Crime Data EDA

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2023-01-04

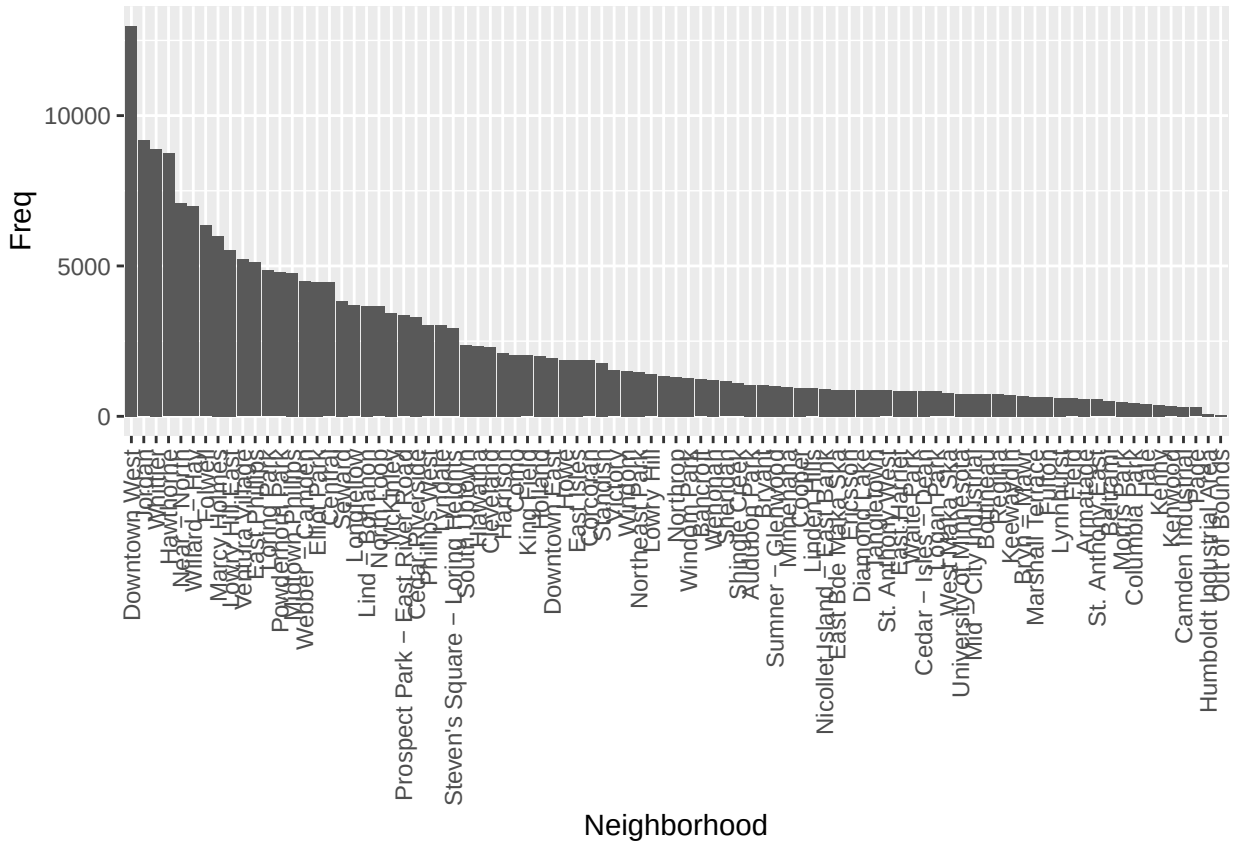
Notes on the dataset: - each row has data for a given crime - NIBRS stands for "National Incident-Based-Reporting System, which is an incident-based reporting system where law enforcement collects data on each crime occurrence - NIBRS codes correspond to a given offense (offenses with the