

M358K: December 6th, 2021.

Simple Linear Regression.

Def'n.

$$Y = \beta_0 + \beta_1 \cdot x + \epsilon$$

is called a simple linear regression model (SLR)

w/ β_0 ... the intercept parameter

β_1 ... the slope parameter

ϵ ... the **error** such that

$\epsilon \sim \text{Normal}(\text{mean}=0, \text{var}=\sigma^2)$
for every x

Note: We have three parameters: β_0, β_1, σ

Goal: Design a recipe to estimate the parameters using the data set:
 $(x_1, y_1), (x_2, y_2), \dots, (x_n, y_n)$.