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# MAST30027: Modern Applied Statistics

## Assignment 3

Due: 1:00pm Friday 11th September (week 7)

*This assignment is worth 3 1/3% of your total mark.*

Taken from Faraway Chapter 3 Exercises.

Components are attached to an electronic circuit card assembly by a wave-soldering process. The soldering process involves baking and preheating the circuit card and then passing it through a solder wave by conveyor.

Defects arise during the process, and an experiment was run to try and determine the effect on the number of defects of various aspects of the process. The design is a  $2^{7-3}$  factorial design with three replicates. The data is presented in the dataset `wavesolder` from the `faraway` package.

Assuming that the replicates are independent, analyse the data. Write a report on the analysis that summarises the substantive conclusions and includes the highlights of your analysis.