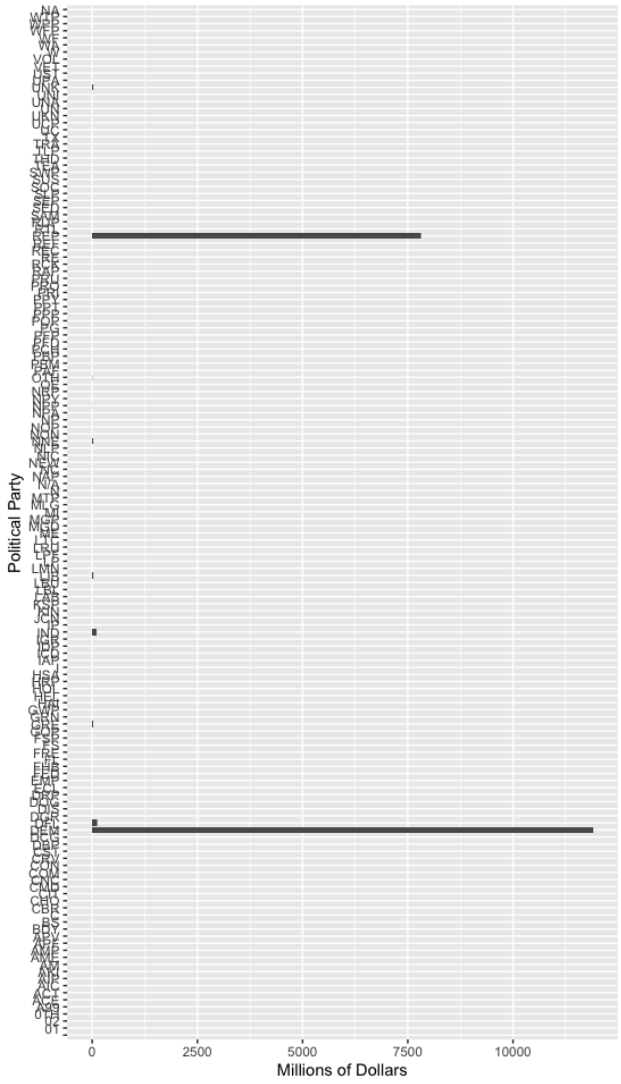
Swarna Mohan

PART ONE

1.



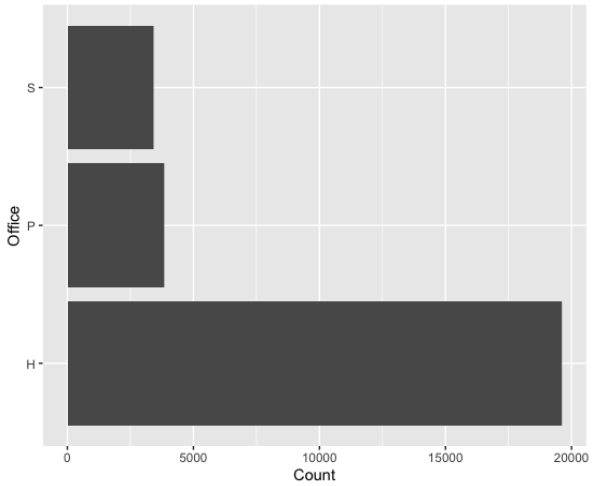
Code:

```
ggplot(mydata, aes(x=Cand_Party_Affiliation, y=Total_Contribution/1000000)) +
geom_bar(stat = "identity") +
coord_flip() + labs(x = "Political Party", y = "Millions of Dollars")
```

From this visualization, it's pretty clear that from over the many political parties there are in the United States, only two have received an exorbitant amount in total contributions. The Democratic Party, or "DEM" on the visualization, and the Republican Party, or "REP" on the visualization, have both received thousands of millions of dollars in total contributions. The other parties are not even close to the amount of contributions these two political parties receive.

Swarna Mohan

2.

