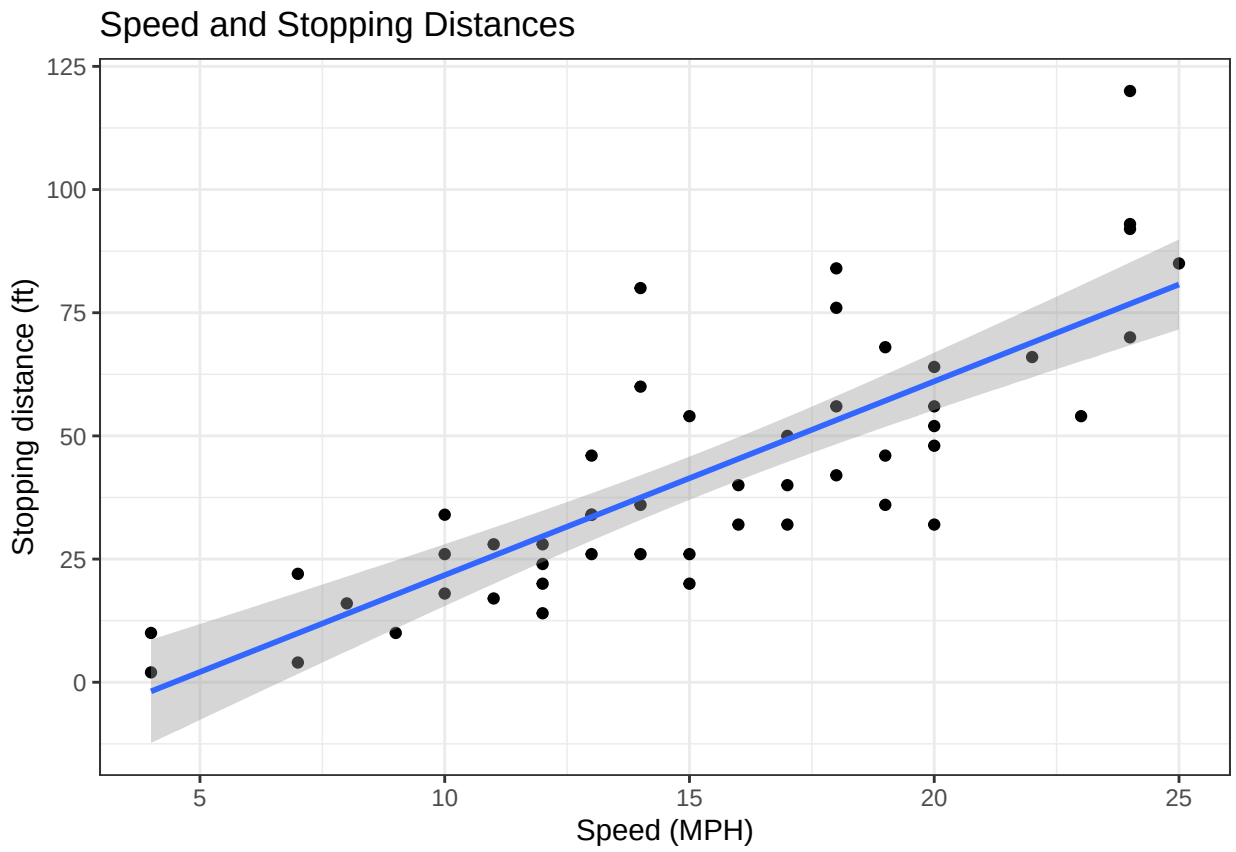
class05.R

elizabethwest

2021-10-13

```
library(ggplot2)
ggplot(cars) +
  aes(x=speed, y=dist) +
  geom_point() + geom_smooth(method="lm") + labs(title="Speed and Stopping Distances",x="Speed (MPH)", y
```

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




```
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)
```

