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**ASSIGNMENT 4**

**NEURAL NETWORKS AND DEEP LEARNING**

1. Data Manipulation
2. Read the provided CSV file ‘data.csv’.
3. <https://drive.google.com/drive/folders/1h8C3mLsso-R-sIOLsvoYwPLzy2fJ4IOF?usp=sharing>

**Graphical user interface, text

Description automatically generated**

1. Show the basic statistical description about the data.

A picture containing text

Description automatically generated

1. Check if the data has null values.

Graphical user interface, text

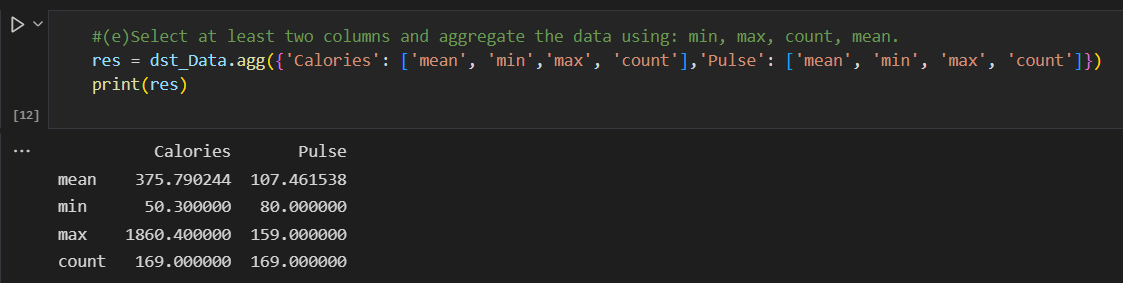
Description automatically generated

d(i). Replace the null values with the mean

Text

Description automatically generated with medium confidence

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



1. Filter the dataframe to select the rows with calories values between 500 and 1000.
2. Filter the dataframe to select the rows with calories values > 500 and pulse < 100.

Text

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1. Create a new “df\_modified” dataframe that contains all the columns from df except for “Maxpulse”.

Text

Description automatically generated

1. Delete the “Maxpulse” column from the main df dataframe
2. Convert the datatype of Calories column to int datatype.

Text

Description automatically generated

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

Chart, scatter chart

Description automatically generated

1. Linear Regression
2. Import the given “Salary\_Data.csv”

Text

Description automatically generated

1. Split the data in train\_test partitions, such that 1/3 of the data is reserved as test subset

A screenshot of a computer

Description automatically generated with medium confidence

1. Train and predict the model

Text

Description automatically generated

1. Calculate the mean\_squared error

Text

Description automatically generated

1. Visualize both train and test data using scatter plot.

Chart

Description automatically generated with low confidence

Chart, line chart

Description automatically generated