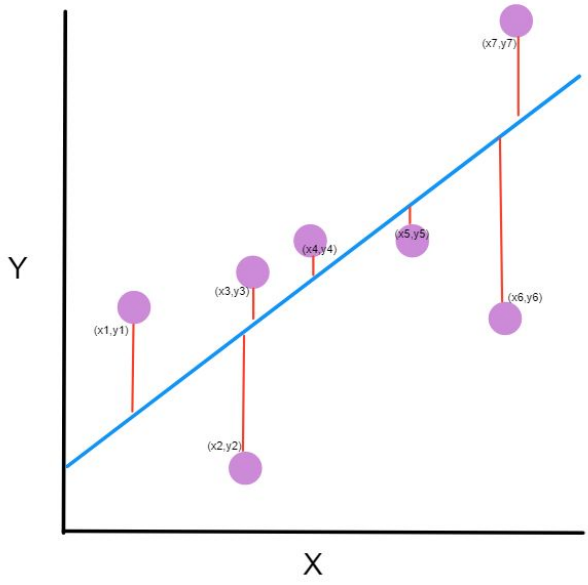
Means Squared Error

Definition

- Average of the squares of the errors.
- It is always non – negative values.

Explanation

The mean squared error tells you how close a regression line is to a set of points. It does this by taking the distances from the points to the regression line (these distances are the “errors”) and squaring them. The squaring is necessary to remove any negative signs. It also gives more weight to larger differences. It’s called the **mean** squared error as you’re finding the average of a set of errors.



General formula :

$$\mathrm{MSE} = \frac{1}{n}\sum_{i=1}^{n}(y_i - \tilde{y}_i)^2$$

What does the Mean Squared Error Tell You?

The smaller the means squared error, the closer you are to finding the line of best fit.

Close to zero are better.

Depending on your data, it may be impossible to get a very small value for the mean squared error.

Code