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From the output:

Confidence interval: An interval that describes the uncertainty around an estimate ($\hat{\beta}$)

ex: 90% confidence interval(90%) → true value 90%

z-value: $\int_{-z}^{z} \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2} dx = .95$

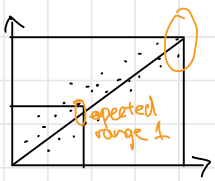
Assumptions:

① Normal

② Constant

Solve: QQ plot

Constant Variance



It is way different from range 1 → Not Good

Extending Linear Model

① Non-constant variable – used in WLS (weighted least squares)

② Distribution of error is not Normal – used in GLM (generalized linear models)

Logistic Regression Revisited

$\max \prod_{i=1}^{n} P(y_i \mid x_i) = \min \text{Cost}(w, b)$

Gradient Descent

Stochastic Gradient Descent

Heavy computation

Result Depends only on the starting points