

Assignment-4

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Roll No: 2018IMT-061

Course: Machine Learning Lab

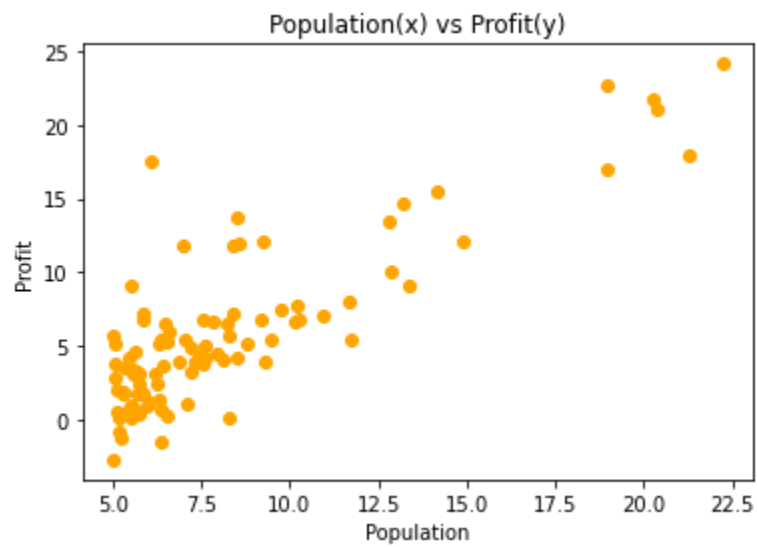
Course Code: ITIT-4107-2021

Deadline: 18 Oct 2021

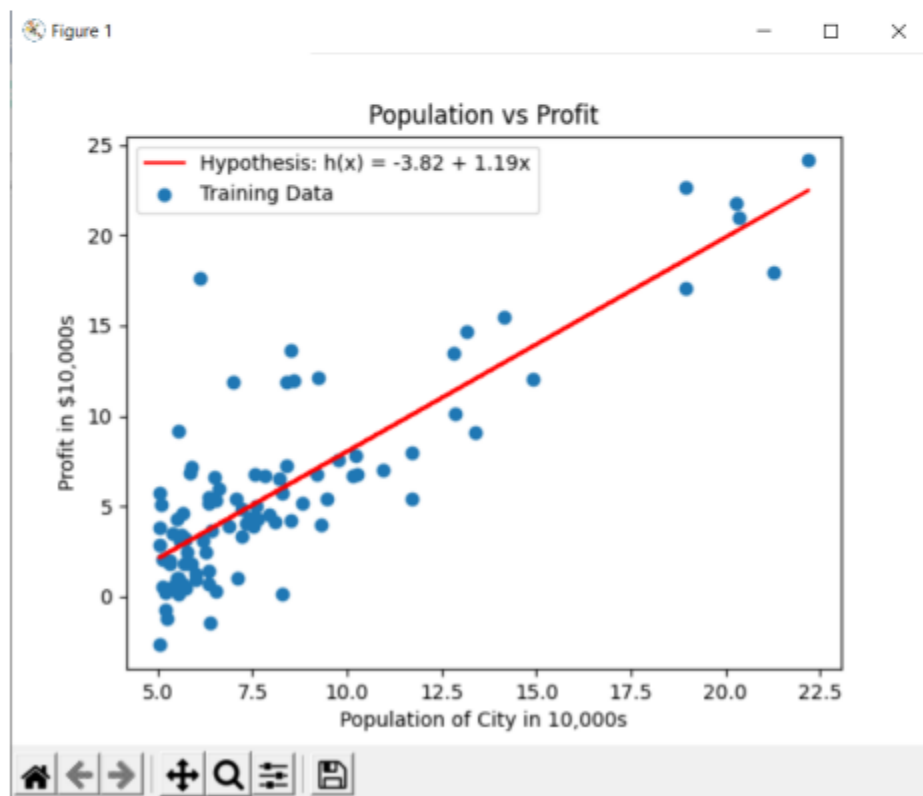
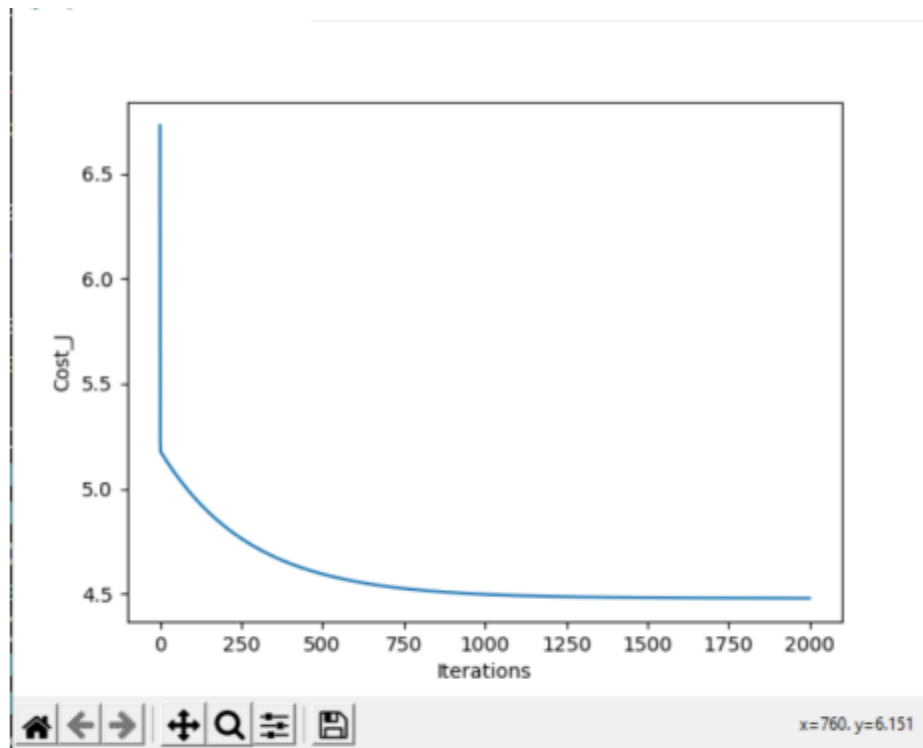
Objective:

