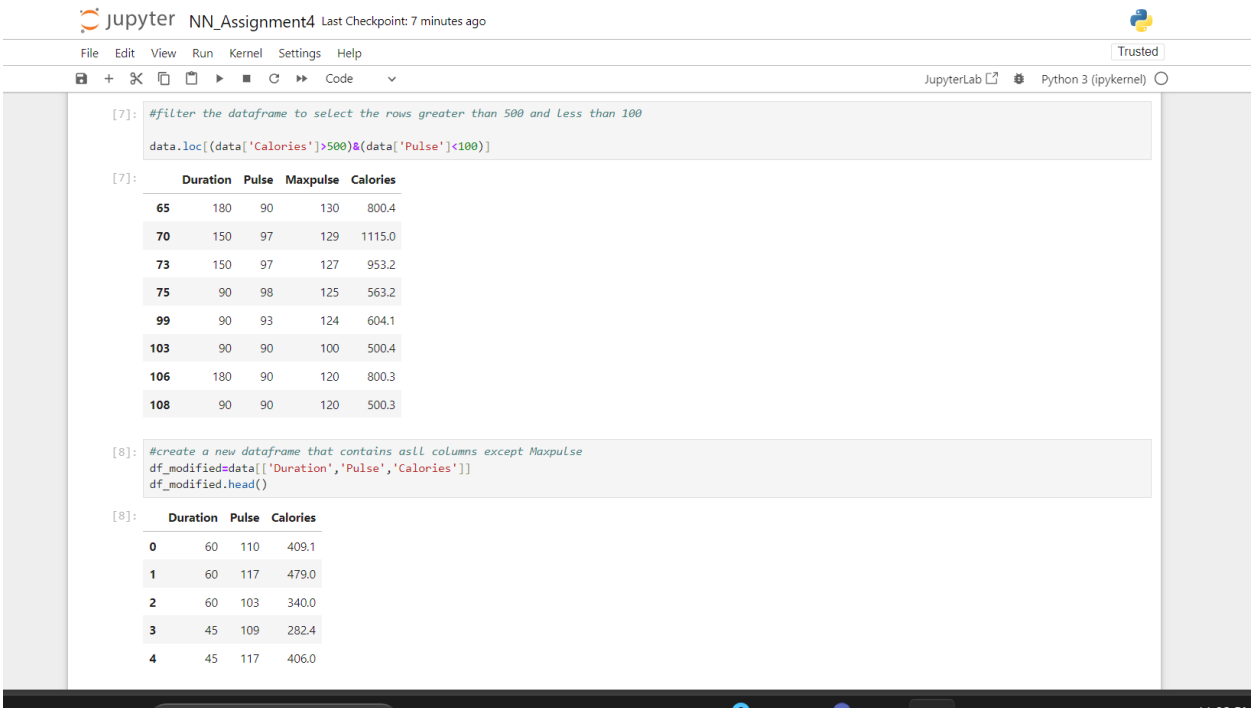

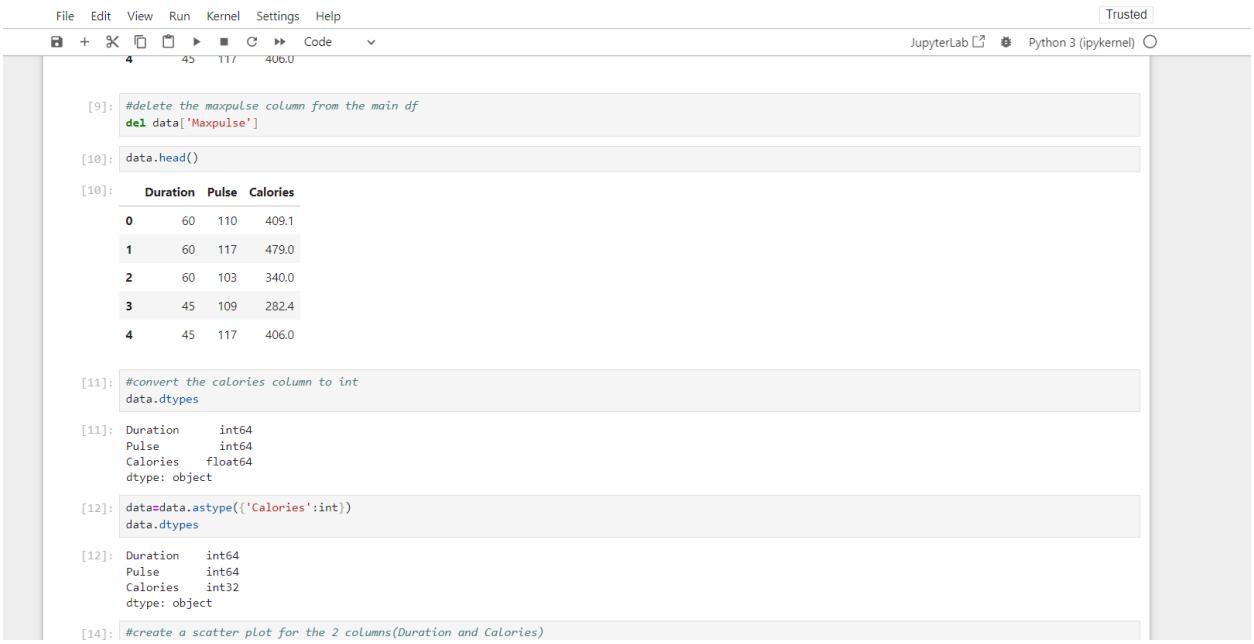

