

Some Plots for MSCI Indexes Holdings

Alpha-Environment Security

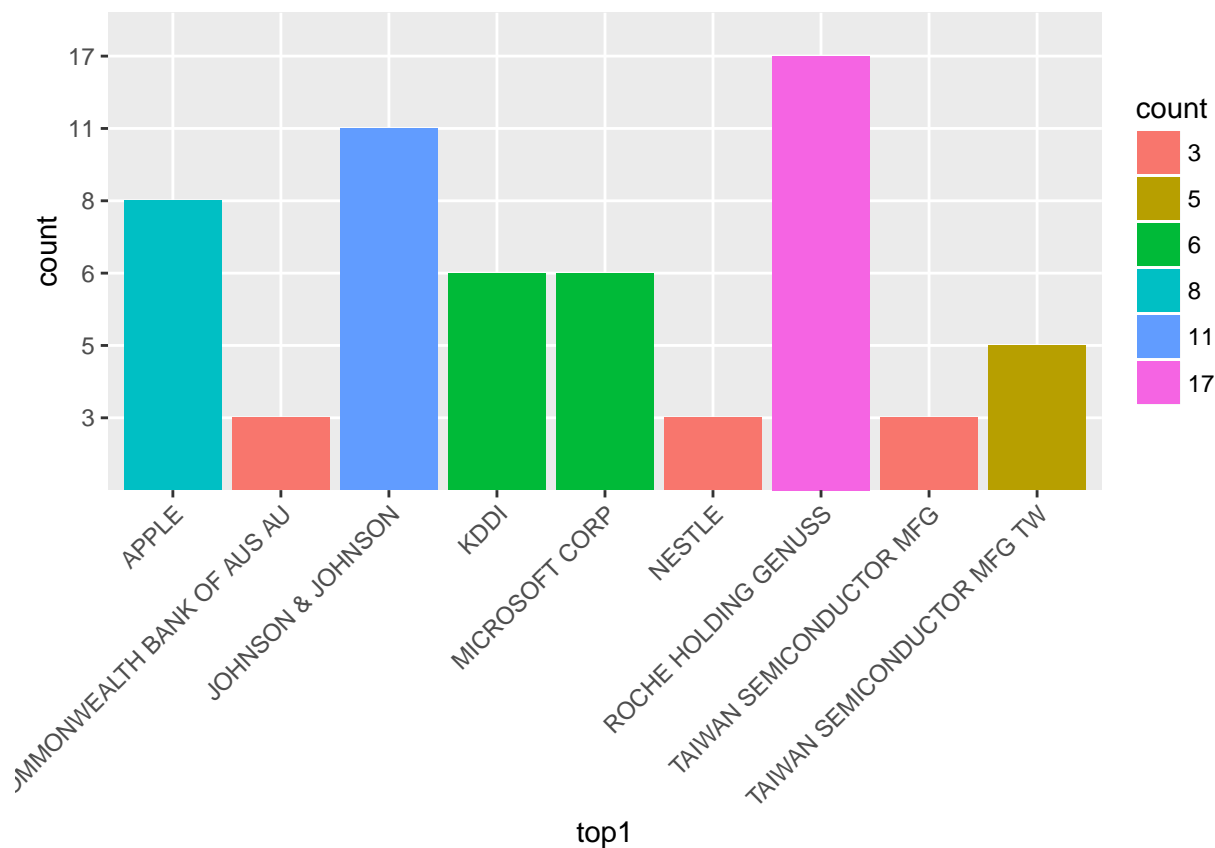
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Load data file:

```
data <- read.csv("top10holding.csv", header=TRUE)
```