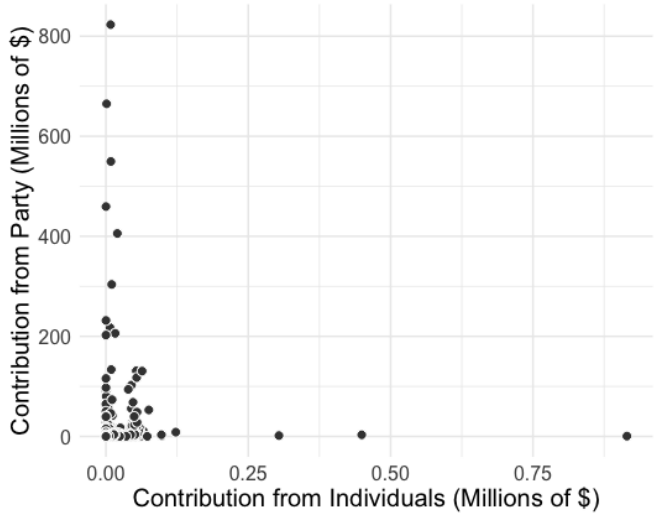


Code:

```
ggplot(mydata, aes(x=Cand_Office, y=1)) +
+ geom_bar(stat = "identity") +
+ coord_flip() + labs(x = "Office", y="Count")
```

From this visualization, you can see the count of political candidates running for Senate, House, or for President. There were almost 20,000 candidates from the years 2008 to 2022 running for the House. There also more political candidates that ran for President than political candidates running for a spot in the Senate.

3.



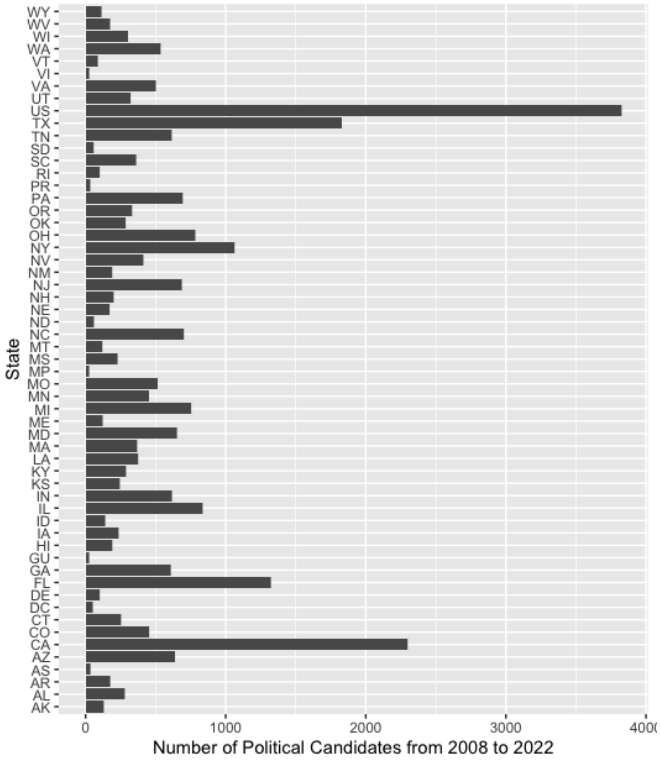
Code:

```
ggplot(mydata, aes(Party_Committee_Contribution/1000000,
Individual_Contribution/1000000)) +
```

```
        + geom_point(pch = 21, fill = "gray25", color = "white", size = 2.5) +
scale_x_continuous(name = "Contribution from Individuals (Millions of $)") +
scale_y_continuous(name = "Contribution from Party (Millions of $)") +
        + theme_minimal() +
        + theme(text = element_text(size=15))
```

This visualization compares contributions for each candidate that come from individuals versus from their political party. There is negative correlation shown in the scatterplot, showing that the more contributions a political candidate got from individuals, the less contributions they got from their political party and vice versa.

4.



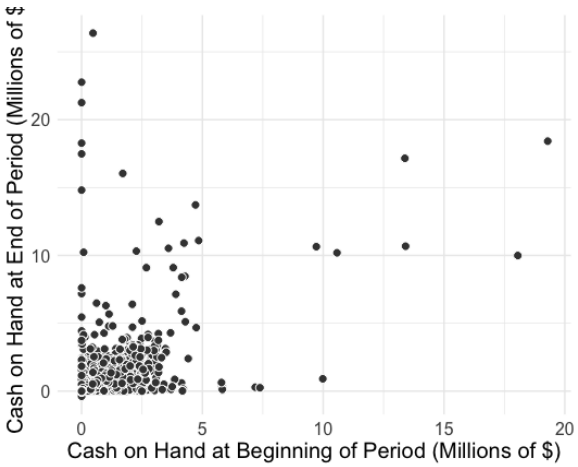
Code:

```
ggplot(mydata, aes(x=Cand_Office_St, y=1)) +
+ geom_bar(stat = "identity") +
+ coord_flip() + labs(x = "State", y="Number of Political Candidates from 2008 to 2022")
```

This visualization shows the number of political candidates in total that run for each state and for the nation (US). The number of political candidates that have run for the U.S. is higher than of any number of political candidates that have run for a state. California and Texas are next in the highest number of political candidates that have run for an office.