same code number followed by a letter are all categorized under the same broad offense category) - there are group"A" and group "B" offenses, the latter of which must have an arrest before it is NIBRS reportable - this link has descriptions of each of the variables in the data set (https://www.minneapolismn.gov/media/-www-content-assets/documents/CrimeDashboardInfo.pdf)

Strange notes about the dataset: - the X column seems to be the same as the Longitude column and Y the same as Latitude

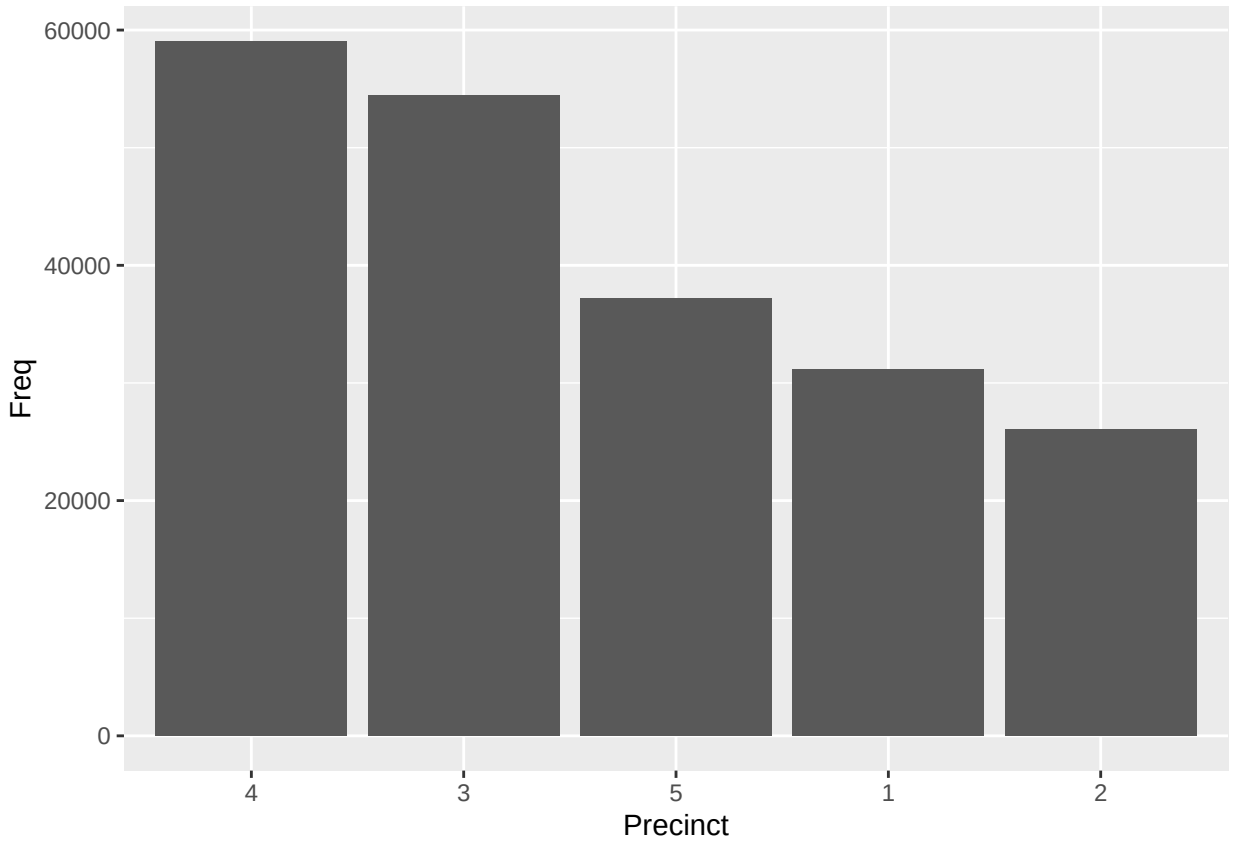
```
data <- read.csv("/Users/ayaklos/Documents/GitHub/carleton_comps_22_23/data/original/Crime_Data.csv")

data <- data %>% arrange(NIBRS_Crime_Against)

#41269 crimes were not part of the NIBRS data
sum(data$NIBRS_Crime_Against == "Non NIBRS Data")
```

```
## [1] 41269
```

