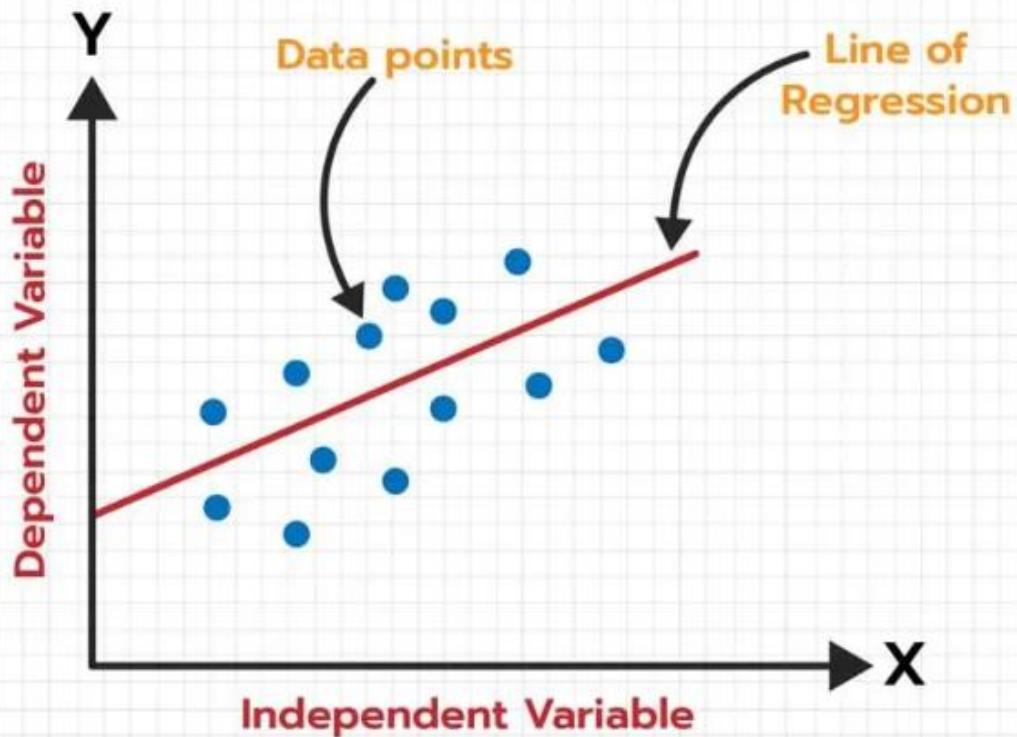


# Linear Regression Algorithm

# Linear Regression

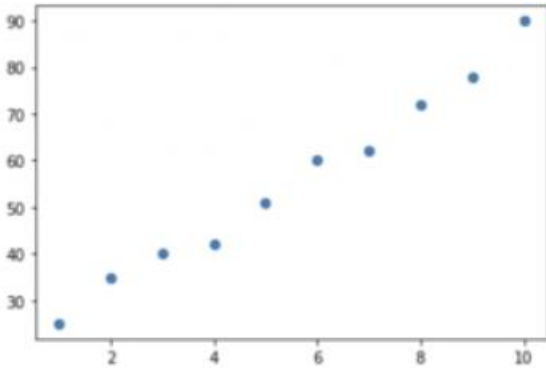
BORNTO  
DEV



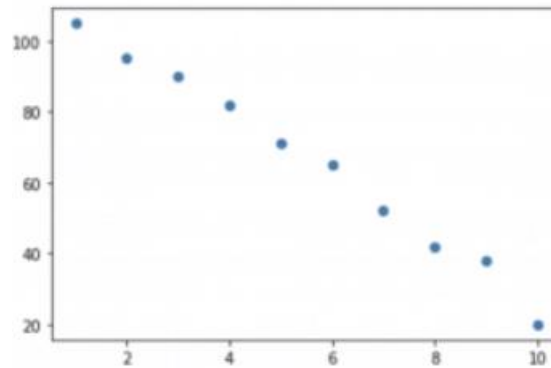
$$Y = MX + C$$

Ref: <https://www.borntodev.com/2021/08/26/ทำความเข้าใจ “Linear Regression” Algorithm ที่คนทำ Machine Learning ยังไงก็ต้องได้ใช้!>