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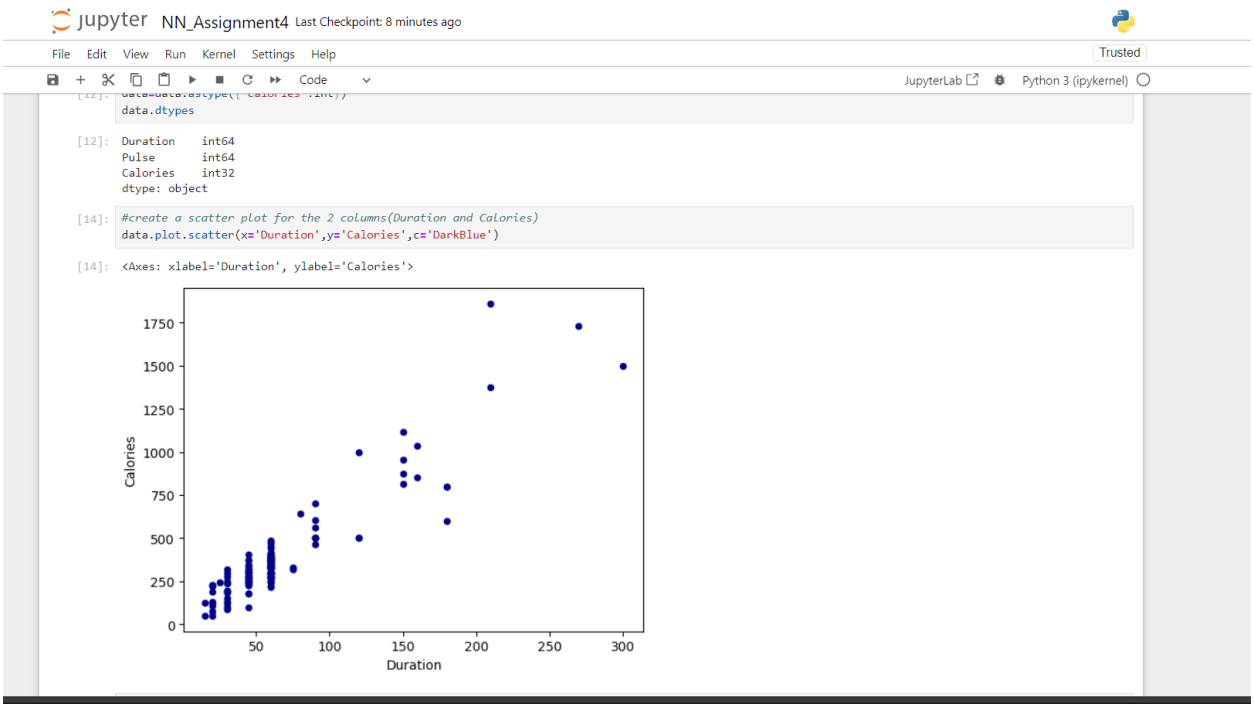

