

Shootings in Schools 2009-2018

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```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
## The following objects are masked from 'package:stats':
##
##   filter, lag
## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
library(tidyverse)
```

```
## -- Attaching packages -----
## v ggplot2 3.1.0      v readr   1.3.1
## v tibble  1.4.2      v purrr   0.2.5
## v tidyr   0.8.2      v stringr 1.3.1
## v ggplot2 3.1.0      v forcats 0.3.0
## -- Conflicts -----
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(ggplot2)
library(lubridate)
```

```
##
## Attaching package: 'lubridate'
## The following object is masked from 'package:base':
##
##   date
```

```
main<-read_csv('C:/Users/garim/OneDrive/Desktop/NEU/Introduction to Data Management and Processing/data
```

```
## Parsed with column specification:
## cols(
##   LONCOD = col_double(),
##   LATCOD = col_double(),
##   CDCODE = col_double(),
##   year = col_double(),
##   school = col_character(),
##   city = col_character(),
##   state = col_character(),
##   address = col_character(),
##   urbanrural = col_character(),
##   race = col_character(),
##   killed = col_double(),
##   injured = col_double(),
```

```
## victims = col_double(),
## date = col_character(),
## type = col_character(),
## NCESSCH = col_double(),
## time = col_time(format = "")
## )
```

```
main<-drop_na(main)
main
```

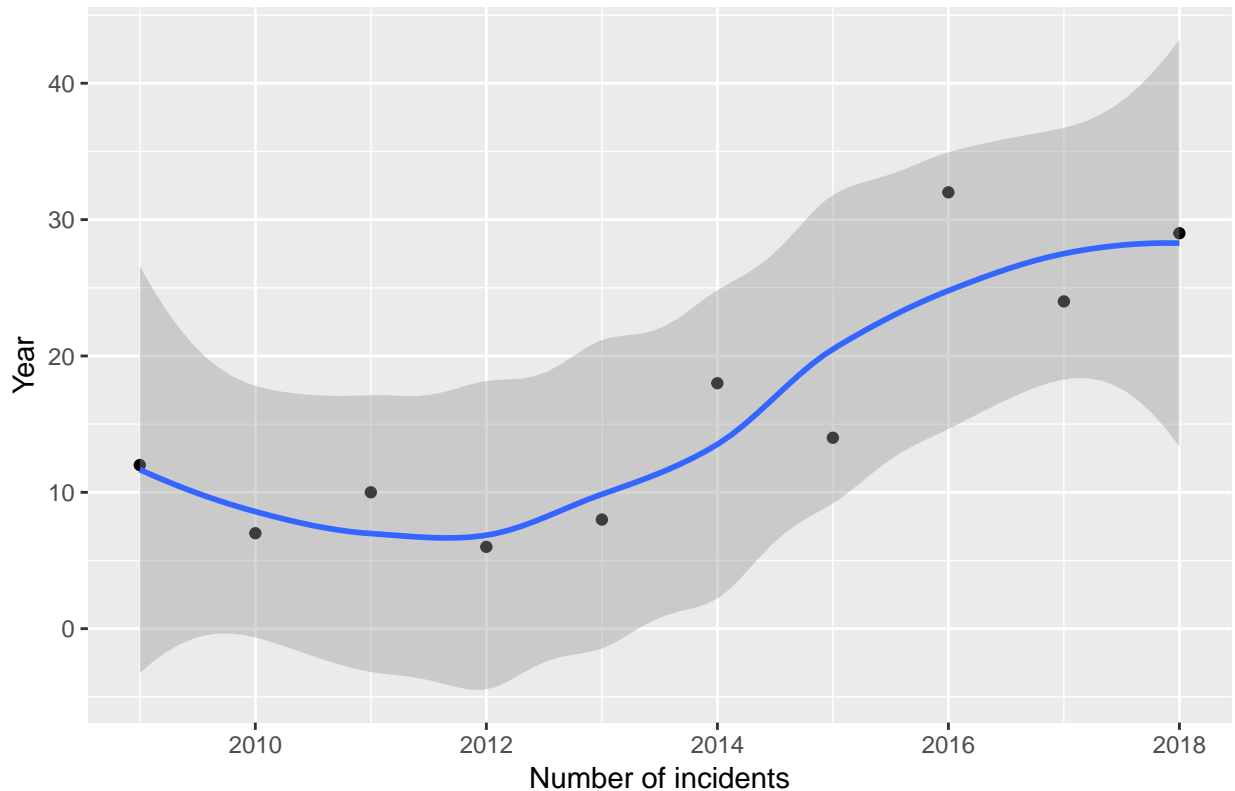
```
## # A tibble: 160 x 17
##   LONCOD LATCOD CDCODE year school city state address urbanrural race
##   <dbl> <dbl> <dbl> <dbl> <chr> <chr> <chr> <chr> <chr> <chr>
## 1 -75.6 39.7 1000 2009 Willi~ New ~ Dela~ 713 E ~ suburbtown BLACK
## 2 -87.6 41.8 1701 2009 Dunba~ Chic~ Illi~ 3000 S~ urban BLACK
## 3 -90.2 38.6 1712 2009 Cahok~ Caho~ Illi~ 800 Ra~ suburbtown BLACK
## 4 -78.3 35.8 3713 2009 Zebul~ Zebu~ Nort~ Halifa~ suburbtown BLACK
## 5 -79.0 35.1 3702 2009 Westo~ Faye~ Nort~ 277 Bo~ urban BLACK
## 6 -77.4 37.5 5103 2009 Chimb~ Rich~ Virg~ 3000 E~ urban BLACK
## 7 -84.5 38.1 2106 2009 Leest~ Lexi~ Kent~ 2010 L~ urban BLACK
## 8 -92.9 42.6 1901 2009 Aplin~ Park~ Iowa 610 N ~ rural WHITE
## 9 -72.5 41.0 3601 2009 Matti~ Matt~ New ~ 15125 ~ suburbtown WHITE
## 10 -118. 33.8 637 2009 Wilso~ Long~ Cali~ 4400 E~ urban HISP
## # ... with 150 more rows, and 7 more variables: killed <dbl>,
## # injured <dbl>, victims <dbl>, date <chr>, type <chr>, NCESSCH <dbl>,
## # time <time>
```

