## 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//RtmpHBvhXq/downloaded_packages
## -- Attaching packages ----- tidyverse 1.3.2 --
## v ggplot2 3.3.6 v purrr 0.3.5
## v tibble 3.1.8 v dplyr 1.0.10
## v tidyr 1.2.1 v stringr 1.4.1
## v readr 2.1.3 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>
                          8 0
8 4
7 2
## 1 " Michael Oliver "
                                                    26
                                    4
2
0
## 2 " Anthony Taylor "
                                                    29
                            6
## 3 " Paul Tierney "
                                                    31
## 4 " Simon Hooper "
## 5 " Andy Madley "
                                                    17
                            6
                                        0
                                                    17
## 6 " Stuart Attwell " 5
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 " 8 ## 2 " Anthony Taylor " 8
                                        26
                                          29
                            7
## 3 " Paul Tierney "
                                          31
## 4 " Simon Hooper "
## 5 " Andy Madley "
                            6
                                          17
                                         17
## 6 " Stuart Attwell "
                            5
                                          18
```

```
new_table <- raw_columns %>% mutate(yellow_card_ratio = Yellow.cards / Matches)
new_table <- new_table[order(-new_table$yellow_card_ratio),]
head(new_table)</pre>
```

```
## # A tibble: 6 x 4
##
   Referee
                          Matches Yellow.cards yellow_card_ratio
##
   <chr>
                            <int>
                                         <int>
                                                           <dbl>
## 1 " Peter Bankes "
                                4
                                            21
                                                           5.25
## 2 " Chris Kavanagh "
                                2
                                            10
                                                           5
## 3 " Graham Scott "
                                            5
                                                           5
                               1
## 4 " Craig Pawson "
                                            23
                                5
                                                           4.6
## 5 " Jarred Gillett "
                                4
                                            18
                                                           4.5
## 6 " Michael Salisbury "
                                            18
                                                           4.5
```

```
data <- new_table %>% select(Referee, yellow_card_ratio)
head(data)
```

```
## # A tibble: 6 x 2
## Referee
                          yellow_card_ratio
##
   <chr>
                                      <dbl>
## 1 " Peter Bankes "
                                       5.25
## 2 " Chris Kavanagh "
## 3 " Graham Scott "
                                       5
## 4 " Craig Pawson "
                                       4.6
## 5 " Jarred Gillett "
                                       4.5
## 6 " Michael Salisbury "
                                       4.5
```

```
write.csv(data, "../cleaned-data/referees-cpmr.csv", row.names = FALSE)
```