

class5.R

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```
#import

library(ggplot2)

# #beginning

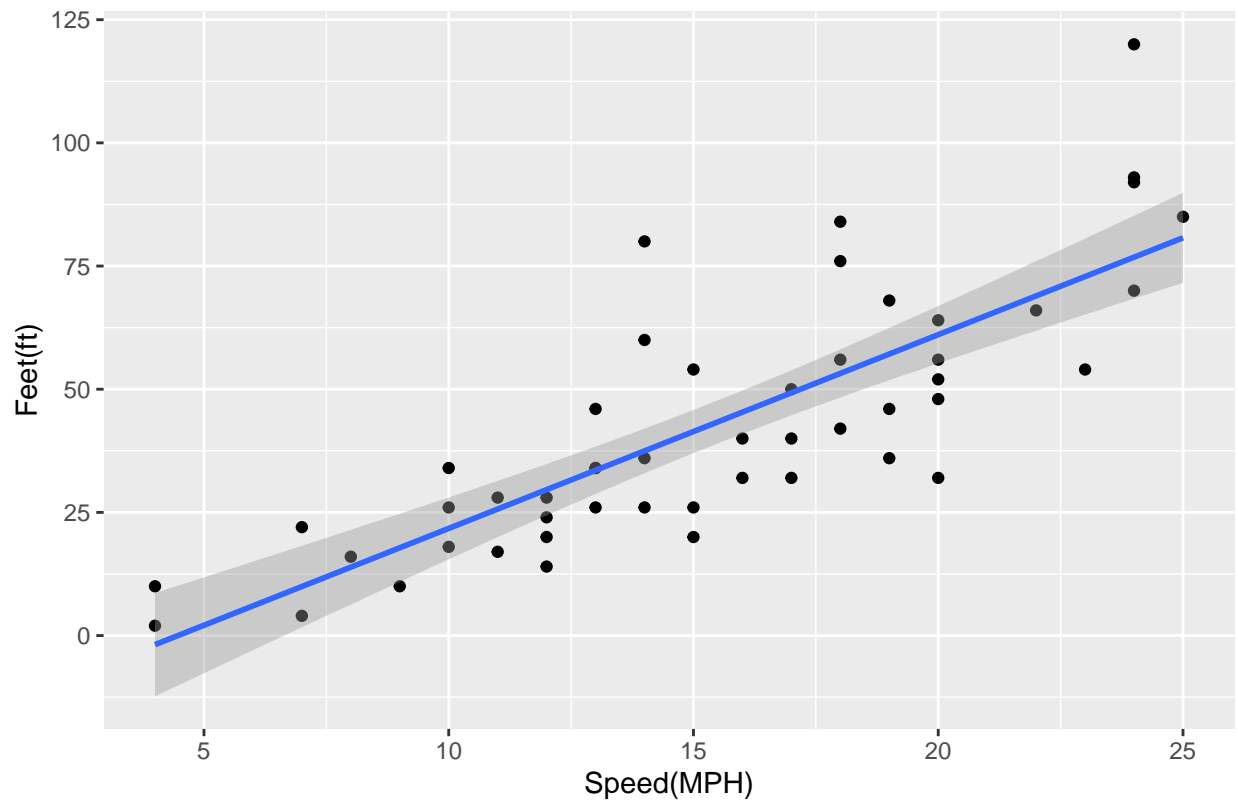
head(cars)

##    speed dist
## 1      4    2
## 2      4   10
## 3      7    4
## 4      7   22
## 5      8   16
## 6      9   10

# Layers of my Plot(DATA, Aesthetic, Geometry, Trend)
ggplot(cars) + aes(x=speed, y=dist)+geom_point() + geom_smooth(method="lm") +
labs(title="Stopping Distance of Old Cars", x="Speed(MPH)", y="Feet(ft)")

## 'geom_smooth()' using formula 'y ~ x'
```

Stopping Distance of Old Cars



```
# # #GENES
url <- "https://bioboot.github.io/bimm143_S20/class-material/up_down_expression.txt"
genes <- read.delim(url)
head(genes)
```

```
##      Gene Condition1 Condition2      State
## 1   A4GNT -3.6808610 -3.4401355  unchanging
## 2   AAAS  4.5479580  4.3864126  unchanging
## 3  AASDH  3.7190695  3.4787276  unchanging
## 4  AATF   5.0784720  5.0151916  unchanging
## 5  AATK   0.4711421  0.5598642  unchanging
## 6 AB015752.4 -3.6808610 -3.5921390  unchanging
```

