## 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//Rtmp801eJv/downloaded_packages
## -- Attaching packages ------ tidyverse 1.3.1 --
## v ggplot2 3.3.6 v purrr 0.3.4

## v tibble 3.1.7 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>
                   27 5
26 4
## 1 Anthony Taylor
                                            103
## 2 Paul Tierney
                               2 2
                                            104
                    25
## 3 Martin Atkinson
                                             59
## 4 Mike Dean
                       25
                                 2
                                             82
                                  7
## 5 Michael Oliver
                       25
                                              75
                       25
## 6 Craig Pawson
                                             108
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 Anthony Taylor
                                     103
                         27
## 2 Paul Tierney
                                      104
                         26
## 3 Martin Atkinson
                                      59
                         25
## 4 Mike Dean
                         25
                                      82
## 5 Michael Oliver
                          25
                                      75
## 6 Craig Pawson
                         25
                                      108
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
##
                  <int>
                                <int>
     <chr>
## 1 John Brooks
                      4
                                   21
                                                   5.25
## 2 David Coote
                       20
                                   93
                                                   4.65
## 3 Peter Bankes
                                   55
                      12
                                                   4.58
## 4 Kevin Friend
                      17
                                   76
                                                   4.47
## 5 Craig Pawson
                       25
                                  108
                                                   4.32
## 6 Paul Tierney
                      26
                                  104
data <- new_table %>% select(Referee, yellow_card_ratio)
head(data)
## # A tibble: 6 x 2
## Referee yellow_card_ratio
##
     <chr>
                            <dbl>
## 1 John Brooks
                              5.25
## 2 David Coote
                              4.65
## 3 Peter Bankes
                              4.58
## 4 Kevin Friend
                              4.47
## 5 Craig Pawson
                              4.32
## 6 Paul Tierney
write.csv(data, "../cleaned-data/referees-cpmr.csv", row.names = FALSE)
```