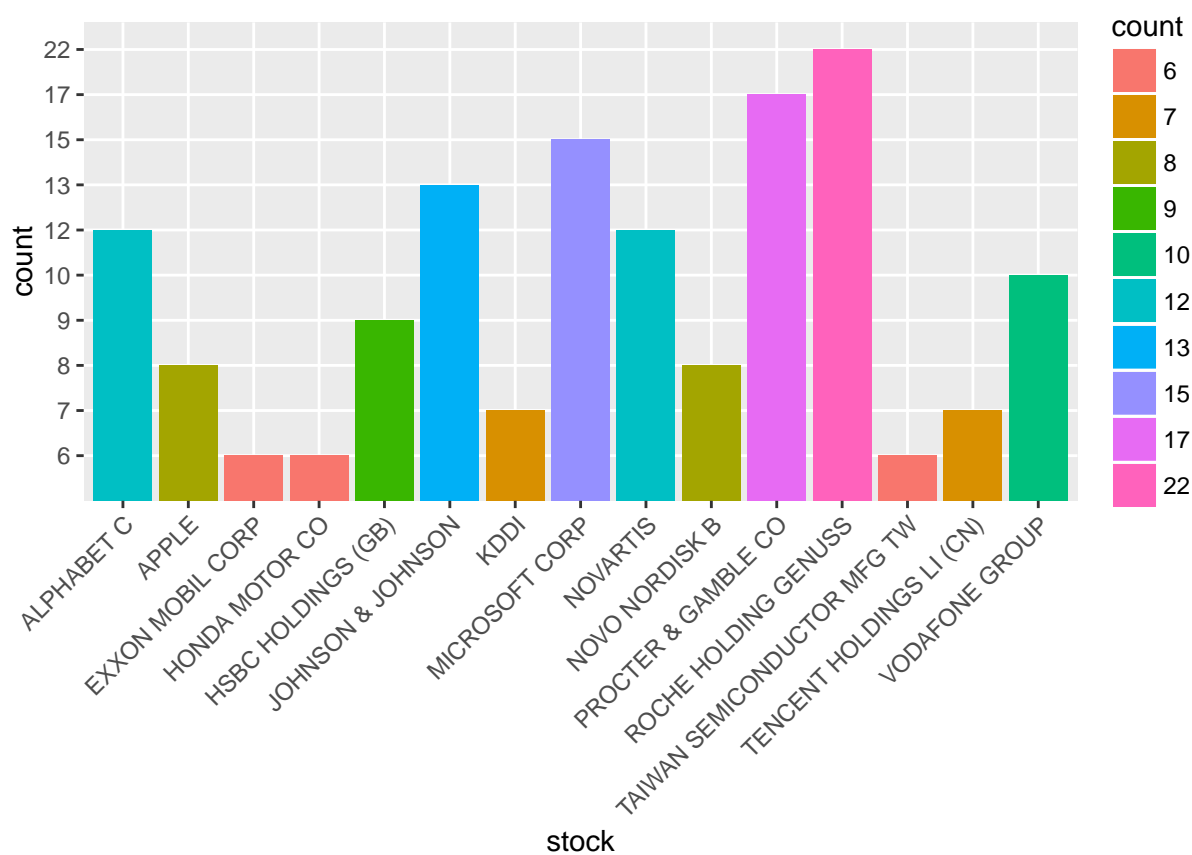
Frequent first largest holding company:

```
data %>%  
  group_by(top1) %>%  
  summarize(count=n()) %>%  
  ungroup() %>%  
  filter(count >= 3) %>%  
  mutate(count=factor(count)) %>%  
  ggplot(aes(x=top1, y=count, fill=count)) +  
    geom_bar(stat="identity") +  
    theme(axis.text.x = element_text(angle = 45, hjust = 1))
```



Frequent TOP 3 holdings companies:

```
data %>%
  gather(rank, stock, -index) %>%
  filter(rank == "top1" | rank == "top2" | rank == "top3") %>%
  group_by(stock) %>%
  summarize(count=n()) %>%
  ungroup() %>%
  filter( count > 5) %>%
  mutate(count=factor(count)) %>%
  ggplot(aes(x=stock, y=count, fill=count)) +
    geom_bar(stat="identity") +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))
```



Frequent TOP 10 holdings companys:

```
data %>%
  gather(rank, stock, -index) %>%
  filter(stock != "None") %>%
  group_by(stock) %>%
  summarize(count=n()) %>%
  ungroup() %>%
  filter( count > 8) %>%
  mutate(count=factor(count)) %>%
  ggplot(aes(x=stock, y=count, fill=count)) +
    geom_bar(stat="identity") +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