```
nrow(genes)
```

```
## [1] 5196
```

```
colnames(genes)
```

```
## [1] "Gene"      "Condition1" "Condition2" "State"
```

```
ncol(genes)
```

```
## [1] 4
```

```
table(genes$State)
```

```
##
##      down  unchanging      up
##      72      4997      127
```

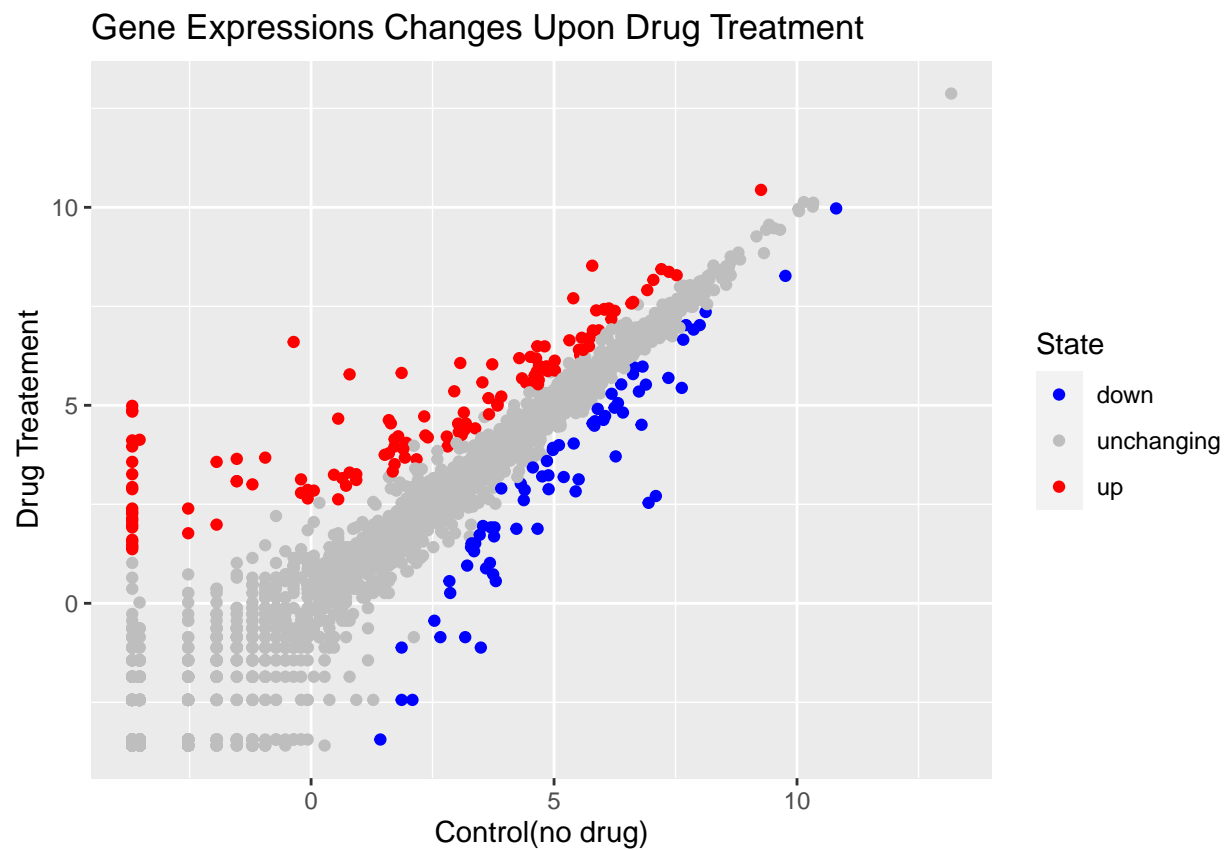
```
round( table(genes$State)/nrow(genes) * 100, 2 )
```

```
##
##      down  unchanging      up
##      1.39      96.17      2.44
```

```
p <- ggplot(genes) +
  aes(x=Condition1, y=Condition2, col=State) +
  geom_point()
```

```
p<-p+ scale_colour_manual( values=c("blue","gray","red") )
```

```
p<-p+labs(title="Gene Expressions Changes Upon Drug Treatment ", x="Control(no drug)", y="Drug Treatmentem
p
```



```
#Gapminder with plotly
library(gapminder)
library(plotly)
```

```
##
## Attaching package: 'plotly'