```
#YEAR SMOOTH
```

```
main %>% group_by(year) %>% summarise(total=n()) %>% ggplot(mapping = aes(x=year,y=total))+geom_point()
```

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

Yearly Trend

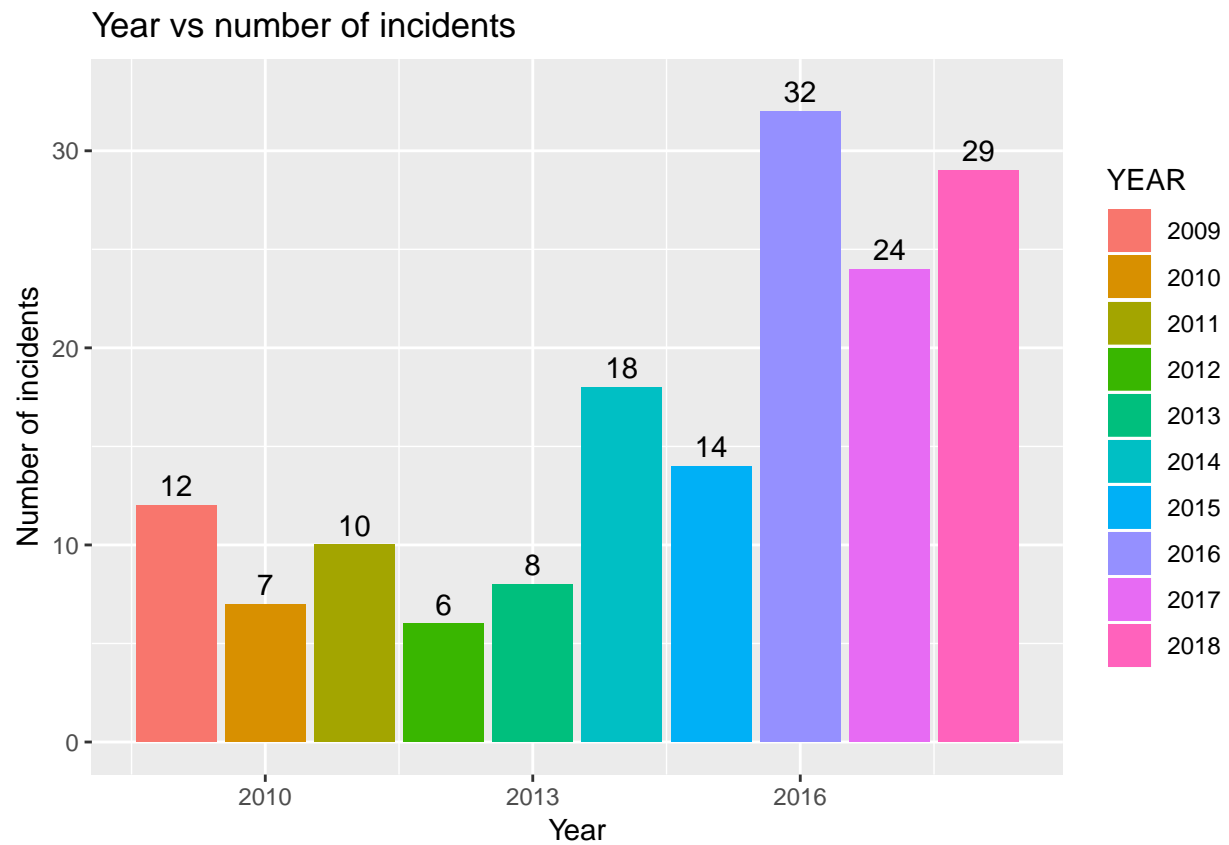


main

```
## # A tibble: 160 x 17
##   LONCOD LATCOD CDCODE year school city state address urbanrural race
##   <dbl> <dbl> <dbl> <dbl> <chr> <chr> <chr> <chr> <chr> <chr>
## 1 -75.6 39.7 1000 2009 Willi~ New ~ Dela~ 713 E ~ suburbtown BLACK
## 2 -87.6 41.8 1701 2009 Dunba~ Chic~ Illi~ 3000 S~ urban BLACK
## 3 -90.2 38.6 1712 2009 Cahok~ Caho~ Illi~ 800 Ra~ suburbtown BLACK
## 4 -78.3 35.8 3713 2009 Zebul~ Zebu~ Nort~ Halifa~ suburbtown BLACK
## 5 -79.0 35.1 3702 2009 Westo~ Faye~ Nort~ 277 Bo~ urban BLACK
## 6 -77.4 37.5 5103 2009 Chimb~ Rich~ Virg~ 3000 E~ urban BLACK
## 7 -84.5 38.1 2106 2009 Leest~ Lexi~ Kent~ 2010 L~ urban BLACK
## 8 -92.9 42.6 1901 2009 Aplin~ Park~ Iowa 610 N ~ rural WHITE
## 9 -72.5 41.0 3601 2009 Matti~ Matt~ New ~ 15125 ~ suburbtown WHITE
## 10 -118. 33.8 637 2009 Wilso~ Long~ Cali~ 4400 E~ urban HISP
## # ... with 150 more rows, and 7 more variables: killed <dbl>,
## # injured <dbl>, victims <dbl>, date <chr>, type <chr>, NCESSCH <dbl>,
## # time <time>
```

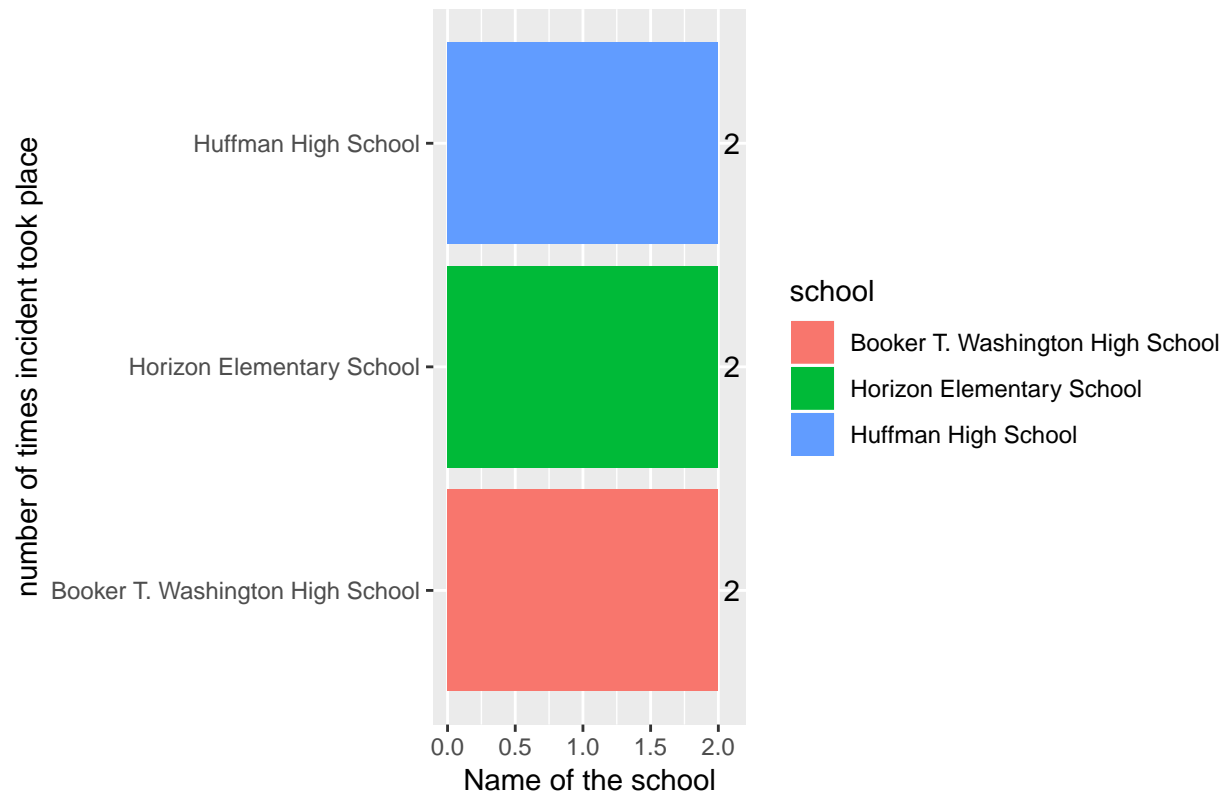
#YEAR BAR GRAPH

