## 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//RtmpNJHjjN/downloaded_packages
## -- Attaching packages ----- tidyverse 1.3.2 --
## v ggplot2 3.4.0 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>
## 1 " Michael Oliver " 11
## 2 " Anthony Taylor " 11
## 3 " Paul Tierney " 10
                                   1
                                                   32
                                       5
                                                    38
                                     2
                                                    41
                            9
## 4 " Simon Hooper "
                                      0
                                                    26
## 5 " Robert Jones "
                            8
                                        1
                                                     28
## 6 " Andy Madley "
                            8
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 " 11 ## 2 " Anthony Taylor " 11
                                          38
## 3 " Paul Tierney "
                            10
                                          41
                            9
## 4 " Simon Hooper "
                                          26
## 5 " Robert Jones "
                            8
                                          28
                            8
## 6 " Andy Madley "
                                          24
```

```
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 " Robert Madley "
                               1
                                            6
                                                           6
## 2 " Michael Salisbury "
                               6
                                           31
                                                           5.17
## 3 " Craig Pawson "
                               7
                                           31
                                                           4.43
## 4 " Peter Bankes "
                                                           4.33
                               6
                                           26
## 5 " Paul Tierney "
                              10
                                                           4.1
                                           41
## 6 " John Brooks "
                              6
                                           24
                                                           4
```

data <- new\_table %>% select(Referee, yellow\_card\_ratio)
head(data)

```
## # A tibble: 6 x 2
## Referee
                          yellow_card_ratio
                                      <dbl>
##
   <chr>
## 1 " Robert Madley "
## 2 " Michael Salisbury "
                                       5.17
## 3 " Craig Pawson "
                                       4.43
## 4 " Peter Bankes "
                                       4.33
## 5 " Paul Tierney "
                                       4.1
## 6 " John Brooks "
```

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