## The following object is masked from 'package:ggplot2':
##
##   last_plot

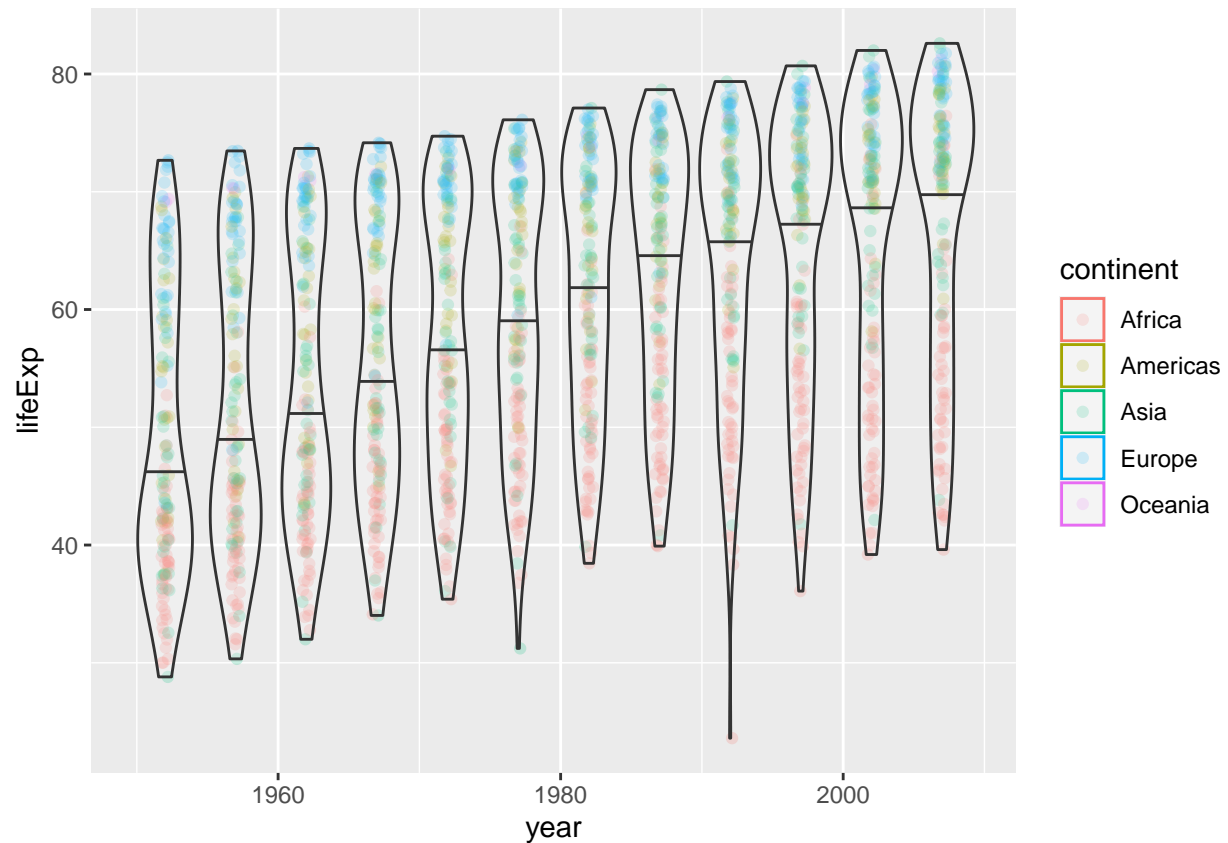
## The following object is masked from 'package:stats':
##
##   filter

## The following object is masked from 'package:graphics':
##
##   layout
```

```
head(gapminder)
```

```
## # A tibble: 6 x 6
##   country      continent  year lifeExp      pop gdpPercap
##   <fct>        <fct>    <int>  <dbl>    <int>    <dbl>
## 1 Afghanistan Asia      1952   28.8  8425333    779.
## 2 Afghanistan Asia      1957   30.3  9240934    821.
## 3 Afghanistan Asia      1962   32.0 10267083    853.
## 4 Afghanistan Asia      1967   34.0 11537966    836.
## 5 Afghanistan Asia      1972   36.1 13079460    740.
## 6 Afghanistan Asia      1977   38.4 14880372    786.
```

```
ggplot(gapminder) + aes(x=year,y=lifeExp, col=continent) + geom_jitter(width=0.3,alpha=0.2) +
  geom_violin(aes(group=year),alpha=0.2,draw_quantiles = 0.5)
```



```
#ggplotly()
```

```
#Combining Plots
```

```
library(patchwork)
```

```
p1 <- ggplot(mtcars) + geom_point(aes(mpg, disp))
```

```
p2 <- ggplot(mtcars) + geom_boxplot(aes(gear, disp, group = gear))
```

```
p3 <- ggplot(mtcars) + geom_smooth(aes(dis, qsec))
```

```
p4 <- ggplot(mtcars) + geom_bar(aes(carb))
```

```
r=(p1 | p2 | p3) /p4
```

```
r
```

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

