Assignment 3

Foundations of Machine Learning (**CS564**)

Date:- 11-10-2023 **Deadline:-24-10-2023**

Instructions:

1. **Coding must be done using python and you are not supposed to use already available libraries of regression algorithms.**
2. All the assignments should be completed and uploaded before the deadline.
3. Markings will be based on the correctness and soundness of the outputs. Marks will be deducted in case of plagiarism.
4. Proper indentation and appropriate comments are mandatory.
5. You should zip all the required files and name the zip file as ***roll_no*.zip**, eg. **1501cs11.zip. 6.** Upload your assignment (**the zip file**) in the following link:

https://docs.google.com/forms/d/e/1FAIpQLSfwnSjxuSb_H1G-lmHyBOs7MCG5q3L8aH1Myg9geuMGPEn7tg/viewform?usp=sf_link

1. Build a predictive linear regression model to estimate insurance premiums using a dataset named "insurance.csv." Visualize the data distribution by creating a scatter plot with a separable line. The x-axis should represent "BMI," and the y-axis should depict "Insurance Charges".

   Apply the gradient descent method to optimise the cost using the provided learning rate of 0.000001.

2. Please provide precise documentation(**pdf format only**) of your assignment