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Class Participation 2: Preparation

#Response variable

#The response variable is whether or not the driver received a driving ticket.

#It is a categorical variable.

#Explanatory variables

#The explanatory variables are drinking alcohol, speeding in a work zone, gender, race

#age, month, hour and not wearing a seat belt.

#The variable that has the biggest effect on classifying a stop as resulting in a warning or a ticket is

#the hour of driving. Those who were stopped typically received tickets between the hours of 11PM and 1AM.

#EDA: Frequency tables and proportion table for response variable.

```
> table(ticket.last$Ticket)
```

```
FALSE TRUE
```

```
105817 79591
```

```
> prop.table(table(ticket.last$Ticket))
```

```
FALSE TRUE
```

```
0.5707251 0.4292749
```

#Data:

| | SubAgency | Accident | Belts | Personal.Injury | Property.Damage |
|---------|-----------------------------|----------|-------|-----------------|-----------------|
| 1228368 | 2nd district, Bethesda | No | No | No | No |
| 1228369 | 2nd district, Bethesda | No | No | No | No |
| 1228370 | 2nd district, Bethesda | No | No | No | No |
| 1228371 | 3rd district, Silver Spring | No | No | No | No |

1228372 3rd district, Silver Spring No No No No

1229571 1st district, Rockville No No No No

Commercial.License Alcohol Work.Zone Color Contributed.To.Accident Race Gender AutoYear

1228368 No No No WHITE No HISPANIC M 2003

1228369 No No No WHITE No HISPANIC M 2014

1228370 No No No WHITE No BLACK M 2005

1228371 No No No WHITE No HISPANIC M 2001

1228372 No No No BLUE No BLACK F 1997

1229571 No No No WHITE No WHITE F 2010

Month Hour Out.of.State Ticket

1228368 8 7 FALSE FALSE

1228369 8 7 FALSE FALSE

1228370 8 7 FALSE FALSE

1228371 8 22 FALSE FALSE

1228372 8 22 FALSE FALSE

1229571 8 8 FALSE FALSE

#The quantitative explanatory variables are month and hour.

#The categorical explanatory variables are drinking alcohol, speeding in a work zone, car accident,

#gender, race, age, and not wearing a seat belt.