Exploring Fortnite

April 27, 2022

The dataset used for this challenge is titled 'fortnite.csv'.

What topic does the dataset cover?

This dataset contains information on 80 games of completed games of fortnite.

Variables

- Placed: Place in match
- Eliminations: Number of eliminations in match
- Assists: Number of assists in match
- Revives: Number of revives in match
- Accuracy: Accuracy of player (percent)
- Hits: Number of hits
- Head_Shots: Number of head shots
- Distance_Traveled: Distance travelled in match (meters)
- Materials_Gathered: Number oof materials gathered
- Damage_Taken: Amount of damage taken
- Damage_to_Structures: Amount of damage done to structures

Assignment

Complete each of the following questions using R Studio and submit your answers as a detailed report.

1. Visualize and describe the distribution for each of the following variables:
   (a) Placement of players
   (b) Eliminations
   (c) Accuracy
2. Compare the distributions for eliminations and placement between Dr. Vince and Mr. Merrick.
3. Is there a relationship between the number of eliminations, and placement of player? Support your answer using a scatterplot.
4. Is there a relationship between the distance travelled, and placement of player? Support your answer using a scatterplot.

5. Suppose you were to predict the placement of a player (y) using the number of eliminations the player has (x). What placement would you predict for each player given they have exactly 4 eliminations.
   (a) Dr. Vince
   (b) Mr. Merrick
6. Using all variables, and whatever analysis you choose, which player is superior?

Solution:

```
### Load Packages and dataset
library(tidyverse)
library(ggplot2)
library(GGally)
f <- read.csv('/data/datasets/fortnite.csv')

### Question 1 Visualize and dedcribe distributions of a) Placement, b) Eliminations, c) Accuracy
f %>% ggplot(aes(x=Placed)) + geom_histogram()
f %>% ggplot(aes(x=Eliminations)) + geom_histogram()
f %>% ggplot(aes(x=Accuracy)) + geom_histogram()

### Question 2: Dr. Vince vs. Mr. Merrick
f %>% ggplot(aes(y=Placed, fill=Player)) + geom_boxplot() +
  theme_classic()
f %>% ggplot(aes(y=Eliminations, fill=Player)) + geom_boxplot() +
  theme_classic()

### Question 3: Distance Travelled and Damage to Structures
f %>% ggplot(aes(x=Distance_Traveled, y=Damage_to_Structures)) +
  geom_point() + theme_classic()

### Question 4: Eliminations vs. Placement
f %>% ggplot(aes(x=Eliminations, y=Placed)) +
  geom_point() + theme_classic()

### Question 5: Distance Traveled vs. Placement
f %>% ggplot(aes(x=Distance_Traveled, y=Placed)) +
  geom_point() + theme_classic()

### Question 6: Eliminations vs. Placed and Dr. Vince vs. Mr. Merrick
f %>% ggplot(aes(x=Eliminations, y=Placed, col=Player)) +
  geom_point() +
  geom_smooth(method='lm') +
  theme_classic()

### Which player is better?
### Answers may vary
correlations <- f %>% select_if(is.numeric) %>% cor()
ggcorr(correlations)

```