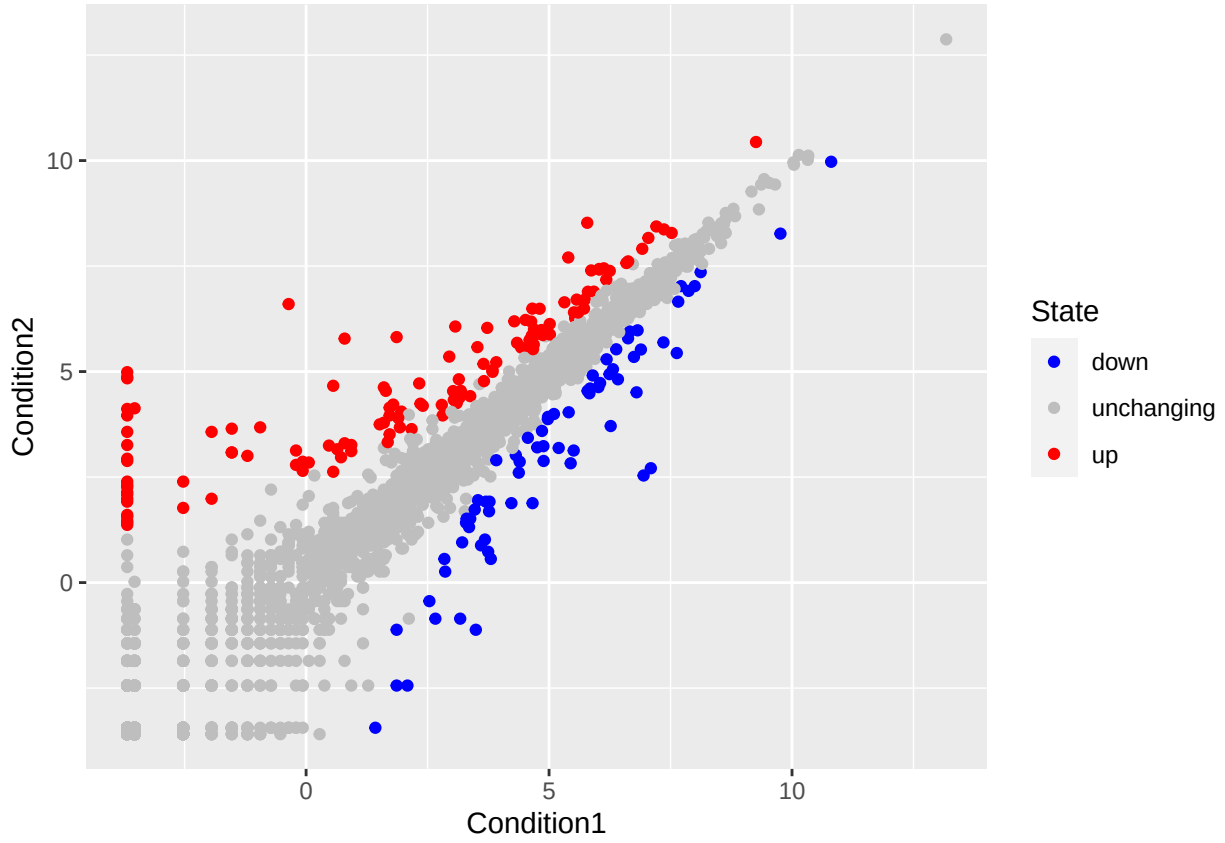
```
##
##       down unchanging         up
##         72       4997        127
```

```
table(genes$State)/nrow(genes)*100
```

```
##
##       down unchanging         up
##   1.385681  96.170131   2.444188
```

