

Untitled

2024-04-10

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed      dist
##  Min.   : 4.0    Min.   :  2.00
##  1st Qu.:12.0    1st Qu.: 26.00
##  Median :15.0    Median : 36.00
##  Mean   :15.4    Mean    : 42.98
##  3rd Qu.:19.0    3rd Qu.: 56.00
##  Max.   :25.0    Max.    :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

```
library(tidyverse)
library(dplyr)
library(grid)
library(ggplot2)
library(ggpubr)
```

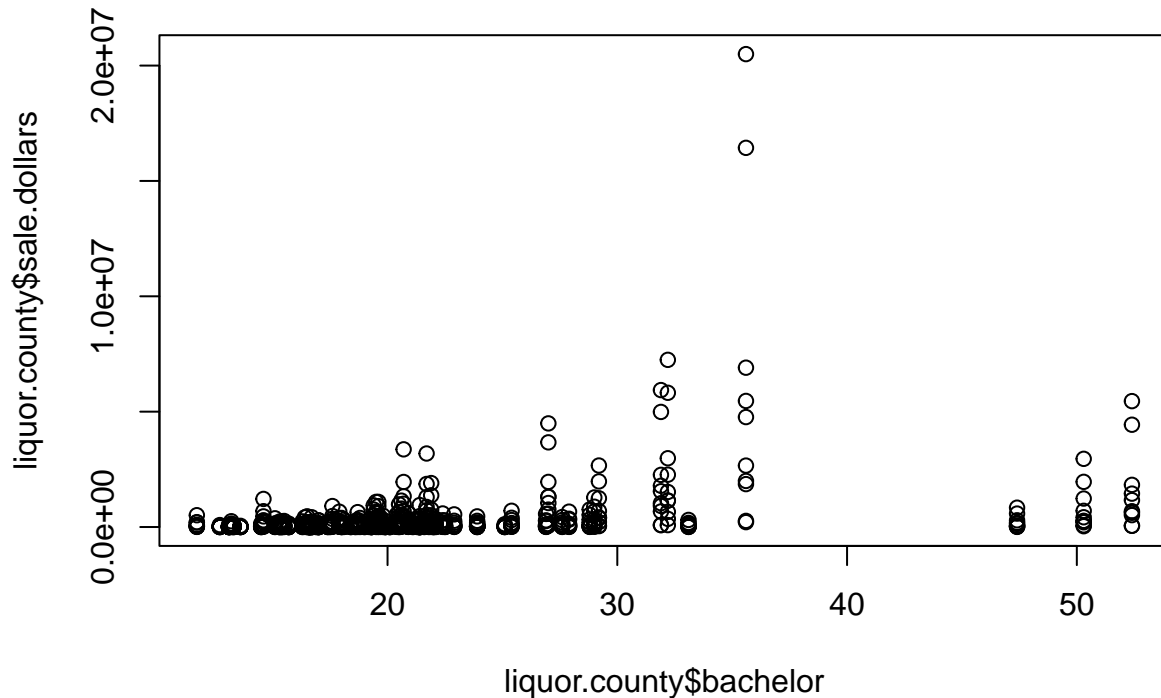
```
liquor.county <- merge(project.acs.counties,project.sales.counties)
```

```
#view datasets
```

```
head(liquor.county)
```

```
plot data
```

```
plot(liquor.county$bachelor,liquor.county$sale.dollars)
```

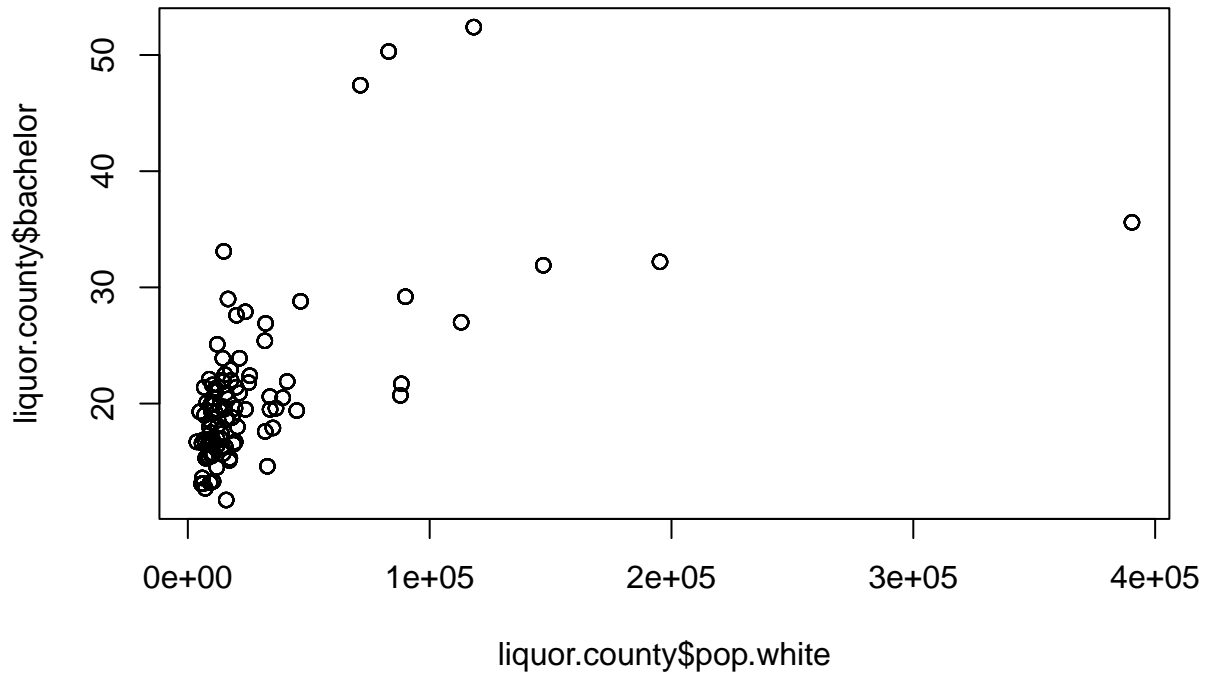


do the regression

```
regression1 <- lm(sale.dollars ~ bachelor, data = liquor.county)
summary(regression1)
```

```
##
## Call:
## lm(formula = sale.dollars ~ bachelor, data = liquor.county)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1768963 -229580  -70772   48437 19499925
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -752084    101773   -7.39 3.15e-13 ***
## bachelor       49112     4645    10.57 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1013000 on 978 degrees of freedom
## Multiple R-squared:  0.1026, Adjusted R-squared:  0.1017
## F-statistic: 111.8 on 1 and 978 DF, p-value: < 2.2e-16
```

```
plot(liquor.county$pop.white,liquor.county$bachelor)
```



```
regression2 <- lm(bachelor ~ pop.white, data = liquor.county)
summary(regression2)
```

```
##
## Call:
## lm(formula = bachelor ~ pop.white, data = liquor.county)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -14.545  -3.333  -1.100   1.724  25.113
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  1.844e+01  2.154e-01  85.62  <2e-16 ***
## pop.white    8.120e-05  3.856e-06  21.06  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 5.787 on 978 degrees of freedom
## Multiple R-squared:  0.3119, Adjusted R-squared:  0.3112
## F-statistic: 443.3 on 1 and 978 DF, p-value: < 2.2e-16
```