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2. Linear Regression

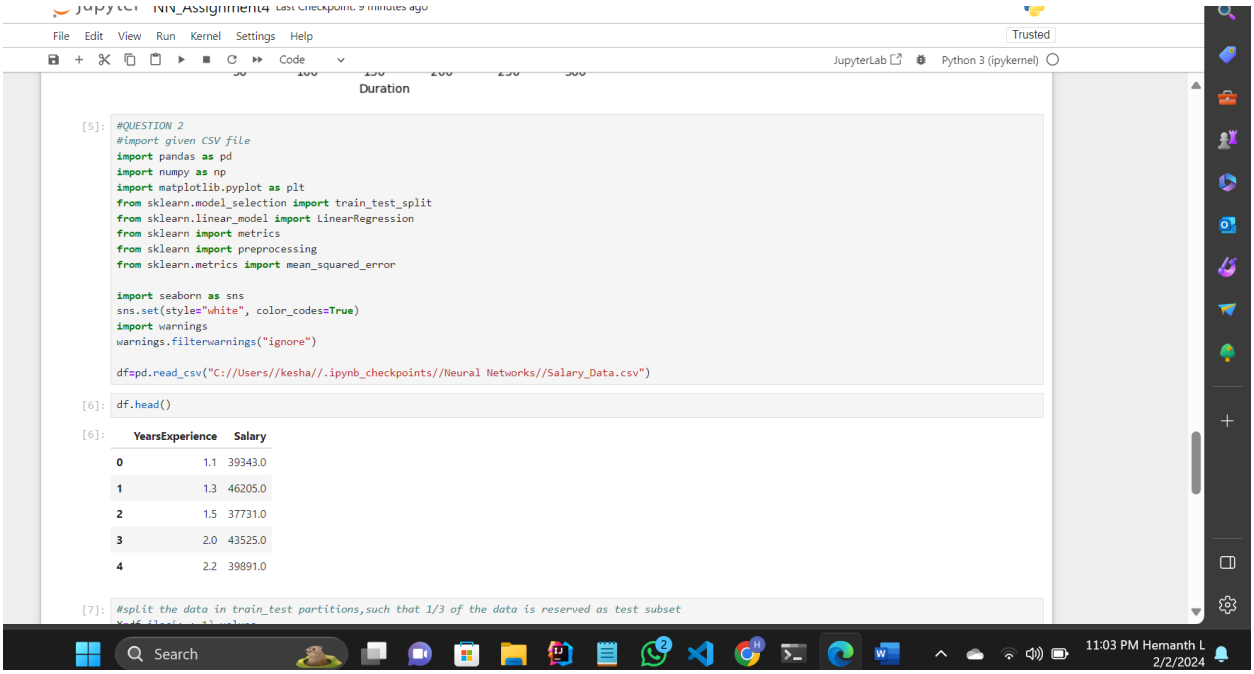
a) Import the given “Salary_Data.csv”

b) Split the data in train_test partitions, such that 1/3 of the data is reserved as test subset.

c) Train and predict the model.

d) Calculate the mean_squared error

e) Visualize both train and test data using scatter plot.



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[9]:
```
21026037.329511296
```

[10]:
```
#visualize both train and test data using scatter plot
plt.title("Training Data")
plt.xlabel('Years of Experience')
plt.ylabel('Salary')
plt.scatter(X_Train,Y_Train)
plt.show
```

[10]:
```
<function matplotlib.pyplot.show(close=None, block=None)>
```