

```
In [1]: import matplotlib.pyplot as plt
import numpy as np
from sklearn import datasets, linear_model
from sklearn.metrics import mean_squared_error, r2_score

Matplotlib is building the font cache; this may take a moment.
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```
In [5]: dataX, dataY = datasets.load_diabetes(return_X_y=True)
```

```
In [6]: dataX = dataX[:, np.newaxis, 2]
```

```
In [7]: trainX = dataX[:-30]
testX = dataX[-30:]
```

```
In [8]: trainY = dataY[:-30]
testY = dataY[-30:]
```

```
In [9]: lr = linear_model.LinearRegression()
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```
In [10]: lr.fit(trainX, trainY)
```

```
Out[10]: LinearRegression()
LinearRegression()
```

```
In [11]: predY = lr.predict(testX)
```

```
In [12]: print("Coefficients:", lr.coef_)

Coefficients: [941.43097333]
```

```
In [13]: print("Mean squared error: %.2f" % mean_squared_error(testY, predY))

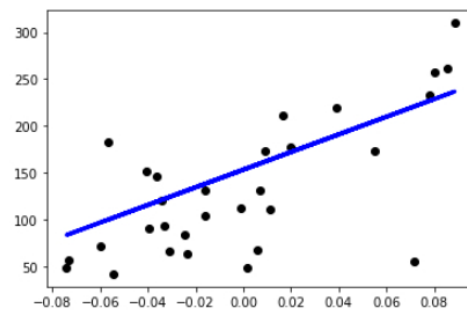
Mean squared error: 3035.06
```

```
In [14]: print("Coefficient of determination: %.2f" % r2_score(testY, predY))

Coefficient of determination: 0.41
```

```
In [15]: plt.scatter(testX, testY, color="black")
plt.plot(testX, predY, color="blue", linewidth=3)
```

```
Out[15]: [ <matplotlib.lines.Line2D at 0x198621a0070>]
```



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In [ ]:
```