02441 Applied Statistics and Statistical Software

Exercise 3C - Filter

The data are from a statement by Texaco, Inc. to the Air and Water Pollution Subcommittee of the Senate Public Works Committee on June 26, 1973. Mr. John McKinley, President of Texaco, cited the Octel filter, developed by Associated Octel Company as effective in reducing pollution. However, questions had been raised about the effects of pollution filters on aspects of vehicle performance, including noise levels. He referred to data presented in the datafile associated with this story as evidence that the Octel filter was at least as good as a standard silencer in controlling vehicle noise levels. The dataset filter constitute a 3-way factorial experiment with 3 replications. The factors are type of filter (2 types), vehicle size (3 sizes), and side of car (two sides).

Variable name	Description
NOISE	Noise level reading (decibels)
SIZE	Vehicle size: 1 small 2 medium 3 large
TYPE	1 standard silencer 2 Octel filter
SIDE	1 right side 2 left side of car

1. Determine whether size, type and side influence on the noise level by doing a graphical comparison

Start by loading and converting data to right class

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# Code here
```

Visual inspection of data

```
# Code here
```

2. Determine whether size, type and side influence on the noise level by the appropriate statistical analysis

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# Code here
```

3. Are there any interaction effects between size and type?

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# Code here
```