HW5

2024-11-08

Question 1

The following is my code for the actual dataset. The total players in the 2024 roster is 192.I made the code run the website and retrieve the information from the website and gather it here on R. I then created my variables I would be using in the rest of the assignment.

```
library(rvest)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)

url <- "https://www.basketball-reference.com/wnba/years/2024_totals.html"
page <- read_html(url)
player_data <- page %>%
  html_table() %>%
  .[[1]]
player_data <- player_data[, !duplicated(names(player_data))]
player_data <- player_data %>%
  select(Player, MP, `3P%`) %>%
  filter(!is.na(MP))
total_players <- nrow(player_data)
print(player_data)
```

```
## # A tibble: 192 x 3
##    Player           MP    `3P%`
##    <chr>            <chr> <chr>
##  1 Lindsay Allen    950   ".292"
##  2 Rebecca Allen    447   ".352"
##  3 Laeticia Amihere 83    ""
##  4 Ariel Atkins     1196  ".357"
##  5 Amy Atwell       59    ".231"
##  6 Shakira Austin   239   ".250"
##  7 Kierstan Bell    43    ".500"
##  8 Grace Berger     102   ".400"
##  9 Caitlin Bickle   15    ".000"
## 10 DeWanna Bonner   1271  ".294"
## # i 182 more rows
```

```r
print(paste("Total players in 2024 roster:", total_players))
```

```
## [1] "Total players in 2024 roster: 192"
```

Question 2

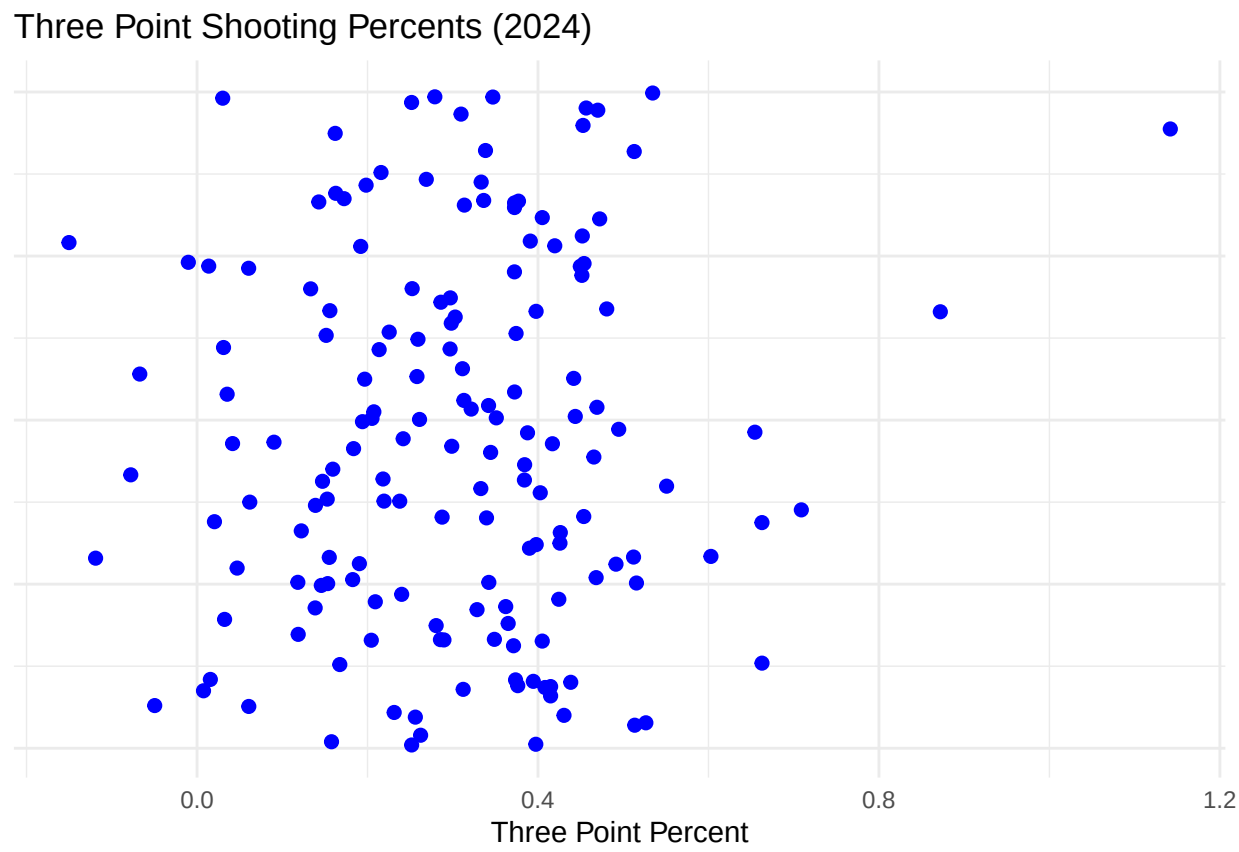
I created a graph for the distribution of three point percentages, with the x axis labeled the percentages and the y axis labeled with the number of players.

```r
player_data$`3P%` <- as.numeric(player_data$`3P%`)
```

```
## Warning: NAs introduced by coercion
```

```r
ggplot(player_data, aes(x = `3P%`, y = 1)) +
  geom_jitter(color = "blue", size = 2, width = 0.2) +
  labs(title = "Three Point Shooting Percents (2024)",
       x = "Three Point Percent") +
  theme_minimal() +
  theme(axis.text.y = element_blank(),
        axis.ticks.y = element_blank(),
        axis.title.y = element_blank())
```

```
## Warning: Removed 30 rows containing missing values or values outside the scale range
## (`geom_point()`).
```



Question 3

I created a graph comparing the relationship between minutes played and three point percentage using the plot function. I labeled the x axis with minutes played and y axis with the three point percentage.

```
highlight_player <- "Caitlin Clark"
highlight_data <- player_data %>% filter(Player == highlight_player)
ggplot(player_data, aes(x = MP, y = `3P%`)) +
  geom_point(color = "blue", size = 2) +  # Regular points for all players
  geom_point(data = highlight_data, aes(x = MP, y = `3P%`), color = "red", size = 4) +  # Highlight Cai
  geom_text(data = highlight_data, aes(x = MP, y = `3P%`, label = Player), vjust = -0.5, color = "red")
  labs(title = "Comparison of Three-Point Percentage and Minutes Played (2024)",
       x = "Minutes Played",
       y = "Three-Point Percentage") +
  theme_minimal() +
  theme(axis.title.x = element_text(size = 12),
        axis.title.y = element_text(size = 12),
        plot.title = element_text(hjust = 0.5, size = 14)) +
  geom_smooth(method = "lm", color = "red", linetype = "dashed")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```

```
## Warning: Removed 30 rows containing non-finite outside the scale range
## (`stat_smooth()`).
```

```
## Warning: Removed 30 rows containing missing values or values outside the scale range
## (`geom_point()`).
```