

# Linear Regression

## Importing the libraries

```
In [1]: import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

## Importing the dataset

```
In [2]: dataset = pd.read_csv('Salary_Data.csv')
X = dataset.iloc[:, :-1].values
y = dataset.iloc[:, -1].values
```

## Splitting the dataset into the Training set and Test set

```
In [3]: from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 1/3, random
```

## Training the Simple Linear Regression model on the Training set

```
In [4]: from sklearn.linear_model import LinearRegression
regressor = LinearRegression()
regressor.fit(X_train, y_train)
```

```
Out[4]: LinearRegression(copy_X=True, fit_intercept=True, n_jobs=None, normalize=False)
```

## Predicting the Test set results

```
In [5]: y_pred = regressor.predict(X_test)
```

## Visualising the Training set results

```
In [6]: plt.scatter(X_train, y_train, color = 'red')
plt.plot(X_train, regressor.predict(X_train), color = 'blue')
plt.title('Salary vs Experience (Training set)')
plt.xlabel('Years of Experience')
plt.ylabel('Salary')
plt.show()
```



## Visualising the Test set results

```
In [7]: plt.scatter(X_test, y_test, color = 'red')
plt.plot(X_train, regressor.predict(X_train), color = 'blue')
plt.title('Salary vs Experience (Test set)')
plt.xlabel('Years of Experience')
plt.ylabel('Salary')
plt.show()
```



In [ ]: