LEAST SQURE REGRESSION

Definition: The least-squares method is a crucial statistical method that is practiced to find a regression line that best fit for given pattern. This method is described by an equation with specific parameter. The method of least square is generously used in the evaluation and regression .In regression analysis this method is said to be a standard approach for approximation of sets of equation having more equation than the number of unknowns

Steps:

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To find the line of best fit for **N** points:

Step 1: For each (x,y) point calculate x^2 and xy

Step 2: Sum all x, y, x^2 and xy, which gives us Σx, Σy, $Σx^2$ and Σxy (Σ means "sum up")

Step 3: Calculate Slope **m**:

$$\mathbf{m} = \frac{N \Sigma(xy) - \Sigma x \, \Sigma y}{N \Sigma(x^2) - (\Sigma x)^2}$$

(N is the number of points.)

Step 4: Calculate Intercept **b**:

$$\mathbf{b} = \frac{\Sigma y - m \, \Sigma x}{N}$$

Step 5: Assemble the equation of a line

$$y = mx + b$$

Done!