```
main %>% group_by(year) %>% summarise(count=n()) %>% ggplot(mapping = aes(x=year,y=count,fill=as.factor
```



```
main %>% group_by(school) %>% summarise(times=n()) %>% arrange(desc(times))%>% top_n(3) %>% ggplot(mapping = aes(x=school, y=times))
## Selecting by times
```

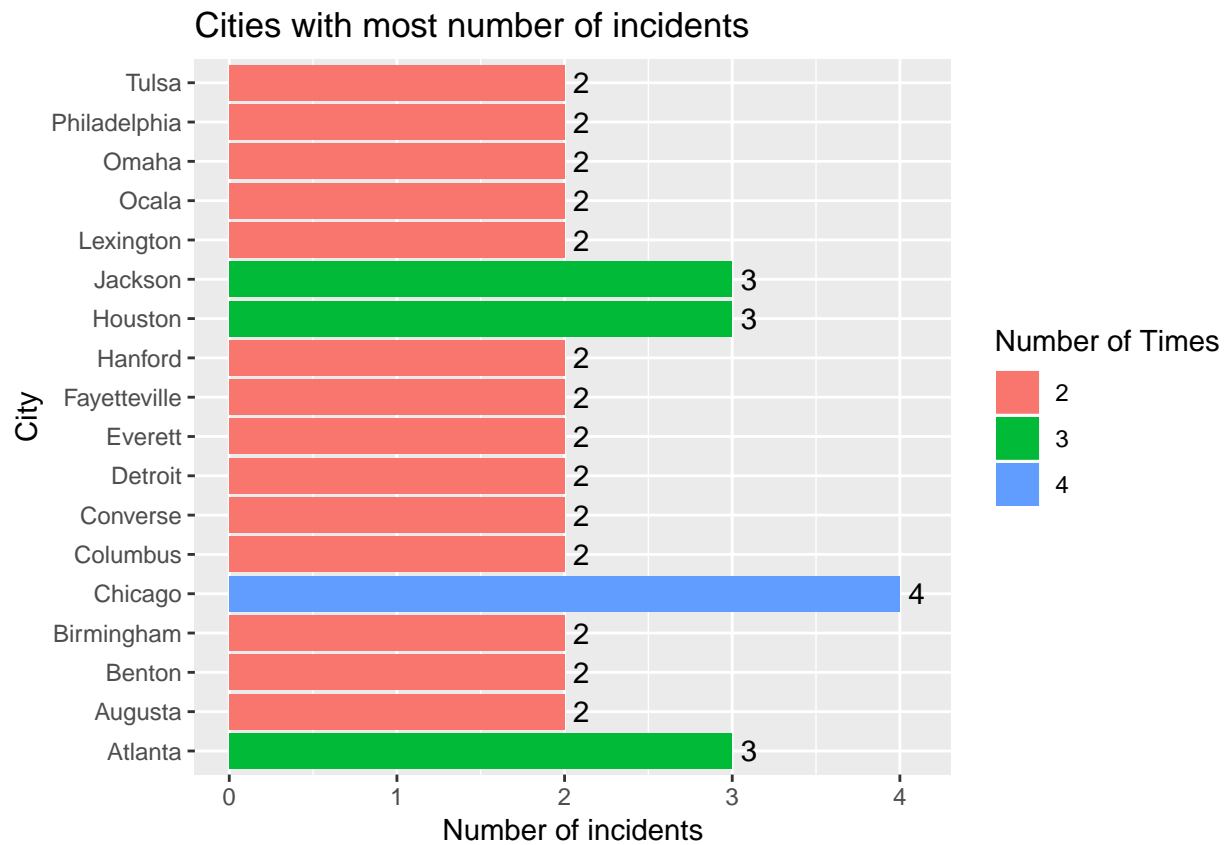
Schools where incidents took place more than once



#CITIES