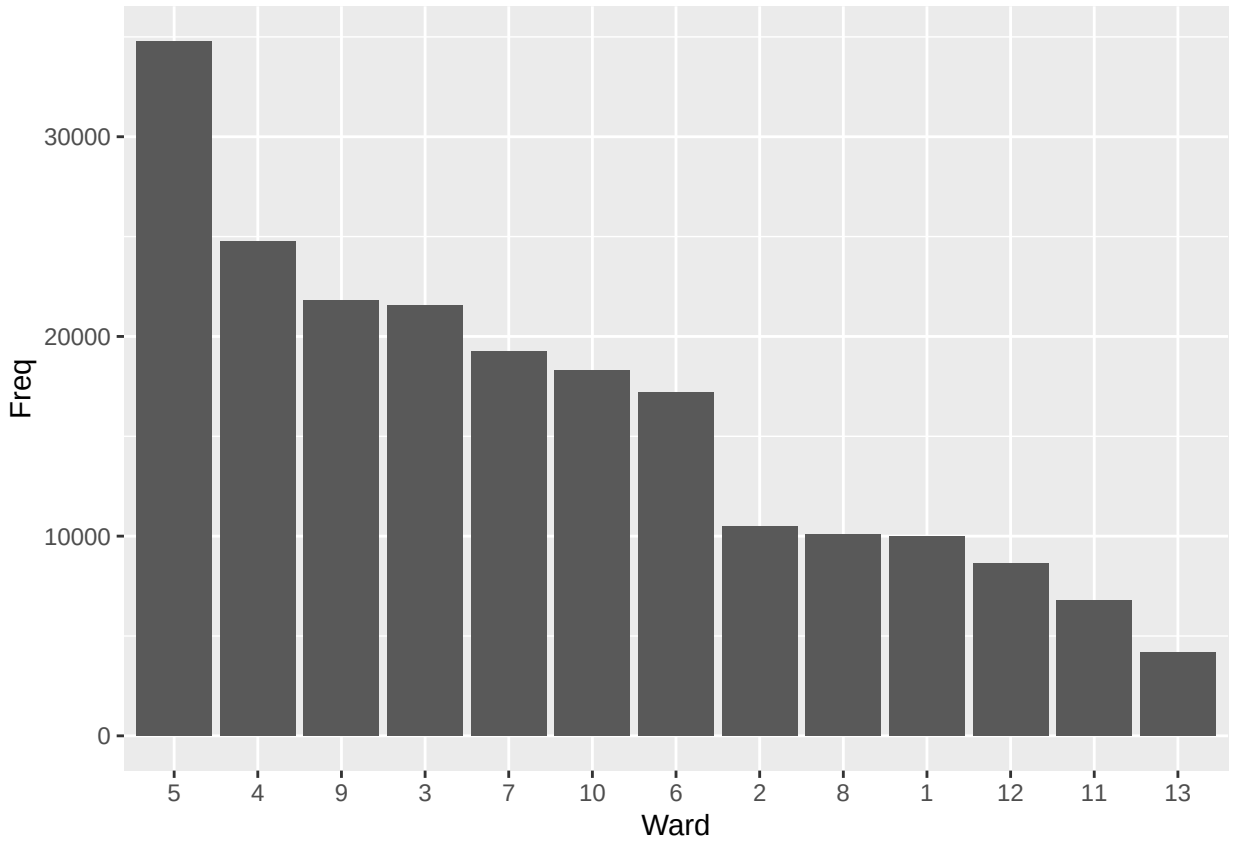
```
neighborhood.df <- table(data$Neighborhood) %>% as.data.frame()
precinct.df <- table(data$Precinct) %>% as.data.frame()
ward.df <- table(data$Ward) %>% as.data.frame()

ggplot(neighborhood.df, aes(x = reorder(Var1,-Freq), y = Freq)) +
  geom_bar(stat = "identity") +
  labs(x = "Neighborhood") +
  theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1))
```



