HM4_r

2025-03-30

Homework N4

Part 5: Overall performance

Define unique color for each team per season. For each season create horizontal bar plot using total number of points. Highlighting the winner with the unique color that you assigned to it. Save all graphs in pdf.

```
library(ggplot2)

df <- read.csv(".\\bundesliga2.csv")
head(df)
```

```
##             TEAM  M  W  D  L GF GA DIFF POINTS POSITION SEASON
## 1  Bayern Munich 34 17 10  7 68 37   31     61        1   1994
## 2 Kaiserslautern 34 18  7  9 64 36   28     61        2   1994
## 3       Dortmund 34 15  9 10 49 45    4     54        3   1994
## 4  Ein Frankfurt 34 15  8 11 57 41   16     53        4   1994
## 5     Leverkusen 34 14 11  9 60 47   13     53        5   1994
## 6      Karlsruhe 34 14 10 10 46 43    3     52        6   1994
```

```
library(Polychrome)
```

```
## Warning: package 'Polychrome' was built under R version 4.4.3
```

```
colors = createPalette(length(unique(df$TEAM)),  c("#ff0000", "#00ff00", "#0000ff"))
top_team_color <- "#000000"
names(colors) <- unique(df$TEAM)
df$COLOR <- colors[df$TEAM]
seasons <- unique(df$SEASON)
pdf("points_per_season.pdf", width = 8, height = 6)
for (season in seasons) {
  df_season <- df[df$SEASON == season, ]
  top_team <- df_season$TEAM[which.max(df_season$POINTS)]
  df_season$COLOR[df_season$TEAM == top_team] <- top_team_color
  season_colors <- setNames(df_season$COLOR, df_season$TEAM)
  p <- ggplot(df_season, aes(x = POINTS, y = TEAM, fill = TEAM)) +
    geom_bar(stat = 'identity') +
    scale_fill_manual(values = season_colors) +
    theme_minimal() +
    labs(title = paste("Season:", season), subtitle='Top team is highlighted in  Black')
  print(p)
}
dev.off()
```

```
## pdf
##   2
```

```r
print("Done!")
```

```
## [1] "Done!"
```