

Read me:

I am using mac os and the IDE that i have used is pycharm, it is also running fine in visual studio code, if all the plugins are installed.

The project folder contains the 3 folders

- 1) code and csv files - contains the code and csv files
- 2) screenshots - contains all the screenshots added in the report
- 3) report - contains the report

To run the codes

- 1) **Organize your data** : python file name is '2.py' and to run it, pls provide the csv file name 'insurance.csv' and provide the percentage of the test cse also in the command line.
Eg **python3 2.py insurance.csv 0.2**
- 2) **Plot your data** : run the python file '3.py'
That is **python3 3.py**
- 3) **Execute a linear regression for each independent variable**: python file to run this is '4.py' and in order to run it, please type as per below
python3 4.py
Graphs are generated along with it
- 4) **Execute a multiple linear regression**:
python file to run this is '5.py' and in order to run it, please type as per below
python3 5.py
Graphs are generated along with it
- 5) **Execute a linear regression with a polynomial model**:
python file to run this is '6.py' and in order to run it, please type as per below
python3 6.py
Output is generated in the terminal
- 6) **Implement Principal Components Analysis**:
python file to run this is '7.py' and in order to run it, please type as per below
python3 7.py
Output is generated in the terminal
- 7) **Apply PCA**
python file to run this is '8.py' and in order to run it, please type as per below
python3 8.py
Output is generated in the terminal
- 8) **Implement multiple linear regression on the projected data**
python file to run this is '9.py' and in order to run it, please type as per below
python3 9.py
Output is generated in the terminal
- 9) **Extensions**:
I have used the ridge or lasso regression on my data and python filename for running the extension is as given below:
python3 extensions.py

I have not used any time travel days for this project and the project is submitted before the due date.