

Linear regression

We have several observations, each of which should follow $y = mx + b + \varepsilon$.

$$y_1 = mx_1 + b$$

$$y_2 = mx_2 + b$$

$$y_3 = mx_3 + b$$

$$y_4 = mx_4 + b$$

\vdots

In matrix notation

$$\mathbf{y} = \begin{bmatrix} \mathbf{x} & \mathbf{1} \end{bmatrix} \begin{bmatrix} m \\ b \end{bmatrix}$$

