Dogs & Intelligence

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Install and load packages

```
install.packages("tidyverse")
library(readr)
library(ggplot2)
library(dplyr)
```

SQL queried csv file imported

```
dogs <- read_csv("dog_intelligence_size_v3_R.csv")
```

Analysis of Dataframe

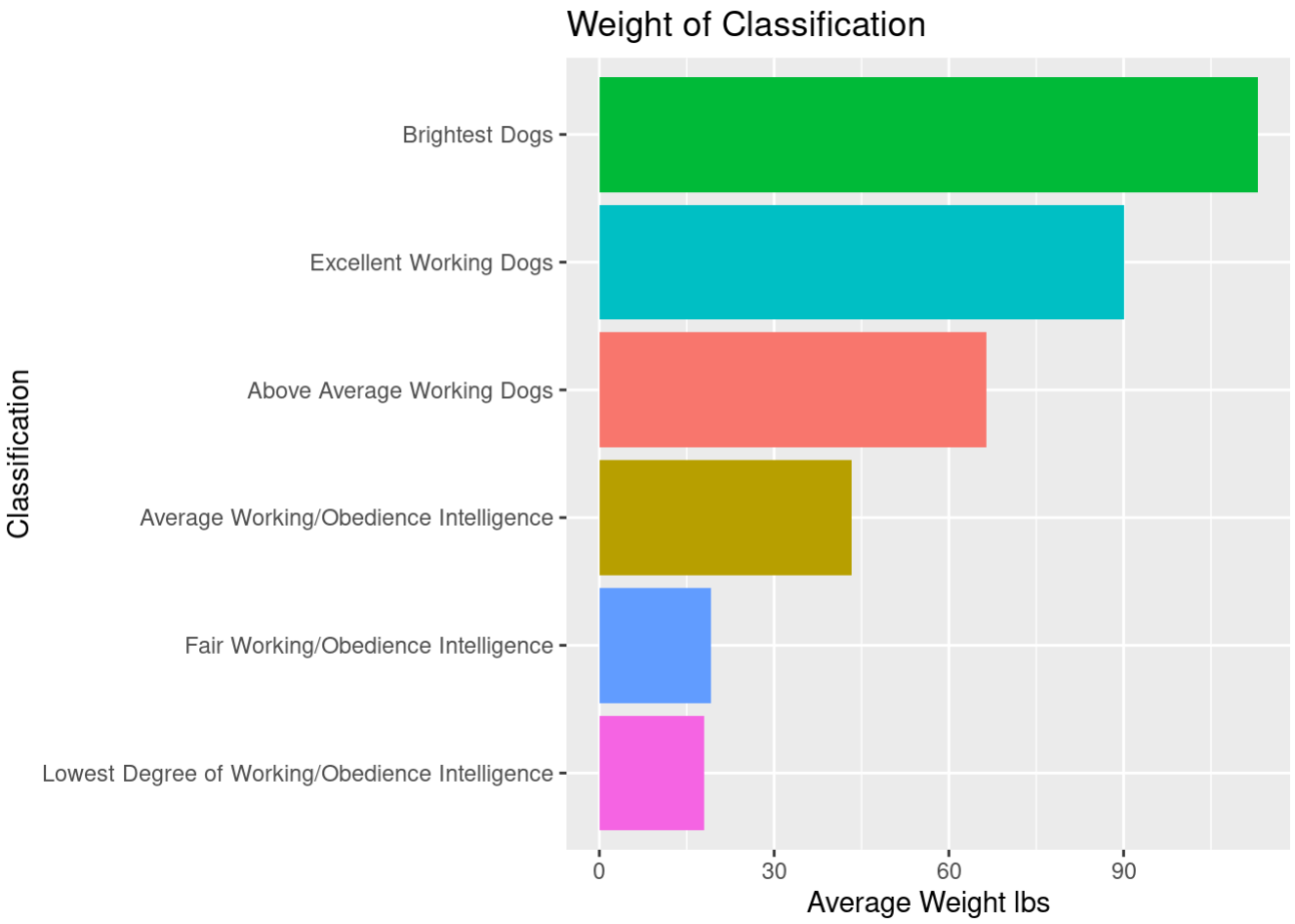
-started creating a dataframe consisting of average weight by classifitaion

which was used to create a bar graph to visualize average weight vs intelligence classification

```
class_weight <- dogs %>%
  group_by(classification) %>%
  summarize(avg_weight=mean(median_weight)) %>%
  arrange(desc(avg_weight))

class_weight
```

