

# 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/24/8k48jl6d249_n_qfxwsl6xvm0000gn/T//RtmpMT7XkL/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")
raw_data <- as_tibble(raw_data)

head(raw_data)

## # A tibble: 6 x 4
##   Referee      Matches Red.cards Yellow.cards
##   <chr>      <int>    <int>      <int>
## 1 Craig Pawson      25         2        108
## 2 Michael Oliver    24         5         72
## 3 Anthony Taylor    24         4         93
## 4 Paul Tierney      24         2         98
## 5 Martin Atkinson   23         2         56
## 6 Mike Dean         23         2         74

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 Craig Pawson      25      108
## 2 Michael Oliver    24       72
## 3 Anthony Taylor    24       93
## 4 Paul Tierney      24       98
## 5 Martin Atkinson   23       56
## 6 Mike Dean         23       74
```

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

```
## # A tibble: 6 x 4
##   Referee      Matches Yellow.cards yellow_card_ratio
##   <chr>         <int>     <int>         <dbl>
## 1 John Brooks      4         21           5.25
## 2 David Coote     20         93           4.65
## 3 Peter Bankes    12         55           4.58
## 4 Kevin Friend    16         71           4.44
## 5 Craig Pawson    25        108           4.32
## 6 Paul Tierney    24         98           4.08
```

```
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     4.44
## 5 Craig Pawson     4.32
## 6 Paul Tierney     4.08
```

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