```
main %>% group_by(city) %>% summarise(number_of_times=n()) %>% arrange(desc(number_of_times))%>% top_n(
```

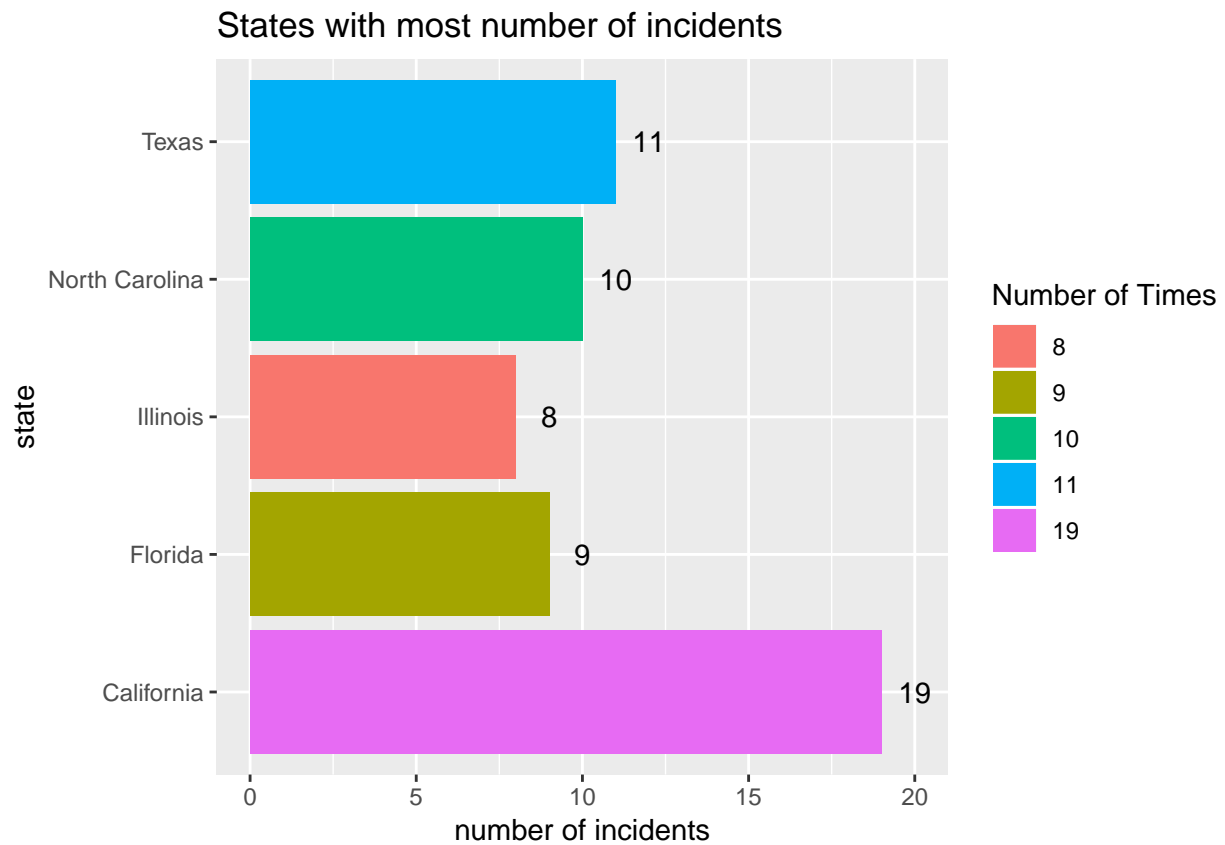
```
## Selecting by number_of_times
```



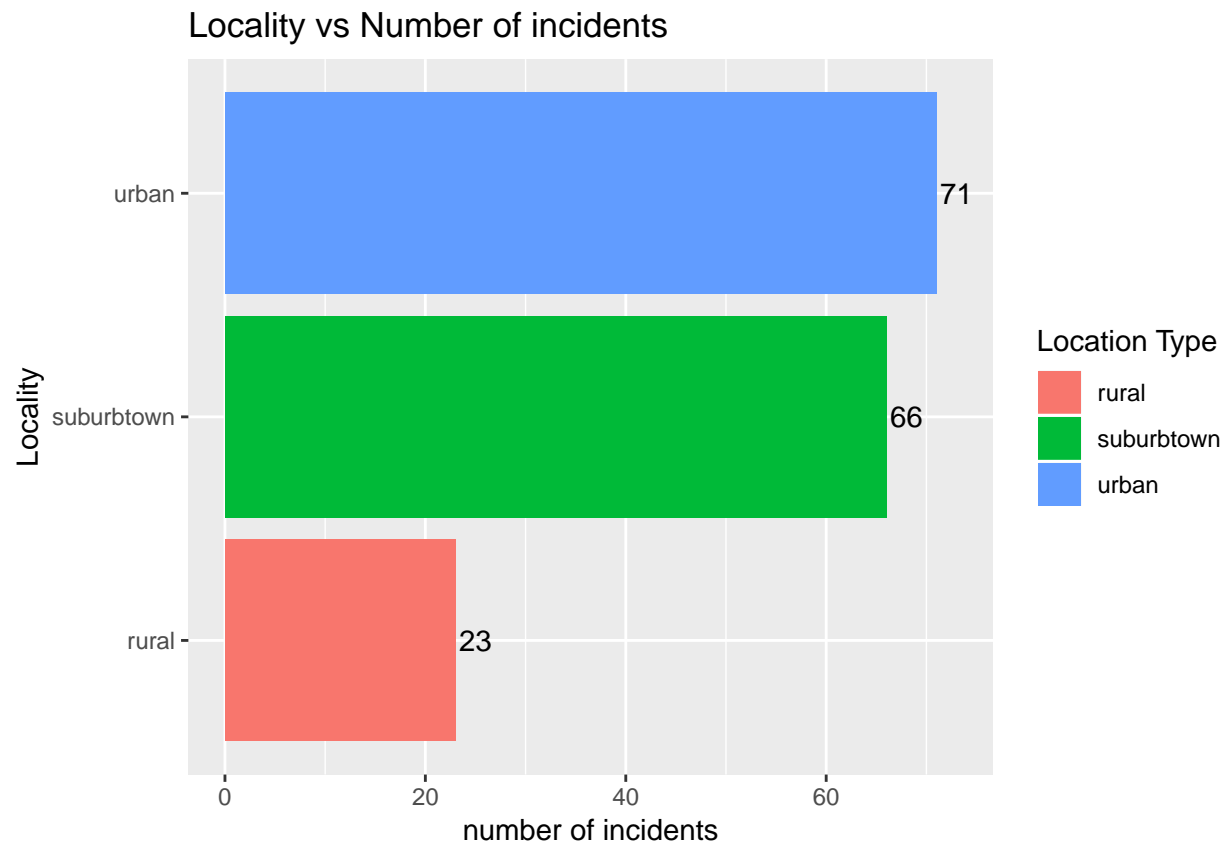
```
#STATES
```

```
main %>% group_by(state) %>% summarise(number_of_times=n()) %>% arrange(desc(number_of_times))%>% top_n
```

```
## Selecting by number_of_times
```

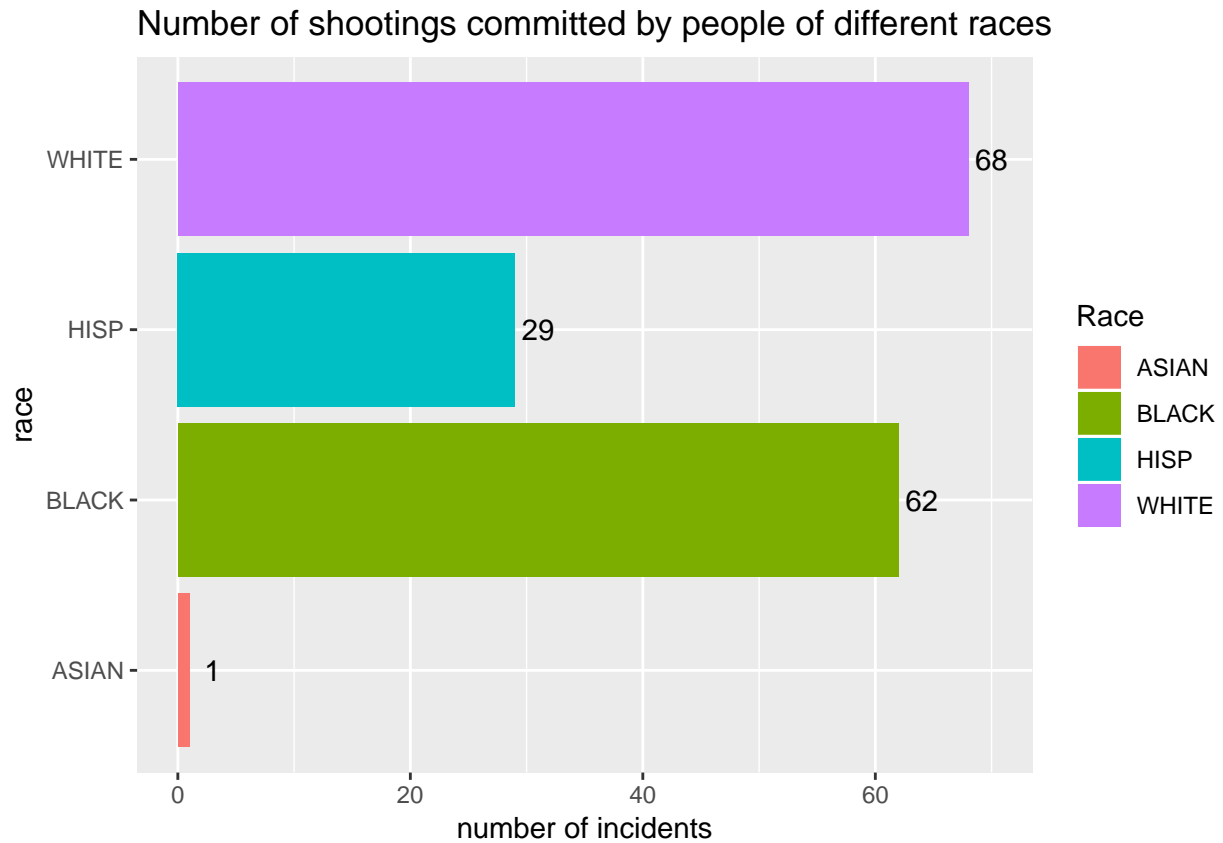


