

# Wordle on Keyboard

## STA 199 Final Project

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```
library(tidyverse)
library(remotes)
library(ggkeyboard)
```

```
wordle <- (read_csv("https://raw.githubusercontent.com/tabatkins/wordle-list/main/words",
```

Rows: 14855 Columns: 1

-- Column specification -----

Delimiter: ","

chr (1): word

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.

```
wordle <- wordle |>
  mutate(first_letter = str_sub(word, start = 1, end = 1))
```

```
wordle_counts <- wordle |>
  count(first_letter, sort = TRUE)
```

```
wordle_counts |>
  summarize(
    min = min(n),
    mean = mean(n),
    q20 = quantile(n, 0.2),
    q40 = quantile(n, 0.4),
    q60 = quantile(n, 0.6),
```

```

    q80 = quantile(n, 0.8),
    max = max(n)
  )

```

```

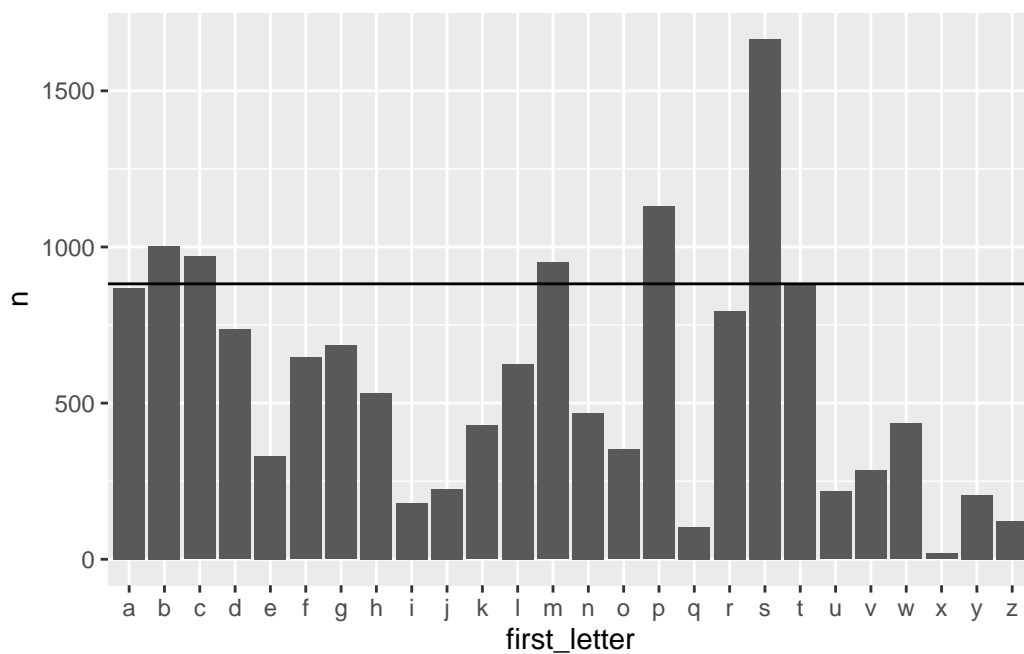
# A tibble: 1 x 7
   min mean  q20  q40  q60  q80  max
<int> <dbl> <dbl> <dbl> <dbl> <dbl> <int>
1    18 571.  217  429  646  882 1666

```

```

wordle_counts |>
  ggplot(aes(x = first_letter, y = n)) +
  geom_col() +
  geom_hline(yintercept = 882)

```



```

wordle_counts <- wordle_counts |>
  mutate(color = case_when(
    n <= 217 ~ "#FFFF00", #yellow
    n > 217 & n <= 429 ~ "#87CEEB", #sky blue
    n > 429 & n <= 646 ~ "#0000FF", #blue
    n > 646 & n <= 882 ~ "#DC143C", #crimson
  ))

```

```

    n > 882 ~ "#8B0000" #dark red
  ),
  first_letter = str_to_upper(first_letter)
)

```

```
keys <- read_csv("https://raw.githubusercontent.com/sharlagelfand/ggkeyboard/main/data-raw")
```

Rows: 61 Columns: 8

-- Column specification -----

Delimiter: ","

chr (4): key, key\_label, key\_type, layout

dbl (4): row, number, width, height

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.

```

wordle_counts_ordered <- keys |>
  filter(key_label %in% LETTERS) |>
  select(key)|>
  left_join(wordle_counts, by = c("key" = "first_letter"))

```

```

test <- keys |>
  select(key)|>
  left_join(wordle_counts, by = c("key" = "first_letter"))

```

```

test <- test |>
  mutate(color = case_when(
    is.na(color) ~ "#8A9A5B", #sage green
    n <= 217 ~ "#FFFF00", #yellow
    n > 217 & n <= 429 ~ "#87CEEB", #sky blue
    n > 429 & n <= 646 ~ "#0000FF", #blue
    n > 646 & n <= 882 ~ "#DC143C", #crimson
    n > 882 ~ "#8B0000" #dark red
  ))

```

Keyboard with alphabet colored (Where Professor Mine and Martha left off)

```

ggkeyboard(sixty_percent, palette = keyboard_palette("magic"), font_family = "Helvetica")
highlight_keys(
  keys = wordle_counts_ordered$key,

```

```

    fill = wordle_counts_ordered$color,
    alpha = 0.7,
    colour = NA
  )

```

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <e2>

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <98>

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <ba>

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <e2>

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <98>

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <ba>



Keyboard with the rest of the keys colored (what I added to the project)

```
ggkeyboard(sixty_percent, palette = keyboard_palette("magic"), font_family = "Helvetica")
  highlight_keys(
    keys = test$key,
    fill = test$color,
    alpha = 0.7,
    colour = NA
  )
```

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <e2>

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <98>

Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <ba>

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Warning in grid.Call.graphics(C\_text, as.graphicsAnnot(x\$label), x\$x, x\$y, :  
conversion failure on ' ' in 'mbcsToSbcs': dot substituted for <ba>

