Choose the Right T-Test (student)

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Save this file and "Day6.Rdata" in the same location. Then, after opening this file, go to **Session > Set Working Directory > To Source File Location**.

Then run this:

```
load("Day6.Rdata")
```

This will load 3 data sets into your working environment. The number after each data set represents the question it belongs to.

The goal is to analyze as many of these data sets as possible:

- Choose the right *t*-test for as many questions as possible. Explain your choice below the respective code chunk;
- Try to perform diagnostics if applicable;
- Produce a summary and write a brief conclusion in words, below the code chunk.

Good luck!

Q1

1. A study compares the light intensity emitted from GFP in two different types of mutant zebra fish embryos.

Q2

2. A comparison is done between survey responses of men and women. Participants can answer on a 7-point Likert scale, meaning that their answers can be any whole number from 1 (strongly disagree) to 7 (strongly agree). In `DF2` are the outcomes of a particular question.

Q3

3. A new antipyretic is being developed. As is common practice in clinical science, the drug is considered 'good enough' if the researchers can demonstrate non-inferiority to an existing alternative. Suppose the new drug (A) and an existing alternative (B) are each given to 30 patients with a fever of $> 38°C$, and the drop in temperature after 30 minutes is measured. Drug A is considered non-inferior to drug B if $\mu_A - \mu_B \leq -0.25°C$.