In the heart of the roaring arenas and under the watchful eyes of thousands, the world of professional bull riding (PBR) unfolds, where grit, skill, and a dash of luck intertwine. In the pursuit of understanding how points are achieved by both riders and the bulls, we will dive into the data from the 2023 season of the Touring Pro Division.

1. Using the rider’s dataset, predict the points of a rider using avg. time for rider to fall off (`Avg Buckoff Time`), number of rides (Rides), and percent rides ridden (prop. Ridden) as predictors.

A. Assess model’s residual plots. What do we see?

B. Test the significance of the model.

C. Now add an interaction between `Avg Buckoff Time` and Rides. Record R-code formula here.

D. Test whether having the interaction in the model is significant or not.

2. Transformation Questiions