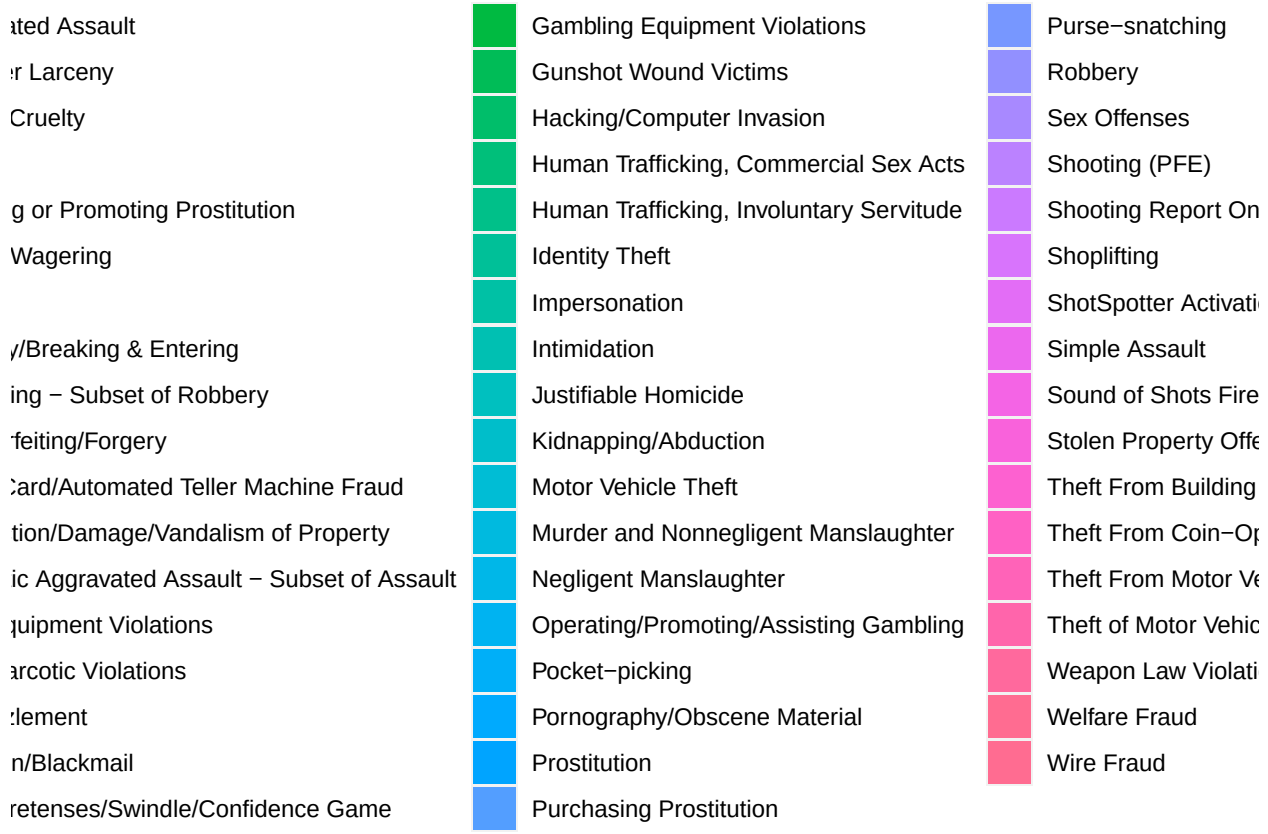

```
ggplot(precinct.df, aes(x = reorder(Var1,-Freq), y = Freq)) +
  geom_bar(stat = "identity") +
  labs(x = "Precinct")
```



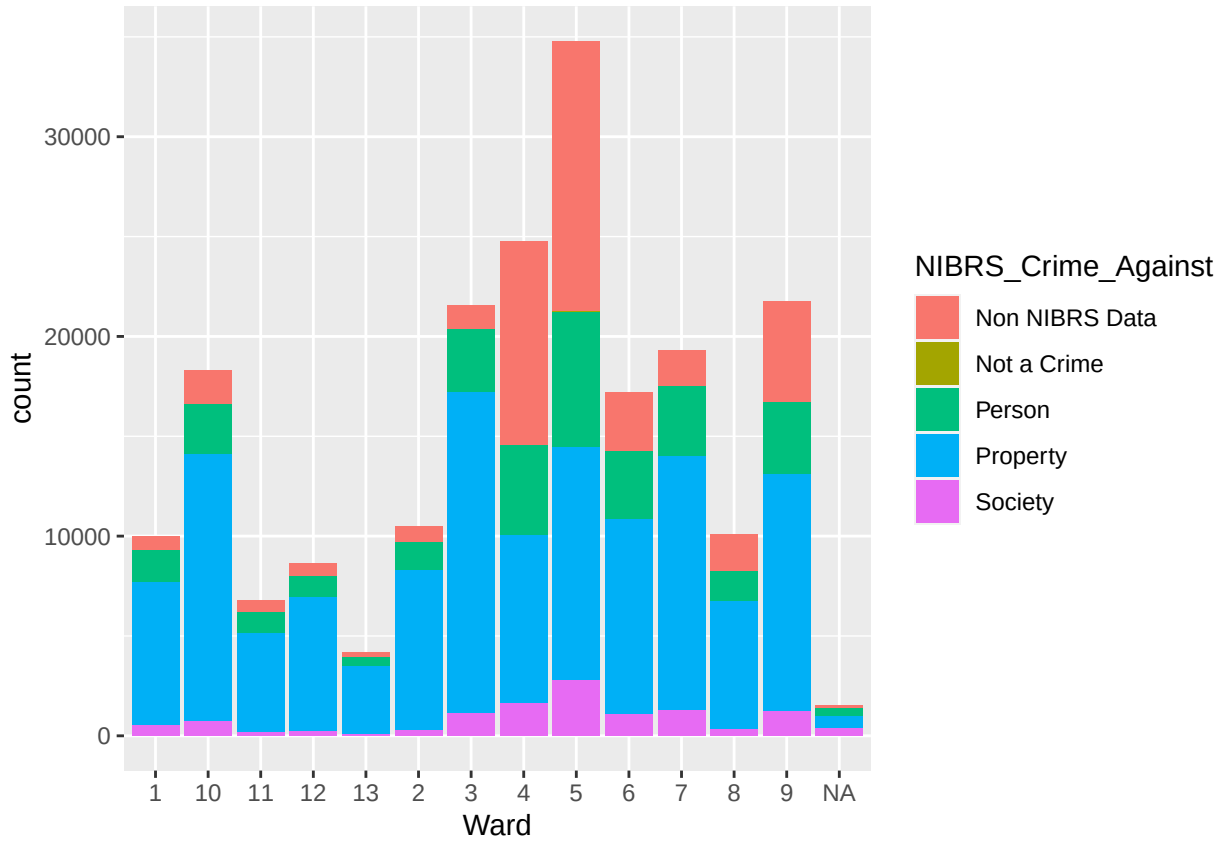

```
ggplot(ward.df, aes(x = reorder(Var1,-Freq), y = Freq)) +
  geom_bar(stat = "identity") +
  labs(x = "Ward")
```



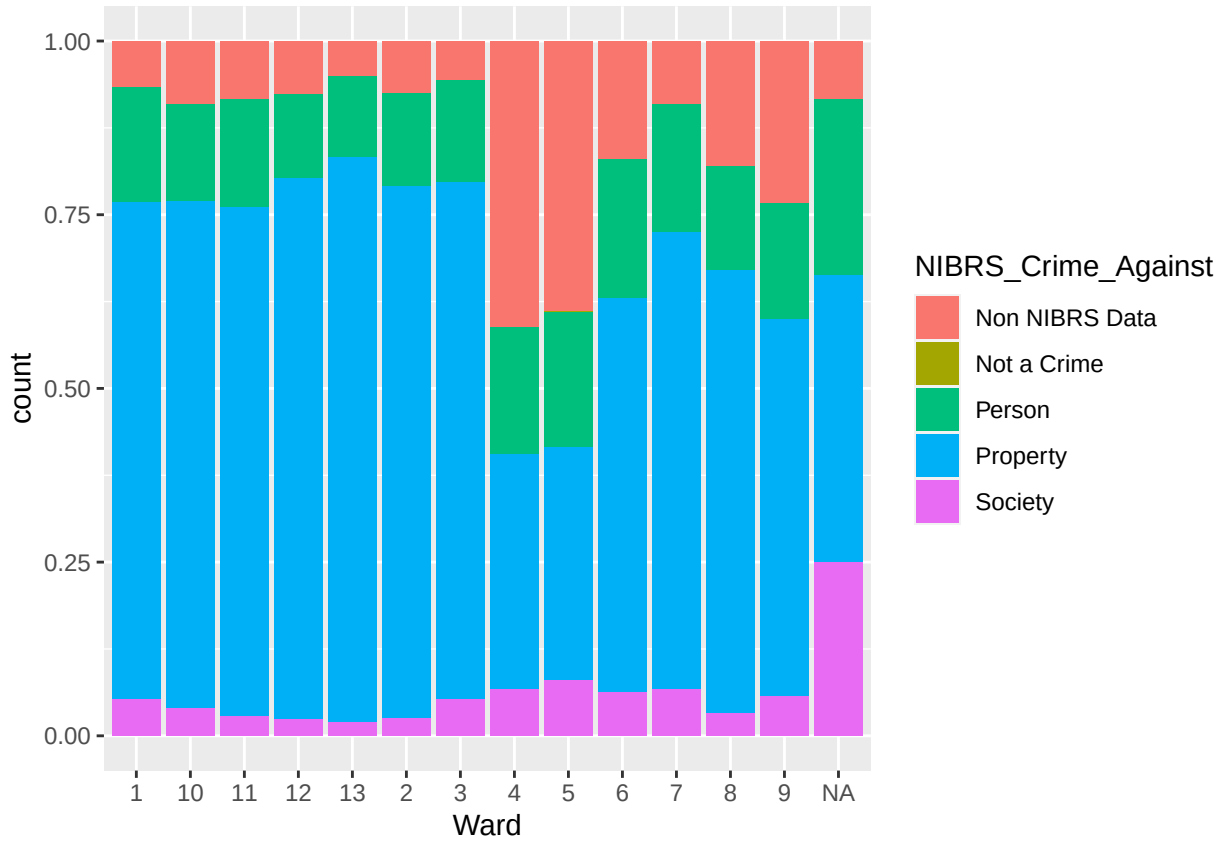

```
data.1 <- data
data.1$Ward <- as.character(data.1$Ward)
