

Exploring Texas Death Row Data

Introduction

In this assignment you are going to explore a dataset about Texas deathrow inmates, I know, kinda morbid. This assignment is meant to get you refamiliarized with the tidyverse! The dataset was taken from a website called Select Star SQL, which is a great place to learn some SQL if you are interested!

```
library("tidyverse")
```

```
-- Attaching packages ----- tidyverse 1.3.2 --
v ggplot2 3.3.6      v purrr   0.3.4
v tibble  3.1.8      v dplyr   1.0.9
v tidyr   1.2.0      v stringr 1.4.1
v readr   2.1.2      v forcats 0.5.2
-- Conflicts ----- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()     masks stats::lag()
```

The dataset is contained in the project. Start off by loading in the data using `read_csv`

```
TXDR <- read_csv('tx_deathrow_full.csv')
```

```
Rows: 553 Columns: 18
```

```
-- Column specification -----
Delimiter: ","
chr  (9): Last Name, First Name, Race, County, Eye Color, Height, Native Cou...
dbl  (5): Execution, Highest Education Level, TDCJ
Number, Age at Execution,...
date (4): Date of Birth, Date of Offence, Date Received, Execution Date
```

- i Use ``spec()`` to retrieve the full column specification for this data.
- i Specify the column types or set ``show_col_types = FALSE`` to quiet this message.

Now that we have the data loaded, lets answer some questions.

1. Some counties in Texas are known for executing more inmates than others. For this data, I want you to count how many executions each county has and then arrange the result so that you can see the highest ones.
2. The dataset contains the inmates last statement before they are executed. What proportion of them claim innocence? This will require some string manipulation.
3. I want to know if the executions have been constant over time or have they changed. First, count how many executions happened for each year in the data. Second, plot the number of cumulative executions over time.
4. Lastly, I want you to make up your own question about the data and answer it!

```
TXDR %>%
  count(County) %>%
  arrange(desc(n))
```

```
# A tibble: 92 x 2
  County      n
  <chr>    <int>
1 Harris    128
2 Dallas    58
3 Bexar     46
4 Tarrant   41
5 Nueces    16
6 Jefferson 15
7 Montgomery 15
8 Lubbock   13
9 Brazos    12
10 Smith    12
# ... with 82 more rows
```

By far the highest county is Harris County with 128 exections, followed by Dalls County with less than half of that, at 58.

```
str_detect(TXDR$`Last Statement`, "innocent|innocence")
```

| | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| [1] | FALSE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [13] | FALSE | FALSE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | NA | FALSE | FALSE | FALSE |
| [25] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [37] | FALSE | FALSE | FALSE | FALSE | NA | NA | FALSE | NA | NA | FALSE | FALSE | FALSE |
| [49] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE |
| [61] | FALSE | TRUE | FALSE | NA | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [73] | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [85] | FALSE | FALSE | TRUE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | NA | FALSE | FALSE |
| [97] | FALSE | FALSE | FALSE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | NA | FALSE | FALSE |
| [109] | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [121] | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
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| [145] | FALSE | NA | FALSE | TRUE | FALSE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
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| [181] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
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| [205] | NA | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [217] | FALSE | FALSE | FALSE | FALSE | FALSE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [229] | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | NA | FALSE | FALSE | FALSE | FALSE | NA |
| [241] | FALSE | TRUE | NA | FALSE | FALSE | FALSE | NA | FALSE | FALSE | FALSE | NA | FALSE |
| [253] | FALSE | FALSE | FALSE | FALSE | TRUE | NA | FALSE | FALSE | FALSE | FALSE | NA | FALSE |
| [265] | FALSE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | NA | FALSE | FALSE | FALSE |
| [277] | FALSE | FALSE | FALSE | FALSE | TRUE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [289] | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [301] | FALSE | NA | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | NA |
| [313] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [325] | TRUE | NA | FALSE | FALSE | FALSE | TRUE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE |
| [337] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | NA | TRUE | NA | FALSE | FALSE |
| [349] | NA | TRUE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE |
| [361] | NA | FALSE | NA | FALSE | NA | FALSE | FALSE | NA | NA | NA | NA | FALSE |
| [373] | NA | FALSE | FALSE | NA | NA | NA | NA | FALSE | NA | FALSE | NA | NA |
| [385] | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [397] | FALSE | FALSE | NA | FALSE | FALSE | FALSE | FALSE | FALSE | NA | FALSE | FALSE | FALSE |
| [409] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | NA | FALSE |
| [421] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [433] | FALSE | FALSE | NA | FALSE | FALSE | NA | NA | NA | FALSE | NA | FALSE | FALSE |
| [445] | FALSE | TRUE | FALSE | NA | NA | NA | NA | FALSE | NA | NA | TRUE | FALSE |
| [457] | NA | FALSE | NA | FALSE | NA | NA | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| [469] | FALSE | FALSE | FALSE | FALSE | NA | FALSE | TRUE | FALSE | FALSE | NA | NA | NA |
| [481] | FALSE | FALSE | TRUE | FALSE | NA | NA | FALSE | NA | FALSE | NA | NA | FALSE |
| [493] | NA | FALSE | NA | TRUE | NA | NA | NA | NA | NA | NA | NA | FALSE |
| [505] | FALSE | FALSE | NA | FALSE | FALSE | NA | NA | FALSE | FALSE | FALSE | FALSE | FALSE |

| | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| [517] | FALSE | NA | TRUE | FALSE | FALSE | FALSE | NA | FALSE | NA | NA | NA | NA |
| [529] | NA | NA | FALSE | NA | NA | NA | FALSE | NA | FALSE | FALSE | FALSE | FALSE |
| [541] | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | NA | FALSE | FALSE | FALSE | FALSE | NA |
| [553] | FALSE | | | | | | | | | | | |