Homework 3

```
raw_stx <- read.delim("game_data_public.STX.Sealed.csv",header = TRUE,sep = ",")
```

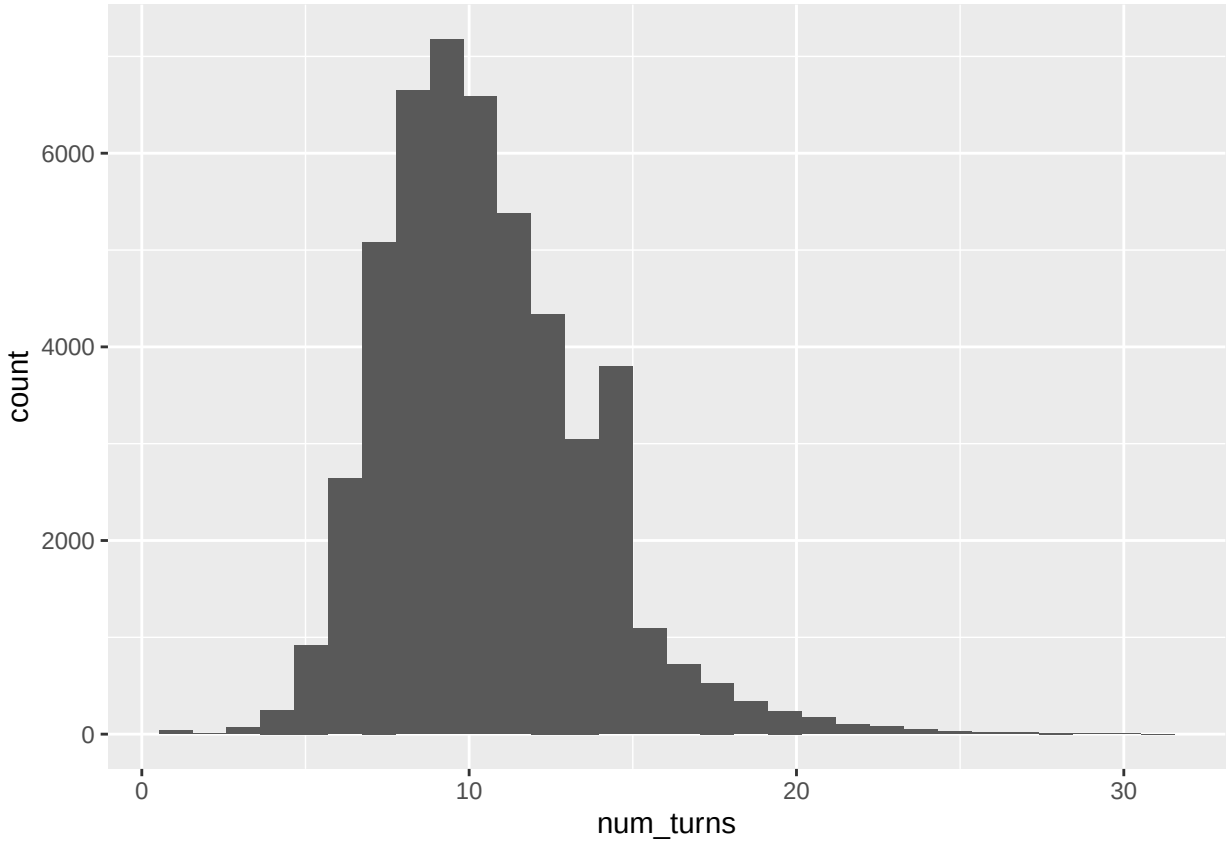
```
turns <- select(raw_stx,"num_turns")
```

17lands.com Strixhaven Game Data

Strixhaven the most recent expansion for the Magic the Gathering trading card game. 17lands provides a service where online Magic the Gathering players can track their gameplay and in return provide them with aggregated gameplay data. The data set consists of 1388 variables for each of the 49381 games recorded in the dataset. One interesting variable is the number of turns a game of Strixhaven takes. The mean number of turns a game takes is 10.2854742 with a standard deviation of 3.2548455. The minimum number of turns recorded is 1 and the maximum number of turns is 31. Below is a bar chart of the turn data for Strixhaven.

```
ggplot(raw_stx,aes(num_turns)) + geom_histogram()
```