ggplot(data.1, aes(x = Ward, fill = Offense)) +
  geom_bar()
```



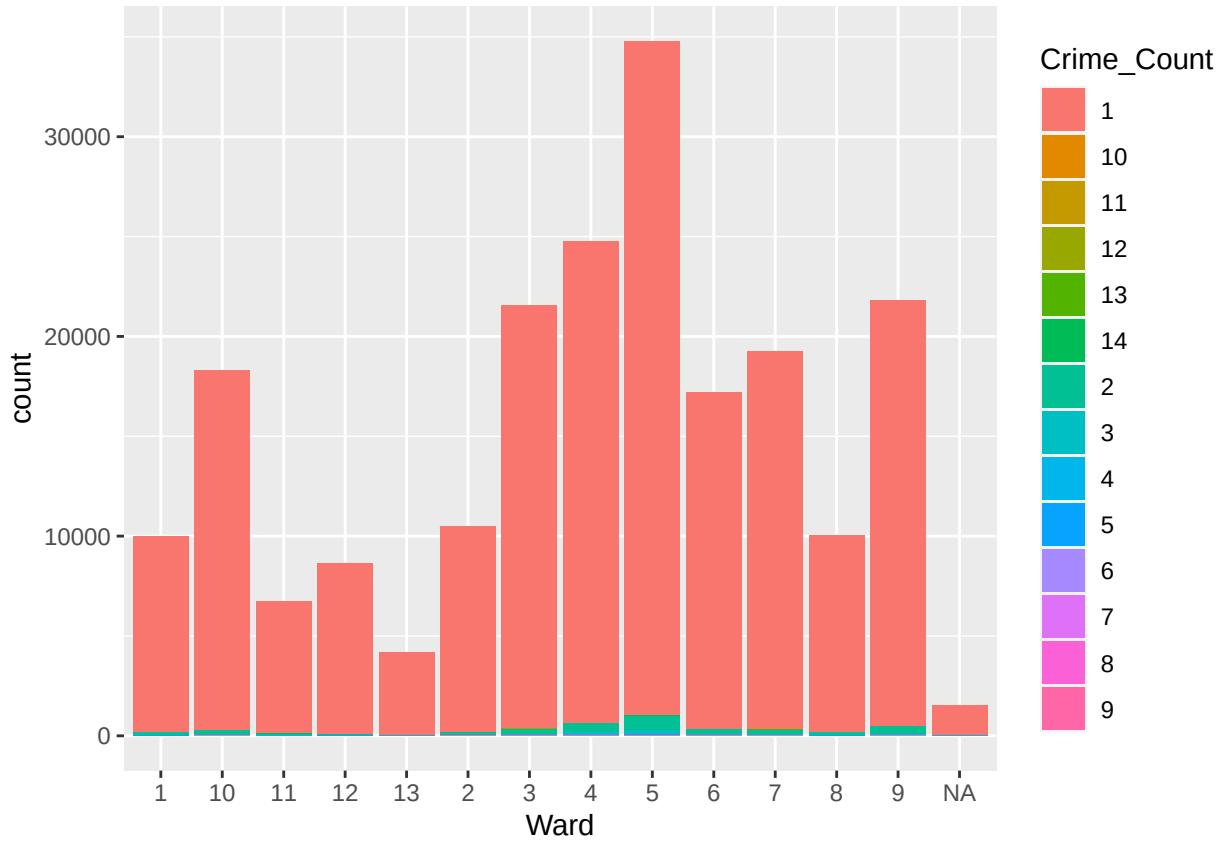

```
ggplot(data.1, aes(x = Ward, fill = NIBRS_Crime_Against)) +
  geom_bar()
```



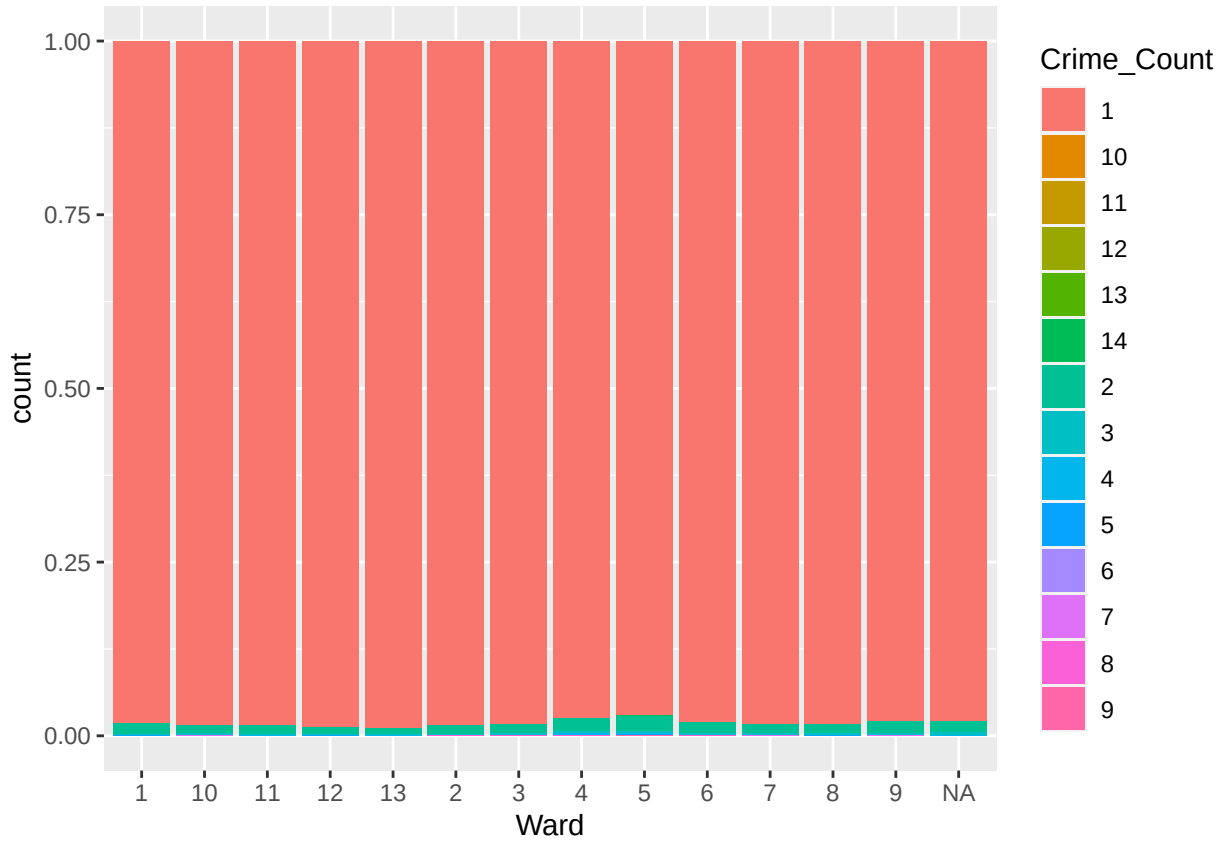

```
ggplot(data.1, aes(x = Ward, fill = NIBRS_Crime_Against)) +
  geom_bar(position = "fill")
```




```
data.1$Crime_Count <- as.character(data.1$Crime_Count)
ggplot(data.1, aes(x = Ward, fill = Crime_Count)) +
  geom_bar()
```




```
ggplot(data.1, aes(x = Ward, fill = Crime_Count)) +
  geom_bar(position = "fill")
```




```
table(data$Crime_Count)
```

```
##
##      1      2      3      4      5      6      7      8      9     10     11
## 205188   3209    564    203     89     23     28     11      3      5      3
##     12     13     14
##      2      1      2
```