

```
[30]: data.shape
```

```
[30]: (398, 11)
```

```
[31]: #split into train, test set
X_train,X_test, y_train,y_test = train_test_split(X_s, y_s, test_size = 0.20, random_stat
X_train.shape
```

```
[31]: (318, 10)
```

2.a Simple Linear Model ¶

```
[32]: #Fit simple linear model and find coefficients
regression_model = LinearRegression()
regression_model.fit(X_train, y_train)

for idx, col_name in enumerate(X_train.columns):
    print('The coefficient for {} is {}'.format(col_name, regression_model.coef_[0][idx])

intercept = regression_model.intercept_[0]
print('The intercept is {}'.format(intercept))
```

```
The coefficient for cyl is 0.24638776053571634
The coefficient for disp is 0.2917709209866447
The coefficient for hp is -0.18081621820393684
The coefficient for wt is -0.667553060986813
The coefficient for acc is 0.06537309205777046
The coefficient for yr is 0.3481770259426718
The coefficient for car_type is 0.3339231253960359
The coefficient for origin_america is -0.08117984631927032
The coefficient for origin_asia is 0.0698609820966492
The coefficient for origin_europe is 0.030003161242288048
The intercept is -0.01800683137092324
```