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

p + scale_color_manual(values=c("blue", "gray", "red"))
```



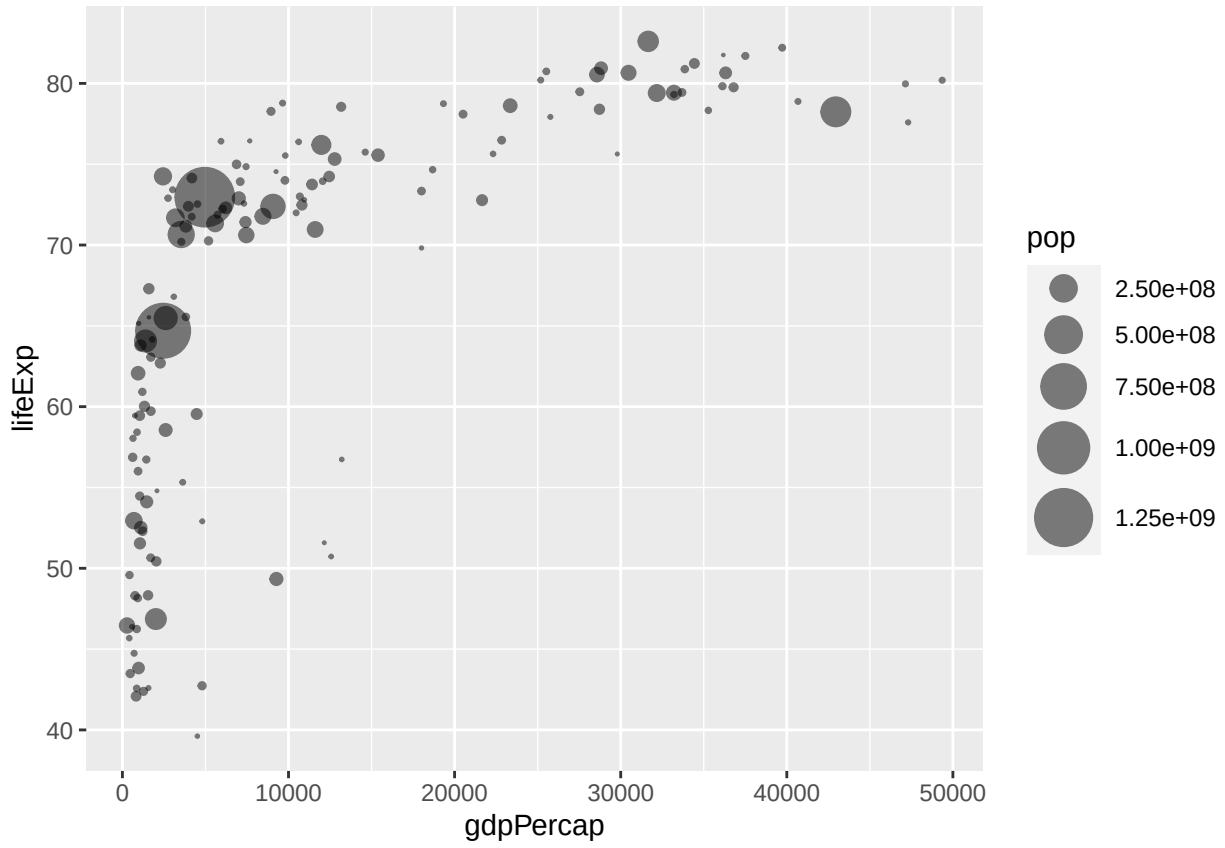