```
#urbanrural
main %>% group_by(urbanrural) %>% summarise(number=n()) %>% arrange(desc(number)) %>% ggplot(mapping = a
```



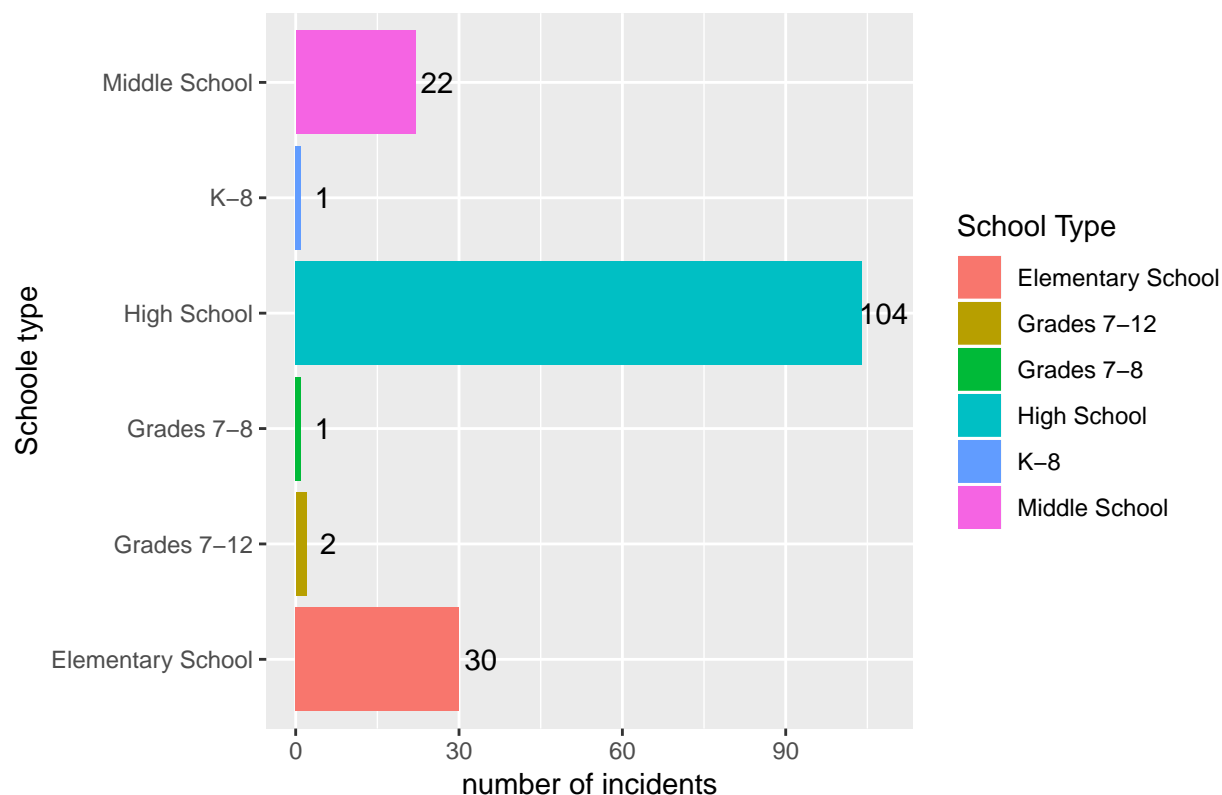
#Race

```
main %>% group_by(race) %>% summarise(counting=n()) %>% arrange(desc(counting))%>% ggplot(mapping = aes
```

```
#SCHOOL TYPE
main %>% group_by(type) %>% summarise(total=n()) %>% arrange(desc(total))%>% top_n(5) %>% ggplot(mapping
## Selecting by total
```

Number of incidents in different types of Schools



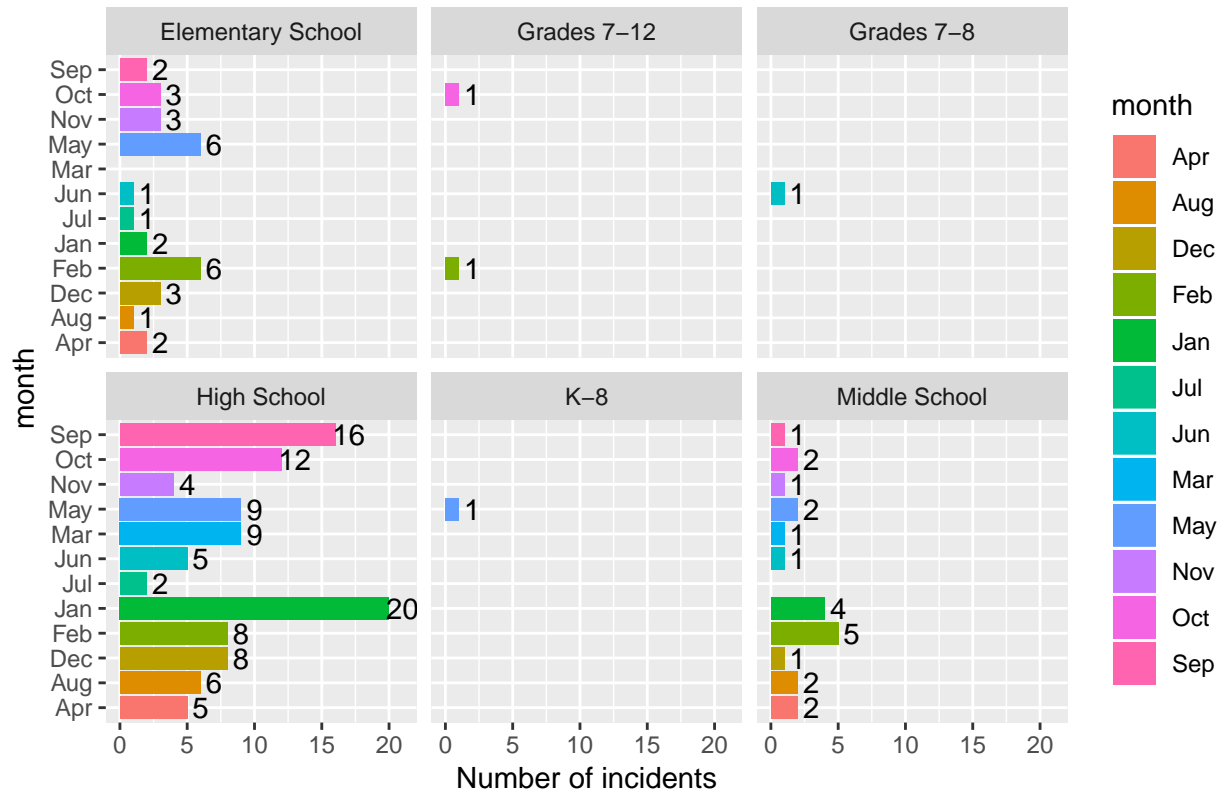
```
main<-main %>% mutate(month=str_sub(main[['date']],-6,-4))
main
```

