

MY ISEKAI DATA ADVENTURE



Thumbing through the pages of a book, you and your friends converse at the library while preparing for your upcoming test. Just then a great vortex appears and swallows your group. A booming voice echoes across the infinite space that you find yourselves in. “Hark! Fear not otherworlders, I am the great wizard known as Dio and I have called you here to seek your assistance in an important quest. I come from a land called Tempest. This land is overflowing with monsters and magick. Though my own magick is mighty indeed, our people are ignorant in the ways of statistics. We seek your aid in understanding the mysteries that pervade our land and in battling the forces of evil. We have made careful observations, but rely on you to elucidate that which is shrouded in darkness. Will you lend aid dear friends!” Looks are exchanged between your group. Your brow deepens and eyes narrow as you gesture with a mighty thrust towards Dio, “Verily Dio, we will heed your call to adventure!”.

The dataset called, “battle”, contain the following variables:

- `knight` (the code name of the knight given by the elder mage)
- `battalion` (the battalion that knight belongs to: Slayers, Orlock, Reaper, Wolf)
- `dash` (top dash speed that the knight can run at in full armor)
- `kills` (number of kills)
- `strength` (represents physical power and might; can range from 0 to infinity)
- `dexterity` (reflects agility, reflexes, and speed; can range from 0 to infinity)
- `constitution` (indicates health, stamina, and resilience; can range from 0 to infinity)

The dataset called, “hocus_pocus”, contain the following variables:

- `spell_name` (the name of the spell)
- `spell_school` (the kind of school that spell comes from)
- `spell_level` (the level of that spell, with higher levels meaning more difficult spells)
- `caster_class` (the kind of caster that can use that spell)

Below is a list of the kinds of things that the great Dio might ask you. Specific questions will be given at the data contest.

1. Wrangle rows and columns (e.g., summing rows)
2. Use basic measures of central tendency
3. Work with text data
4. Make a Cleveland dot plot
5. Calculate correlations and pairwise plots of those correlations
6. Be familiar with the Poisson distribution and be able to build simple models
7. Be familiar with Bayes theorem and be able to build Bayesian models, for example, using the R package `brms`