Swarna Mohan

5.

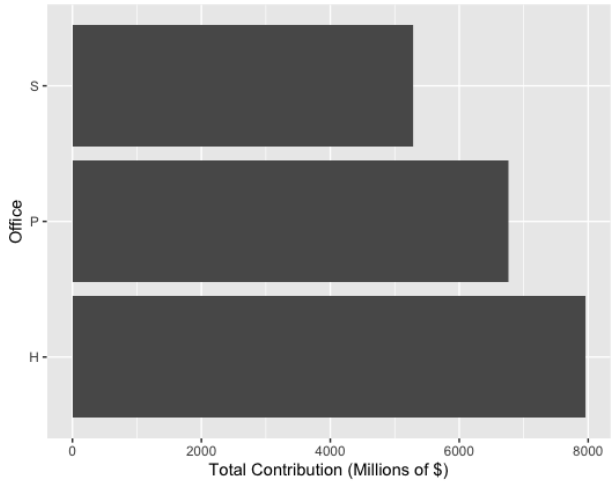


Code:

```
ggplot(mydata, aes(Cash_On_Hand_BOP/1000000, Cash_On_Hand_COP/1000000)) +
+ geom_point(pch = 21, fill = "gray25", color = "white", size = 2.5) +
scale_x_continuous(name = "Cash on Hand at Beginning of Period (Millions of $)") +
scale_y_continuous(name = "Cash on Hand at End of Period (Millions of $)") +
+ theme_minimal() +
+ theme(text = element_text(size=15))
```

This visualization shows that for each candidate, the cash that they had on hand at the beginning of the period in millions of dollars versus the cash that they had on hand at the end of the period. There is a very loose positive correlation, if a candidate had more cash on hand at the beginning of the period, they were more likely to have more cash on hand at the end of the period. There is also one line of dots (y=0), showing that some candidates started off with zero to very little cash on hand at the beginning of the period, but at the end, they had several million dollars of cash on hand.

6.



Swarna Mohan

Code:

```
ggplot(mydata, aes(x=Cand_Office, y=Total_Contribution/1000000)) +
+ geom_bar(stat = "identity") +
+ coord_flip() + labs(x = "Office", y="Total Contribution (Millions of $)")
```

This visualization shows the total contributions to each office: The Senate, President, and the House, in millions of dollars. The political candidates running for the House have received the most in total contributions, with the political candidates receiving the least.

PART TWO

First Hypothesis:

The first hypothesis that I will raise is that the political candidates that received the most contributions from their political party, are either from the Republican Party or the Democratic Party.

The first visualization of a bar chart shows each political party and the total contributions from the political candidates of that party in millions of dollars. It is clear to see that only two political parties, which are the Democratic and Republican party, have total contributions over the years that total up way beyond 500 million dollars. In the third visualization of a scatterplot showing each political candidate's contributions from individuals vs from their respective political party, only 5 candidates got a contribution of over 400 million dollars from their political party. This supports my hypothesis, as no other political party has even a total contribution of over 400 million besides the Republican and Democratic parties. This would make it impossible for candidates other parties to let alone have over 400 million dollars in donations from their respective political parties, according to the visualizations and evidence.

Second Hypothesis:

The second hypothesis I will raise is that political candidates running for President, each on average receive more in total contribution than each political candidate running for Senate or for the House.

In my second visualization of a bar chart, it can be seen that there are far more political candidates running for the House (near 20,000), than there are political candidates running for President (near 4,000). Based on my sixth visualization of a bar chart, the amount of total contributions for candidates running for President is not far off from the total contributions for candidates running for the House. Considering the vast difference between these two visualizations, provides evidence that each candidate running for President on average receives more in contribution than each candidate running for House or for Senate.