```
## # A tibble: 160 x 18
##   LONCOD LATCOD CDCODE year school city state address urbanrural race
##   <dbl> <dbl> <dbl> <dbl> <chr> <chr> <chr> <chr> <chr> <chr>
## 1 -75.6 39.7 1000 2009 Willi~ New ~ Dela~ 713 E ~ suburbtown BLACK
## 2 -87.6 41.8 1701 2009 Dunba~ Chic~ Illi~ 3000 S~ urban BLACK
## 3 -90.2 38.6 1712 2009 Cahok~ Caho~ Illi~ 800 Ra~ suburbtown BLACK
## 4 -78.3 35.8 3713 2009 Zebul~ Zebu~ Nort~ Halifa~ suburbtown BLACK
## 5 -79.0 35.1 3702 2009 Westo~ Faye~ Nort~ 277 Bo~ urban BLACK
## 6 -77.4 37.5 5103 2009 Chimb~ Rich~ Virg~ 3000 E~ urban BLACK
## 7 -84.5 38.1 2106 2009 Leest~ Lexi~ Kent~ 2010 L~ urban BLACK
## 8 -92.9 42.6 1901 2009 Aplin~ Park~ Iowa 610 N ~ rural WHITE
## 9 -72.5 41.0 3601 2009 Matti~ Matt~ New ~ 15125 ~ suburbtown WHITE
## 10 -118. 33.8 637 2009 Wilso~ Long~ Cali~ 4400 E~ urban HISP
## # ... with 150 more rows, and 8 more variables: killed <dbl>,
## # injured <dbl>, victims <dbl>, date <chr>, type <chr>, NCESSCH <dbl>,
## # time <time>, month <chr>
```

