

Chapter 25

Correlation and Regression Analysis

1 Scope of the Chapter

This chapter provides procedures for fitting linear regression models and for correlation analysis.

2 Available Modules

Module 25.1: `nag_lin_reg` — **Regression analysis**

This module contains *two* procedures for fitting:

- a simple linear regression model with a single predictor variable;
- a multiple linear regression model with many predictor variables.

The latter can be used to fit general linear models, that is, models that use sets of dummy variables to represent classification variables, so it can be used to analyse data from designed experiments.

Module 25.2: `nag_correl` — **Correlation coefficients**

This module contains *two* procedures for calculating:

- the variance-covariance matrix/correlation matrix from a set of data values;
- the partial correlation matrix given the variance-covariance matrix or correlation matrix for a set of data values.