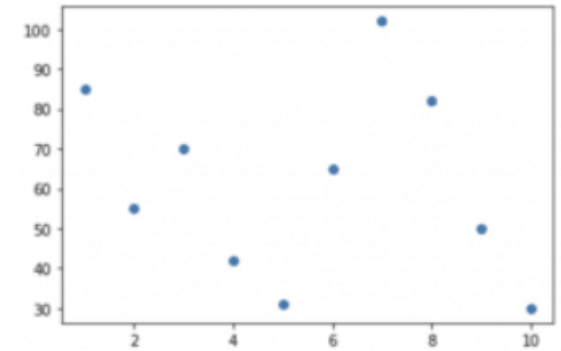
## Relationship of linear regression



Positive Linear  
Relationship



Negative Linear  
Relationship



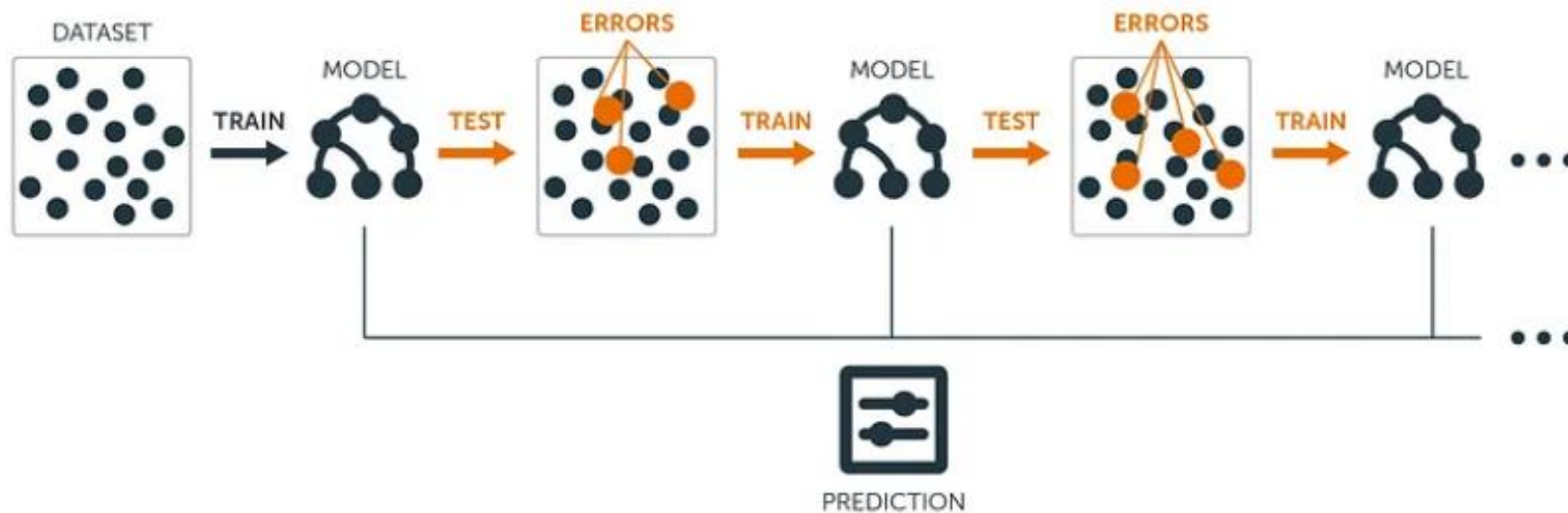
No Apparent Linear  
Relationship

# Gradient boosting Algorithm

# Ensemble learning method

Bagging → Random Forest

Boosting → Gradient boosting, AdaBoost, XGBoost



```
from sklearn.tree import DecisionTreeRegressor
```

```
tree_reg1 = DecisionTreeRegressor(max-depth=2)
```

```
tree_reg1.fit(X, y)
```

First trial !!



```
y2 = y - tree_reg1.predict(X)
```

```
tree_reg2 = DecisionTreeRegressor(max-depth=2)
```

```
tree_reg2.fit(X, y2)
```

Second trial !!



```
y3 = y2 - tree_reg2.predict(X)
```

```
tree_reg3 = DecisionTreeRegressor(max-depth=2)
```

```
tree_reg3.fit(X, y3)
```

Third trial !!

Thank you for your attention