Luggage Bags Cost Prediction

The dataset attached contains the data of 160 different bags associated with ABC industries. The bags have certain attributes which are described below:

1. Height – The height of the bag
2. Width – The width of the bag
3. Length – The length of the bag
4. Weight – The weight the bag can carry
5. Weight1 – Weight the bag can carry after expansion

The company now wants to predict the cost they should set for a new variant of these kinds of bags based on the attributes below. As a result, they want you to build a prediction model which can correctly set the cost of the bag provided the attributes are given. The task involves the following things:

- Analyse the dataset and do EDA(Exploratory Data Analysis) – 4 Marks
- Plotting of various graphs & correlations – 4 Marks
- Model Building using Multiple Linear Regression – 12 Marks [3 Marks for each SGD, Mini Batch, Gradient Descent, Normal SK-Learn library]
- Calculating the R squared, RMSE and MSE for the model - 4 Marks

Please note that the code should be well commented and submitted with outputs in an Ipython notebook. Please note that that this is a real-world dataset. And the hints for code of Gradient descent is given below.

Dataset : **Data_miniproject.csv**