1. Use a scatter plot to visualize the data, since it has only two properties to plot (profit and population).
2. Consider a simple linear model with two parameters and one input variable and mean square error cost function to implement the gradient descent algorithm to find the intercepts. Assume a suitable terminating condition.
3. Plot the model alongside the scatter plot to show the fit model.
4. Perform steps 1,2,3 in batch mode for varying values of alpha, learning rate and plot the results.
5. For each of the experiments performed above in steps 1,2,3,4 with varying learning rates visualize the cost function as a contour plot as well as plot the values of parameters to visualize the stepwise traversal of the parameters on this contour plot.

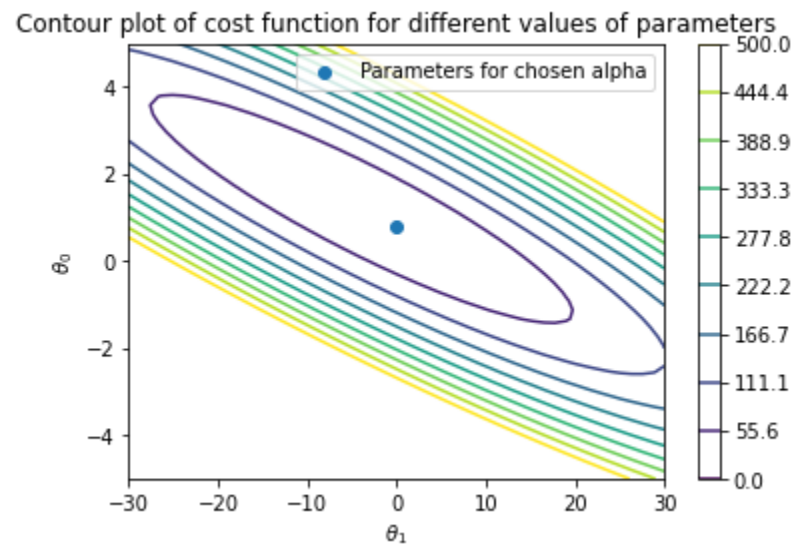
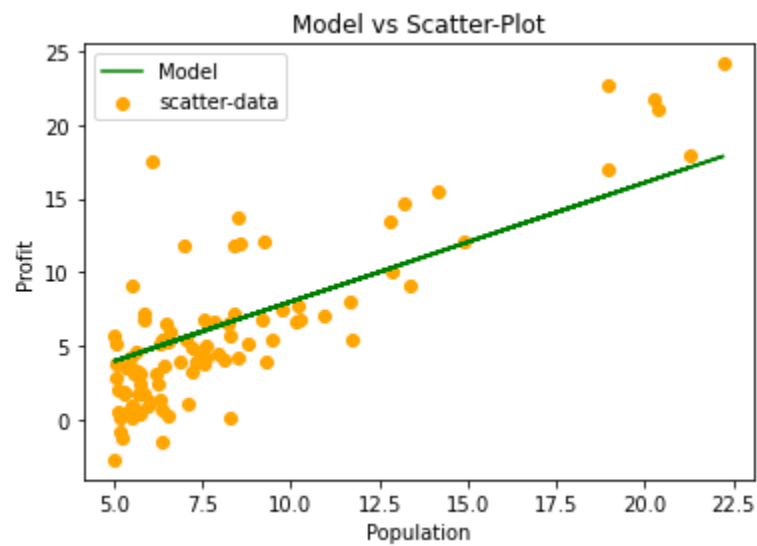
- Read data using panda
- Plot x and y –



