## referees-cpmr

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```
## Installing package into '/Users/runner/work/_temp/Library'
## (as 'lib' is unspecified)
##
## The downloaded binary packages are in
## /var/folders/24/8k48j16d249_n_qfxws16xvm0000gn/T//RtmpMCdaod/downloaded_packages
## -- 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 1.4.0
## v readr 2.1.2 v forcats 0.5.1
## -- Conflicts ----- tidyverse conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag() masks stats::lag()
raw_data <- read.csv("../scraped-data/referees.csv")</pre>
raw_data <- as_tibble(raw_data)</pre>
head(raw_data)
## # A tibble: 6 x 4
    Referee Matches Red.cards Yellow.cards
##
     <chr>
                   <int> <int> <int>
## 1 Robert Jones 2 0
## 2 Michael Oliver 2 0
## 3 Anthony Taylor 2 2
                                                7
                                                6
                                                8
## 4 Stuart Attwell
                        1
                                 0
                                                4
## 5 Peter Bankes
                                   0
                                                6
                         1
## 6 John Brooks
                                   0
raw_columns <- raw_data %>% select(Referee, Matches, Yellow.cards)
head(raw_columns)
## # A tibble: 6 x 3
##
    Referee Matches Yellow.cards
                    <int> <int>
     <chr>
## 1 Robert Jones 2
## 3 Anthony Taylor 2
## 4 Stuart Attuall
                                      6
                                      8
                                      4
## 5 Peter Bankes
## 6 John Brooks
                                      6
```

```
new_table <- raw_columns %>% mutate(yellow_card_ratio = Yellow.cards / Matches)
new_table <- new_table[order(-new_table$yellow_card_ratio),]</pre>
head(new_table)
## # A tibble: 6 x 4
##
    Referee Matches Yellow.cards yellow_card_ratio
##
    <chr>
                     <int>
                                 <int>
## 1 Peter Bankes
                         1
                                      6
                                                        6
                                                        6
## 2 John Brooks
                                      6
## 3 Craig Pawson
                         1
                                      5
                                                        5
## 4 Graham Scott
                                      5
                                                        5
                         1
## 5 Paul Tierney
                                      5
                                                        5
                         1
## 6 Anthony Taylor
                                      8
data <- new_table %>% select(Referee, yellow_card_ratio)
head(data)
## # A tibble: 6 x 2
## Referee yellow_card_ratio
##
    <chr>
                               <dbl>
## 1 Peter Bankes
                                   6
## 2 John Brooks
                                   6
## 3 Craig Pawson
                                   5
                                   5
## 4 Graham Scott
                                   5
## 5 Paul Tierney
## 6 Anthony Taylor
                                   4
write.csv(data, "../cleaned-data/referees-cpmr.csv", row.names = FALSE)
```