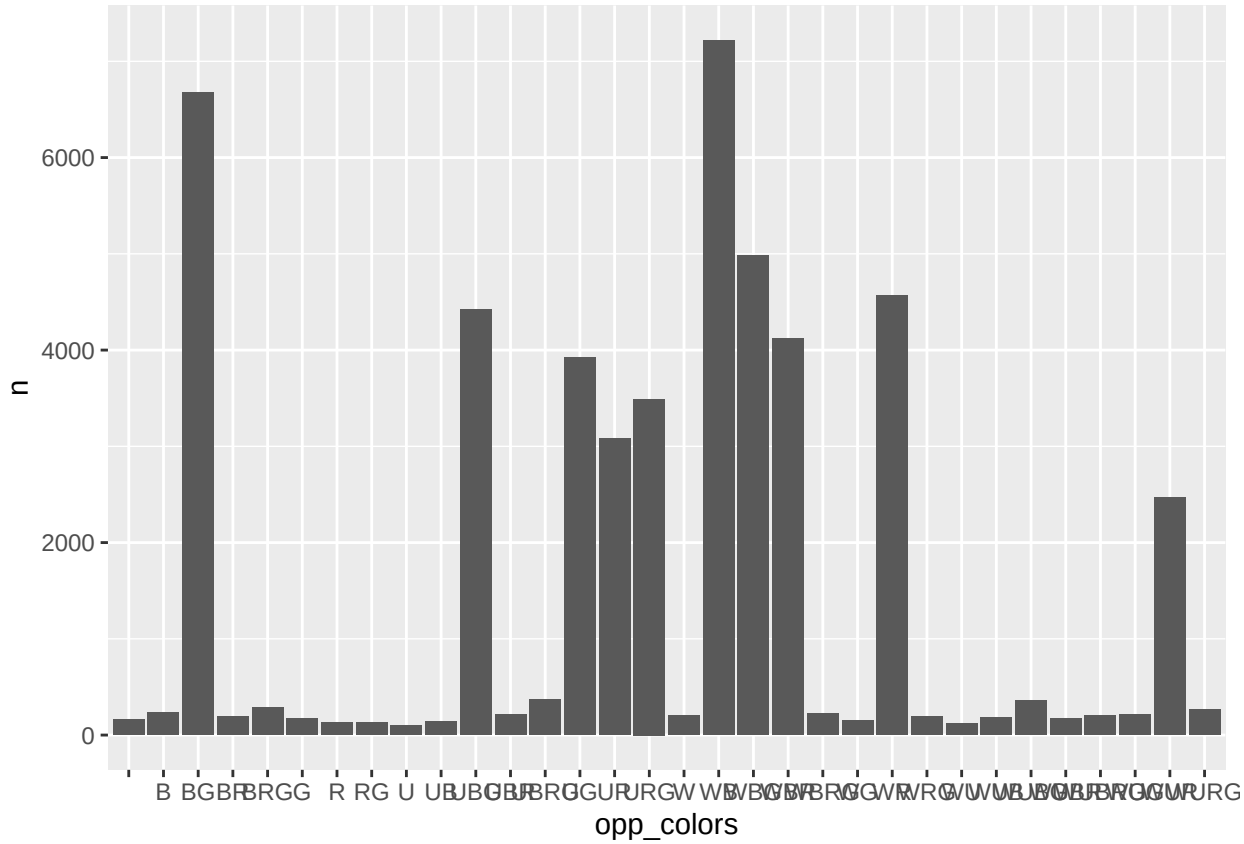
```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
color <- raw_stx %>%
  count(opp_colors) %>%
  arrange(desc(n)) %>%
  mutate(m=n/nrow(raw_stx)*100)
```

