

Answers: Introduction to linear regression

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Summary

Answers to questions relating to the guide on introduction to linear regression.

These are the answers to [Questions: Introduction to linear regression](#).

Please attempt the questions before reading these answers!

Q1

1.1 The y-intercept of the regression line $\mathbb{E}(Y) = \alpha + \beta x$

1.2 The gradient of the regression line $\mathbb{E}(Y) = \alpha + \beta x$

Q2

2.1 The difference between the observed value y_i and the estimated value $\mathbb{E}(Y_i)$.

2.2 It minimizes the squared sum of the residuals to find the optimal regression line for a sample of data.

Q3

3.1. $\hat{\alpha} = 146.6853$

3.2. $\hat{\beta} = 1.7044$

3.3. $\mathbb{E}(Y) = \alpha + \beta x = \hat{\alpha} + \hat{\beta}x = 146.6853 + 1.7044x$

Version history and licensing

v1.0: initial version created 12/25 by Flora Green as part of a University of St Andrews VIP project.

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