EMAT30007 Applied Statistics

Coursework example

Nikolai Bode

(nikolai.bode@bristol.ac.uk)

Submit on BLACKBOARD

General information:

Submit a Matlab script (.m file) file with your answers. This should run when copied into the same folder as the data files (see below) and should not access any other directories or non-standard packages. The limit for your submission is 200 lines of standard Matlab script, in addition to a restriction on the number of figures/plots for each question (see below). Clearly annotate your code and include the required discussion of your findings directly in the script.

There is one additional file available on Blackboard for this piece of coursework: `coursework_data1.txt`. The content of the file is described in more detail below.

The only way I will answer questions is via the dedicated Blackboard discussion forum. This is to ensure that the entire class has access to the same information.

Example question

The file `coursework_data1.txt` contains a data set for the price in pound sterling (£) of replica Fabergé eggs (egg-shaped jewellery) and the weight in carat of the largest ruby (precious stone) on these eggs. The price is calculated by adding a fixed fee for work and materials to the price of the ruby. Officials would like to understand the pricing of the replica Fabergé eggs.

Using what you have learned in lectures/labs 6-8, perform a statistical analysis of this data and suggest an appropriate model for the pricing of replica Fabergé eggs for all theoretically possible ruby weights. Discuss and evidence the appropriateness of models you fit to the data (up to 2 figures, multiple panels in figures are permitted).

This data is inspired by real data, but it is hypothetical.