```
library(gapminder)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

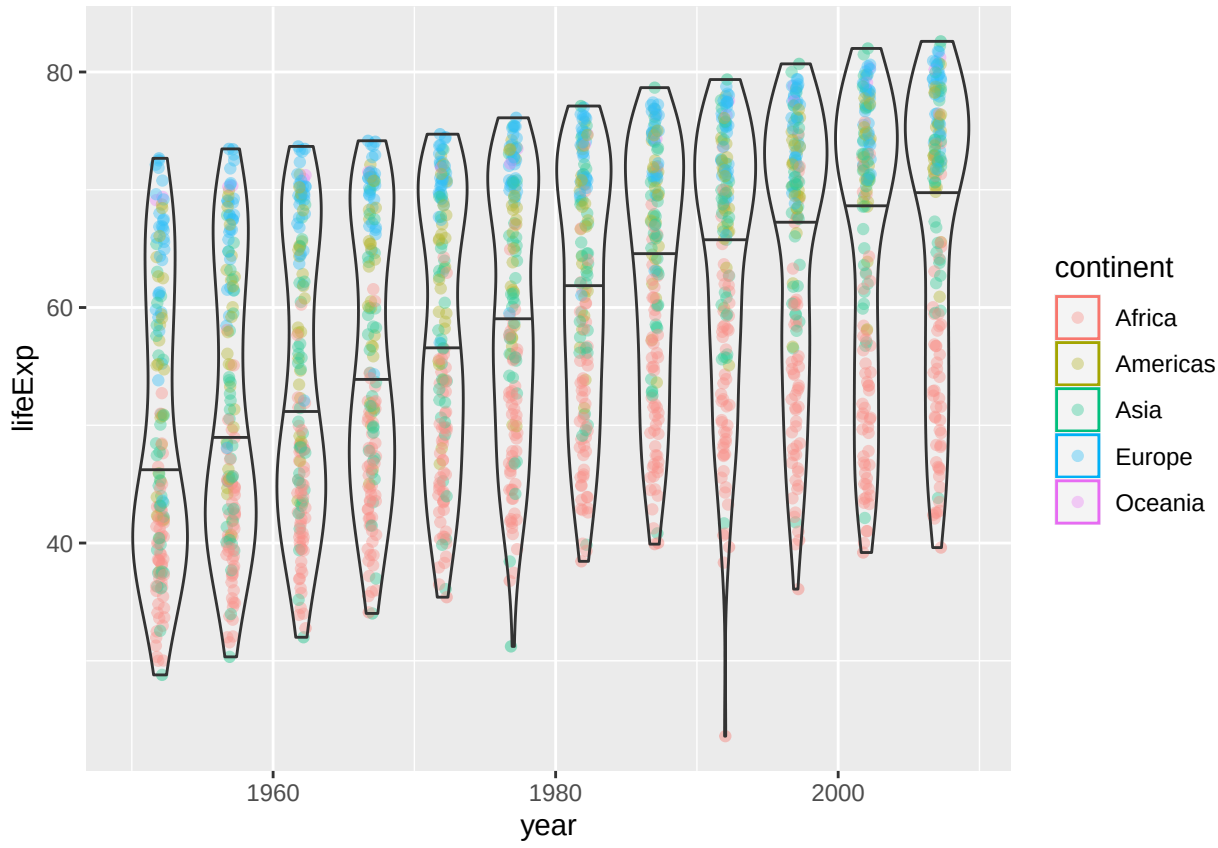
```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

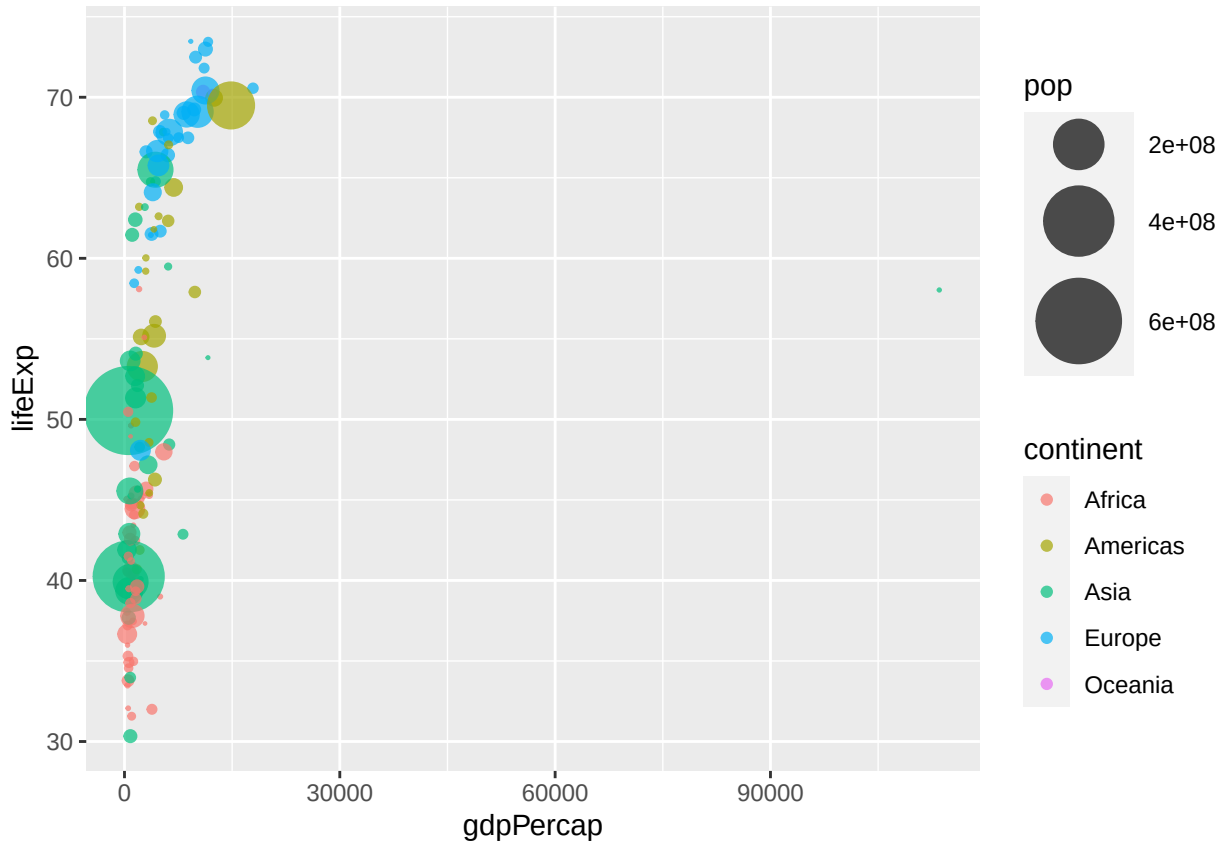
```
gapminder_2007 <- gapminder %>% filter(year==2007)
ggplot(gapminder_2007) +
  geom_point(aes(x= gdpPercap, y= lifeExp, size=pop), alpha=0.5) + scale_size_area(max_size=10)
```




