## referees-cpmr

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```
## Installing package into '/Users/runner/work/_temp/Library'
## (as 'lib' is unspecified)
##
##
    There is a binary version available but the source version is later:
           binary source needs_compilation
## rmarkdown 2.15
                   2.16
                                   FALSE
## installing the source package 'rmarkdown'
## -- 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()
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>
                  3 0
## 1 Michael Oliver
                     3
2
                              2
## 2 Anthony Taylor
                                          10
## 3 Stuart Attwell
                               1
                                           5
## 4 Peter Bankes
                      2
                              0
                                           11
                       2
## 5 Jarred Gillett
                                0
                                            6
                       2
                                0
                                            7
## 6 Simon Hooper
raw_columns <- raw_data %>% select(Referee, Matches, Yellow.cards)
head(raw_columns)
## # A tibble: 6 x 3
  Referee Matches Yellow.cards
##
    <chr>
                  <int> <int>
```

```
## 1 Michael Oliver
                                    10
## 2 Anthony Taylor
                        3
                                    10
                        2
## 3 Stuart Attwell
                                    5
## 4 Peter Bankes
                         2
                                    11
## 5 Jarred Gillett
                         2
                                     6
## 6 Simon Hooper
                         2
                                     7
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>
                                                      <dbl>
## 1 John Brooks
                                        6
                                                        6
                           1
## 2 Peter Bankes
                            2
                                       11
                                                        5.5
## 3 Paul Tierney
                            2
                                       11
                                                        5.5
## 4 Michael Salisbury
                                        5
                           1
                                                        5
## 5 Graham Scott
                                        5
                                                        5
                            1
## 6 Andre Marriner
                            2
                                        8
                                                        4
data <- new_table %>% select(Referee, yellow_card_ratio)
head(data)
## # A tibble: 6 x 2
## Referee yellow_card_ratio
    <chr>
##
                                 <dbl>
## 1 John Brooks
                                    6
## 2 Peter Bankes
                                   5.5
## 3 Paul Tierney
                                   5.5
## 4 Michael Salisbury
                                   5
## 5 Graham Scott
                                   5
## 6 Andre Marriner
```