

# simulation\_analysis

2023-11-01

```
library(knitr)

women_sims <- readRDS("~/gym2024data/simulations_Aimi.rds")
men_sims <- readRDS("~/gym2024data/simulations_m_katie.rds")

men_sims_for_second = men_sims[-1]

max_medals = -1
max_sim_index = -1

for (i in seq_along(men_sims_for_second)){
  summaryTeam <- men_sims_for_second[[i]]@teamSummary
  USA_medals <- summaryTeam$total_medals[summaryTeam$clean_country == "USA"]

  if (USA_medals > max_medals){
    max_medals <- USA_medals
    max_sim_index <- i
  }
}

second_USA_sim <- men_sims_for_second[[max_sim_index]]@teamSummary
print(second_USA_sim$athletes[second_USA_sim$clean_country == "USA"])

## [[1]]
## [1] "Brody MALONE"      "Javier ALFONSO"    "Curran PHILLIPS"
## [4] "Frederick RICHARD" "Joshua KARNES"

USA_medals <- vector("list", length = 5000)

for (i in seq_along(USA_medals)) {
  summaryTeam <- men_sims[[i]]@teamSummary
  USA_medals[i] <- summaryTeam$total_medals[summaryTeam$clean_country == "USA"]
}

USA_medals = unlist(USA_medals)

top_indices <- order(USA_medals, decreasing = TRUE)[1:10]
top_indices

## [1] 779 1160 4028 858 1174 1901 2083 2964 3260 3940

first_medals <- men_sims[[779]]@teamSummary
first_medals$athletes[first_medals$clean_country == "USA"]

## [[1]]
## [1] "Brody MALONE"      "Javier ALFONSO"    "Curran PHILLIPS"
## [4] "Frederick RICHARD" "Joshua KARNES"
```

```

second_medals <- men_sims[[1160]]@teamSummary
second_medals$athletes[second_medals$clean_country == "USA"]

## [[1]]
## [1] "Blake SUN"          "Brody MALONE"      "Frederick RICHARD"
## [4] "Shane WISKUS"      "Paul JUDA"

top_medalists <- data.frame(
  "Top US Performance" = c("Brody Malone", "Javier Alfonso", "Curran Phillips", "Frederick Richard", "Joshua Karnes"),
  "Second Top US Performance" = c("Blake Sun", "Brody Malone", "Frederick Richard", "Shane Wiskus", "Paul Juda")
)

kable(top_medalists, format = "latex")

```

Top.US.Performance	Second.Top.US.Performance
Brody Malone	Blake Sun
Javier Alfonso	Brody Malone
Curran Phillips	Frederick Richard
Frederick Richard	Shane Wiskus
Joshua Karnes	Paul Juda