

Diabetes Dataset_Jithin

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0.1 Use Diabetes Dataset from Sklearn in python and do the following

- 1) Find the coefficients
- 2) Find the mean-squared error
- 3) Find the variance score
- 4) Plot the regression line

```
In [24]: from sklearn import datasets
         from sklearn import linear_model
         from sklearn.metrics import mean_squared_error, r2_score, explained_variance_score
         import matplotlib.pyplot as plt
```

```
In [9]: diabetes=datasets.load_diabetes()
        x=diabetes.data
        y=diabetes.target
```

```
In [22]: regr=linear_model.LinearRegression()
         regr.fit(x,y)
         y_pred=regr.predict(x)
         mse=mean_squared_error(y,y_pred)
         r2=r2_score(y,y_pred)
         exp_variance=explained_variance_score(y, y_pred)
```

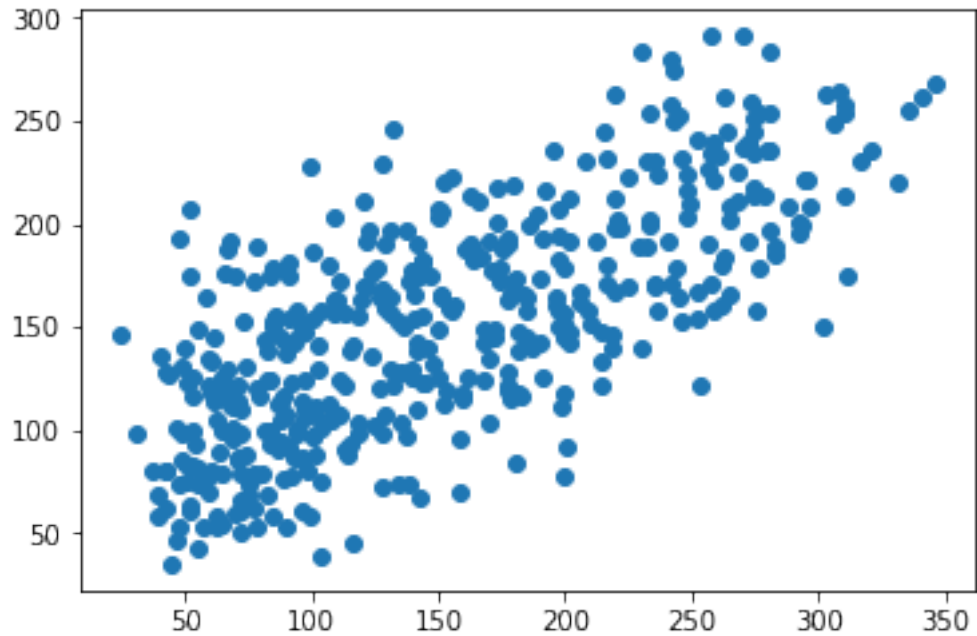
0.1.1 Coefficients of Linear Equation, Mean Squared Error, R2 Score, Explained Variance Score

```
In [23]: print("Coefficients of Linear Equation : ",regr.coef_)
         print("Mean Squared Error : ",mse)
         print("R2 Score :",r2)
         print("Explained Variance Score :",exp_variance)
```

```
Coefficcients of Linear Equation :  [ -10.01219782 -239.81908937  519.83978679  324.39042769 -79
    476.74583782  101.04457032  177.06417623  751.27932109  67.62538639]
Mean Squared Error :  2859.6903987680657
R2 Score :  0.5177494254132934
Explained Variance Score :  0.5177494254132934
```

```
In [28]: import matplotlib.pyplot as plt
plt.scatter(y,y_pred)
```

```
Out[28]: <matplotlib.collections.PathCollection at 0x7f0411534630>
```



0.2 Plotting the Regression Line

```
In [29]: import matplotlib.pyplot as plt
plt.plot(y_pred)
```

```
Out[29]: [<matplotlib.lines.Line2D at 0x7f043b53d390>]
```