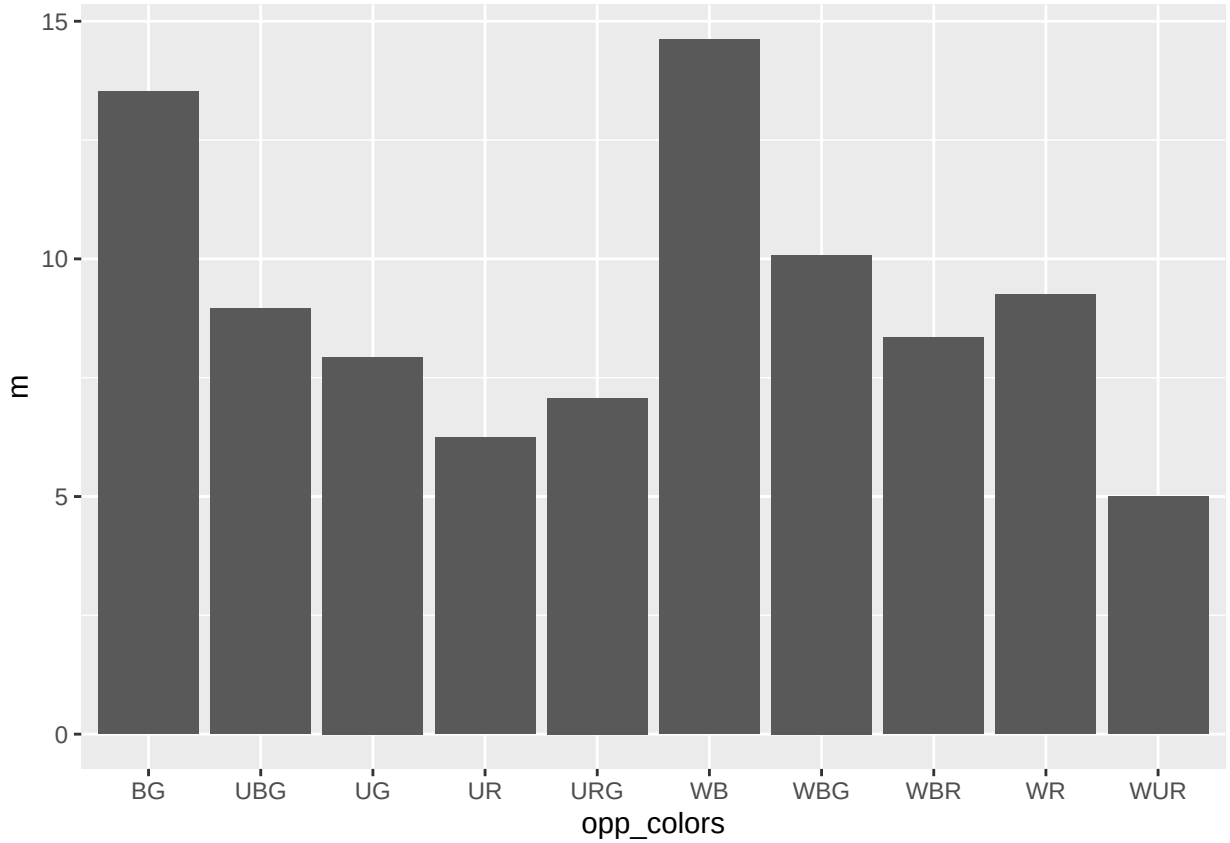
In addition we have access to deck color data. In Magic the Gathering there are 5 colors of resources available to players, and players can choose any combination of these 5 colors which in many ways define what and how their decks will play. The variable "opp_colors" is the color identity that an opponent's deck was, with each color having a letter code. So for example a code of "WUR" means the deck was white, blue and red. There are 166 or 0.3361617% na's. The percent makeup of decks for each color range from 14.618983% to 0.1964318%. Below we can see a bar chart of how many decks there are for each color combination.

```
ggplot(color,aes(x=opp_colors,y=n)) + geom_bar(stat='identity')
```



This plot shows that there are really ten major color combinations that are represented while the other 21 do not make up much of the makeup. So a better graph would look like this.

```
color %>%
  slice(1:10) %>%
  ggplot(aes(x=opp_colors,y=m)) + geom_bar(stat='identity')
```


15
10
5
0
m
BG
UBG
UG
UR
URG
WB
WBG
WBR
WR
WUR
opp_colors