

Due on January 29, 2020

The file `crime.csv` available on Blackboard contains crime reports from Seattle, WA. For each crime offense it shows the date and time information, crime category and description, the neighborhood, and police department information such as sector, beat, and precinct.

Rename the columns to simplify the names. Call the columns as `ODate` for occurred date, `RDate` for reported date, `OTime` for occurred time, `RTime` for reported time, `category` for Crime subcategory, `Description` for Primary Offense Description, while leaving other columns with no change. Ignore columns `Precinct`, `Sector`, and `Beat`, for this homework. Unless noted otherwise, feel free to use *R* base or the *R* libraries of your choice.

1. (10 pts.) Find the number of neighborhoods and crime categories in the dataset.
2. (10 pts.) Report the total number of crimes in each neighborhood. What neighborhood is most dangerous?
3. (10 pts.) Write a pipe for the previous two questions.
4. (10 pts.) Find the most frequent crime category in the Queen Anne neighborhood.
5. (20 pts.) Report a two-column table comparing the number of crimes per month (from `RDate`). What month seems to be more dangerous?
6. (20 pts.) Draw a lineplot of the number of crimes as a function of month (in `RDate`)
7. (20 pts.) Use vertical *barplots* to compare the number of crimes by category in Seattle.

Use `rmarkdown` to submit a report (pdf or html) including the *R* code with the corresponding output.