```
#MONTHS EACH SCHOOL TYPE
```

```
main %>% group_by(month,type) %>% summarise(times_in_month=n()) %>% arrange(desc(times_in_month)) %>%
```

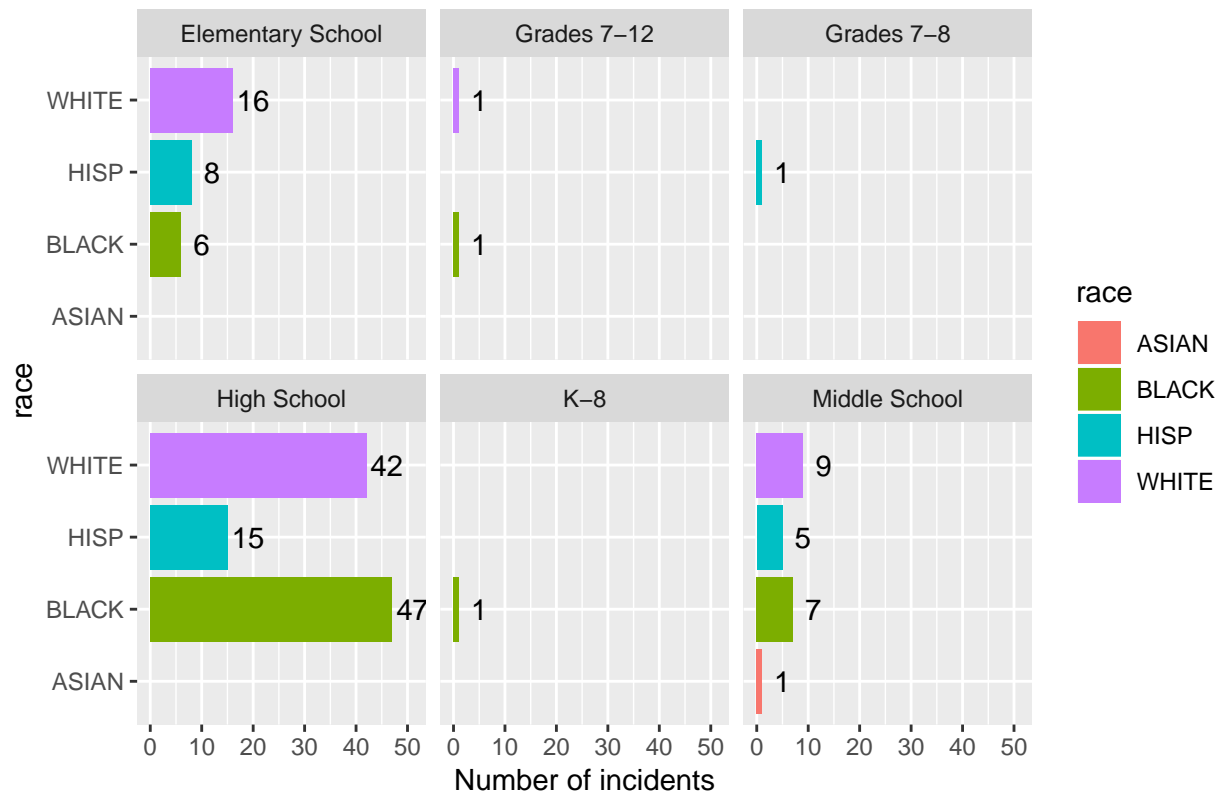
Month vs Number of incident in each school type



#Race in each school type

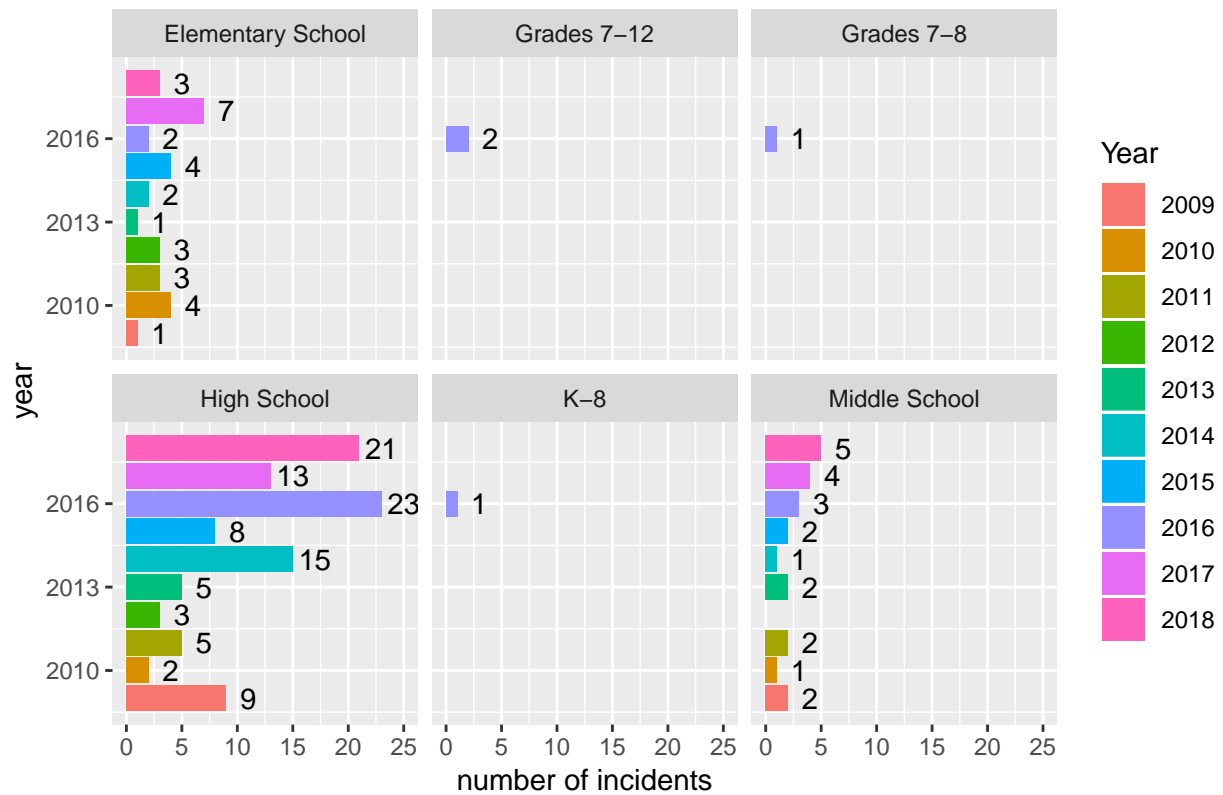
```
main %>% group_by(race,type) %>% summarise(times_by_race=n()) %>% arrange(desc(times_by_race)) %>% ggplot
```

Race vs Number of incident in each school type



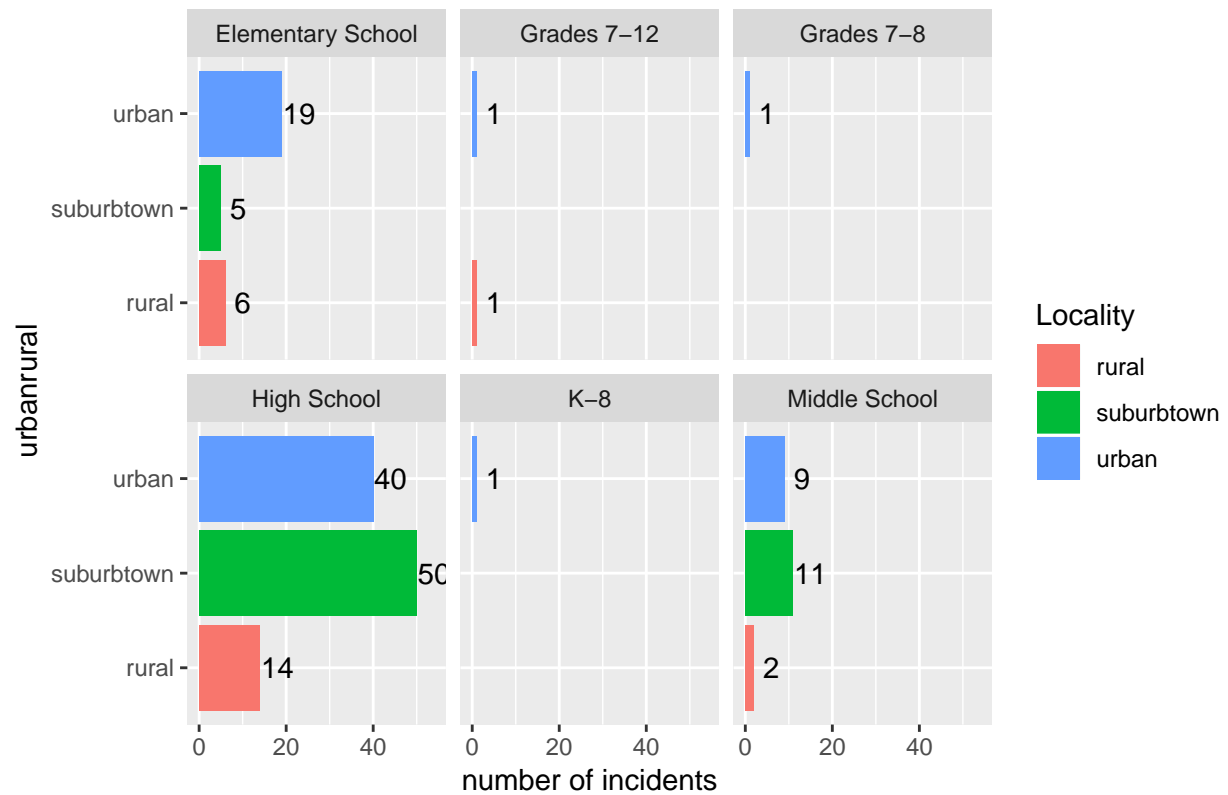
```
#years in school type
main %>% group_by(year,type) %>% summarise(times_in_year=n()) %>% arrange(desc(times_in_year)) %>% ggplot
```

Number of incidents occurred at different school types in each year