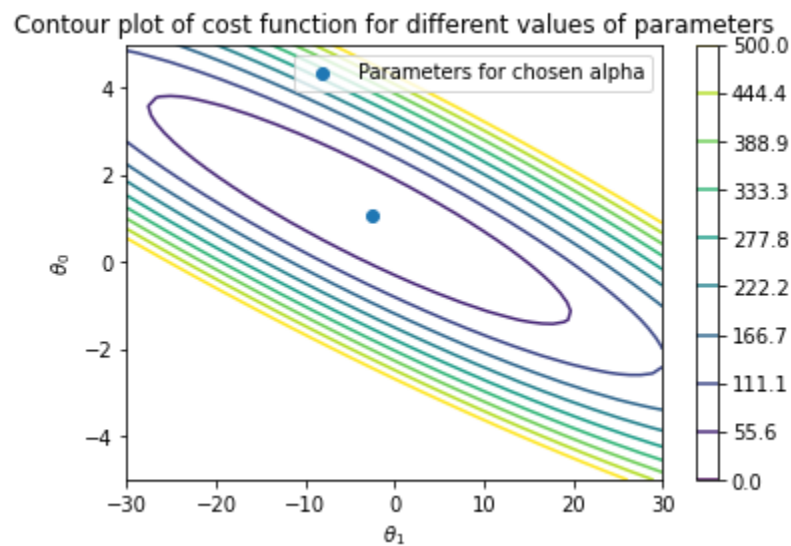
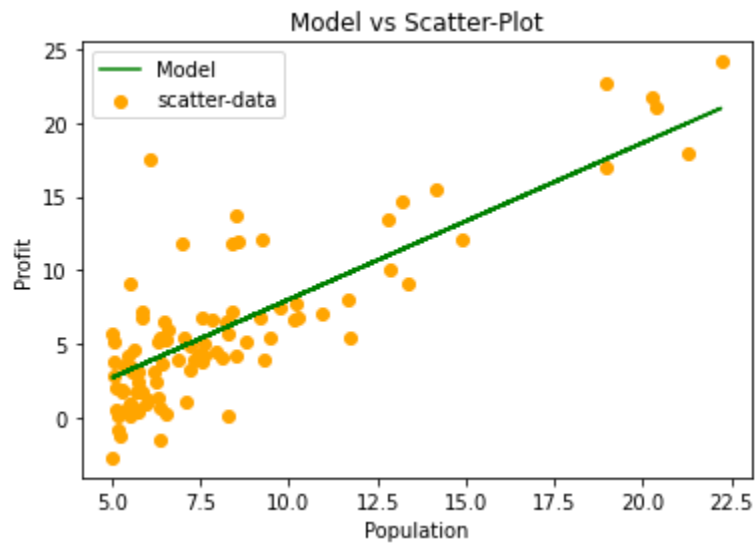
- Learning rate 0.01



Learning rate 0.001



Learning rate 0.0001



Github :

<https://github.com/PankajAhakey-tech/ITIT-4103-2021/tree/main/Assignment-4>