```
ggplot(gapminder) + aes(x=year, y=lifeExp, col=continent) +
  geom_jitter(width =0.3, alpha=0.4)+
  geom_violin(aes(group=year), alpha=0.2, draw_quantiles = 0.5)
```

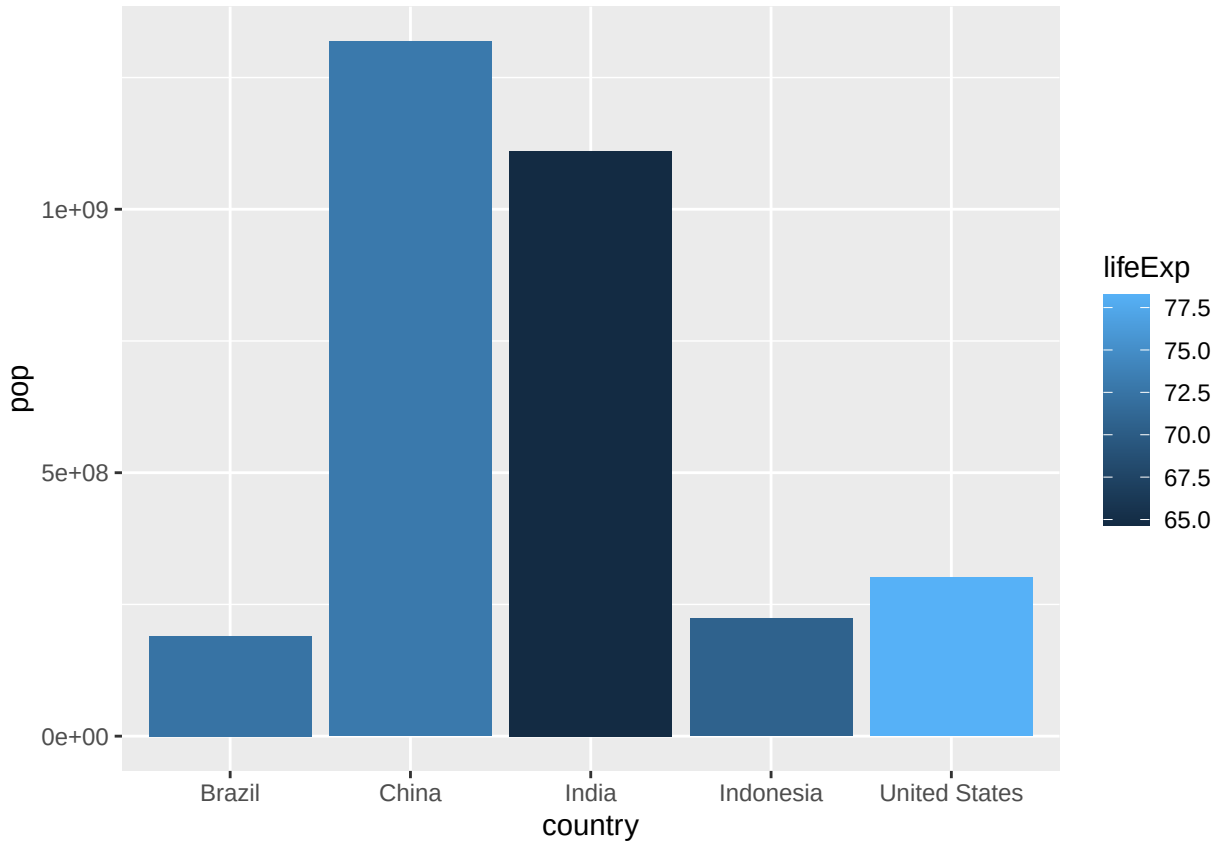



```
gapminder_1957 <- gapminder %>% filter(year==1957)
ggplot(gapminder_1957) + aes(x=gdpPercap, y=lifeExp, col=continent, size=pop) + geom_point(alpha=0.7) +s
```




```
gapminder_1957 <- gapminder %>% filter(year==1957 | year==2007)
ggplot(gapminder_1957) + geom_point(aes(x=gdpPercap, y=lifeExp, color=continent, size = pop), alpha=0.7
```


```
gapminder_top5 <-gapminder %>%
  filter(year==2007) %>%
  arrange(desc(pop)) %>%
  top_n(5, pop)
ggplot(gapminder_top5) + geom_col(aes(x=country, y=pop, fill=lifeExp))
```


1e+09
5e+08
0e+00
pop
Brazil
China
India
Indonesia
United States
country
lifeExp
77.5
75.0
72.5
70.0
67.5
65.0