```
# urbanrural vs school type
main %>% group_by(urbanrural,type) %>% summarise(number=n()) %>% arrange(desc(number)) %>% ggplot(mapping = aes(x=urbanrural, y=type, fill=year))
```

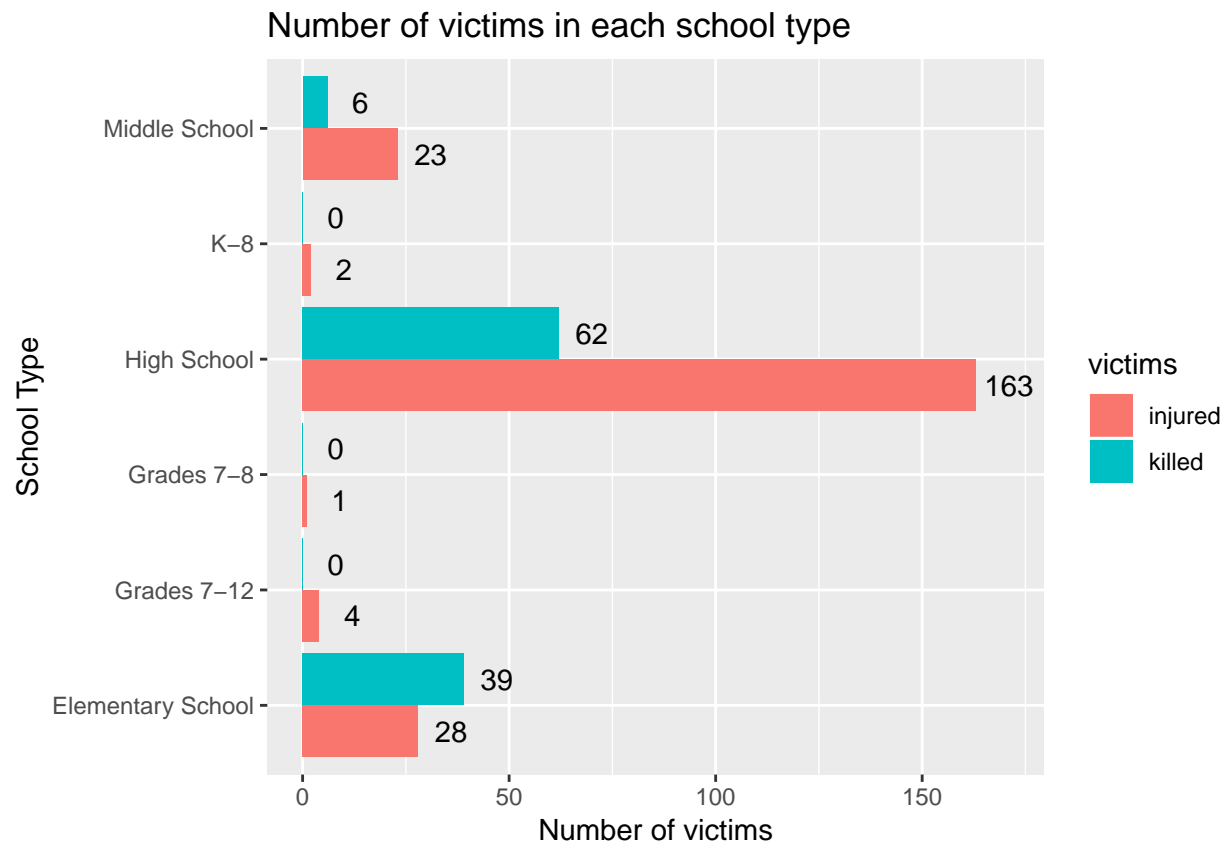
Locality vs Number of incidents occurred at different school types



```
#VICTIMS IN EACH SCHOOL TYPE
```

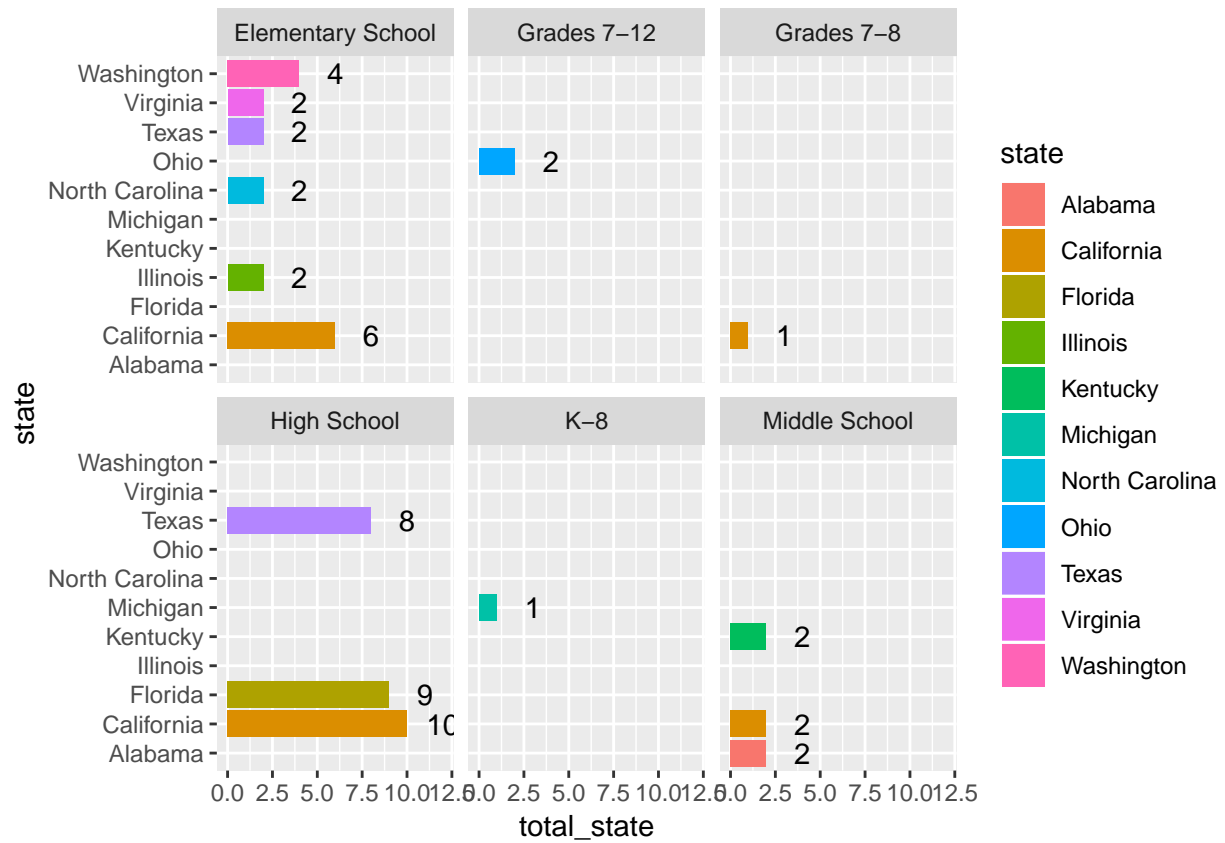
```
main %>% gather(key='victims',value='victims_count',killed,injured) %>% group_by(type,victims) %>% summarise(total_victims=victims_count)
```

```
## Selecting by total_victims
```



```
#state vs type
main %>% group_by(state,type) %>% summarise(total_state=n()) %>% arrange(desc(total_state)) %>% group_by(state) %>% summarise(killed=sum(killed),injured=sum(injured))
```

Selecting by total_state



```
one<-main %>% gather(key='victims',value='victims_count',killed,injured)
```