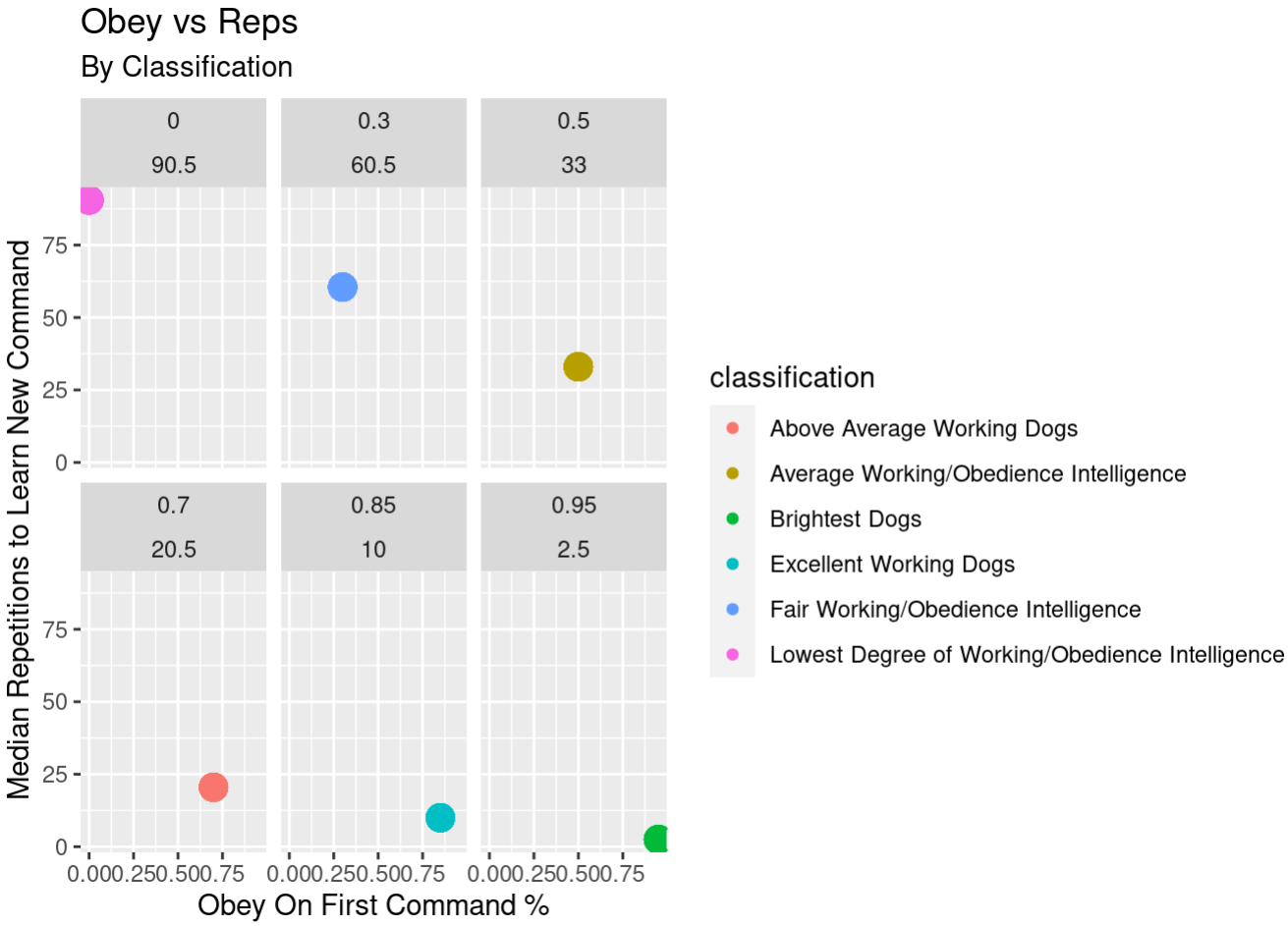
```
## # A tibble: 6 × 2
##   classification                                avg_weight
##   <chr>                                              <dbl>
## 1 Brightest Dogs                                     113
## 2 Excellent Working Dogs                              90
## 3 Above Average Working Dogs                          66.5
## 4 Average Working/Obedience Intelligence              43.3
## 5 Fair Working/Obedience Intelligence                 19.1
## 6 Lowest Degree of Working/Obedience Intelligence     18
```

```
dog_barchart <- ggplot(data = class_weight) +
  geom_bar(mapping = aes(y = reorder(classification, avg_weight), x = avg_weight,
                         fill=classification), stat = "identity")+
  labs(title="Weight of Classification", y="Classification", x="Average Weight lbs")+
  guides(fill=FALSE)

dog_barchart
```



-scatter plots created to illustrate relationship between obedience and repetitions, included classification in the plot because it groups dogs based on obedience and repetitions

```
dog_intelligence <- ggplot(data=dogs)+
  geom_point(mapping = aes(x = obey_rate, y = median_reps,
                           color = classification, size = 0.6))+
  facet_wrap(~obey_rate~median_reps)+
  labs(title="Obey vs Reps", subtitle="By Classification",
       x="Obey On First Command %",
       y="Median Repetitions to Learn New Command")+
  guides(size=FALSE)

dog_intelligence
```



-Scatter plot answers the question and illustrates the correlation of dog size vs intelligence

```
dog_size <- ggplot(data=dogs)+
  geom_point(mapping=aes(x=median_height, y=median_weight,
                         color=classification))+
  geom_smooth(mapping=aes(x=median_height, y=median_weight),
              color="black", size=.5)+
  labs(title="Dog Size and Intelligence Classification",
       x="Median Weight (lbs)", y="Median Height (in)")

dog_size
```


Dog Size and Intelligence Classification
Median Height (in)
150
100
50
0
10
15
20
25
30
Median Weight (lbs)
classification
Above Average Working Dogs
Average Working/Obedience Intelligence
Brightest Dogs
Excellent Working Dogs
Fair Working/Obedience Intelligence
Lowest Degree of Working/Obedience Intelligence