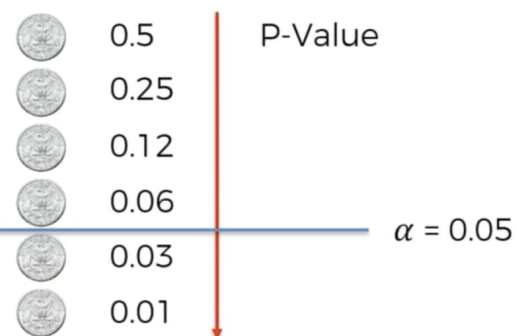


Statistical Significance

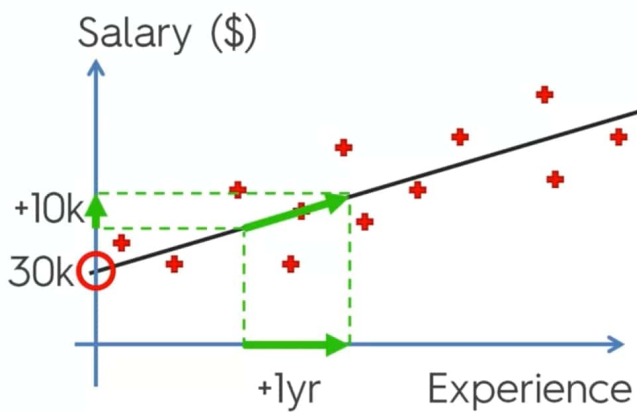


H_0 : This is a fair coin
 H_1 : This is not a fair coin



Regressions

Simple Linear Regression:



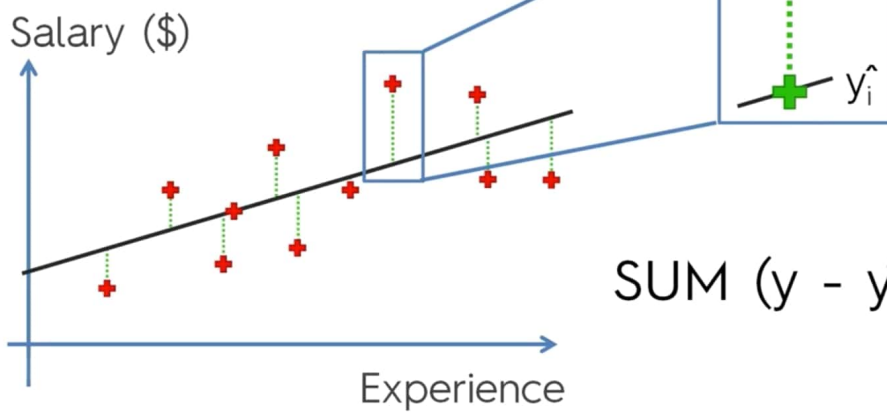
$$y = b_0 + b_1 * x$$



$$\text{Salary} = \text{b}_0 + \text{b}_1 * \text{Experience}$$

Ordinary Least Squares

Simple Linear Regression:



$$\text{SUM } (y - \hat{y})^2 \rightarrow \min$$

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- Simple Linear Regression
- Importing the libraries
- Importing the dataset
- Splitting the dataset into the Training set and Test set
- Training the Simple Linear Regression model on the Training set

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

[ ] dataset = pd.read_csv('Salary_Data.csv')
x = dataset.iloc[:, :-1].values
y = dataset.iloc[:, -1].values

[ ] 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_state = 0)
```

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Training the Simple Linear Regression model on the Training set

```
[ ] from sklearn.linear_model import LinearRegression
regressor=LinearRegression()
regressor.fit(x_train,y_train)#it would train the regression model on the training set
```

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

Predicting the Test set results

```
[12] y_pred=regressor.predict(x_test)
```

Visualising the Training set results

```
[13] #scatter is used to put the red point corresponding to the real salaries in 2d plots
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()
```

Salary vs Experience(training set)

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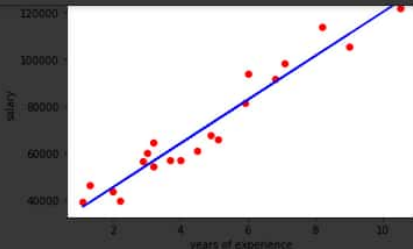
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[13]



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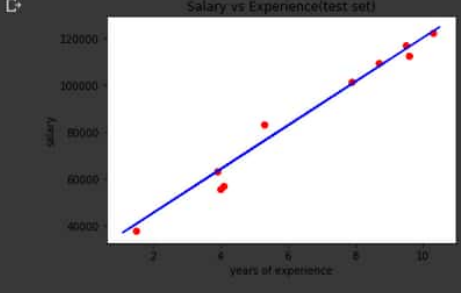
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