

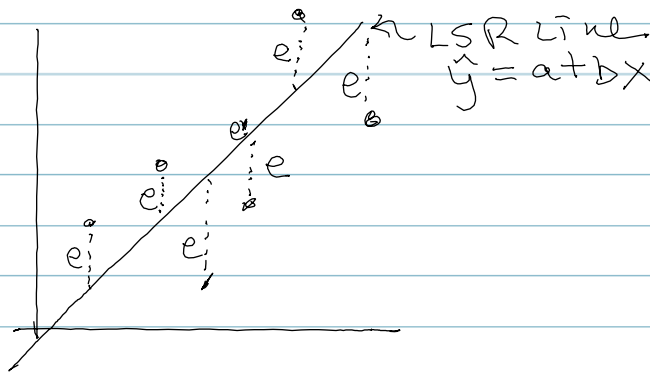
Section 3.2

LINEAR REGRESSION

PART III

$$SSE = \sum (y - \hat{y})^2 = \text{Sum of Squared Residuals}$$

A small SSE indicates that points are close to the LSR line. A larger SSE (for a given number of points) indicates that points are farther from the LSR line.



LSR Line = Least Squares Regression Line

the LSR line minimizes the sum of squared residuals (i.e. "least squares") & thus minimizes variation away from the line.

→ Whatever shall we use for the slope (b) & y-intercept (a) for the LSR line?

We developed the slope & y-intercept with the following assumptions:

1. The centroid point should be on the LSR line.
2. The slope should involve a rise & run that measure change in x & y .

Rise = S_y = std. dev. of y . Run = S_x = std. dev. of x values.