

# Simple linear regression

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STAT 423

Applied Regression and Analysis of Variance

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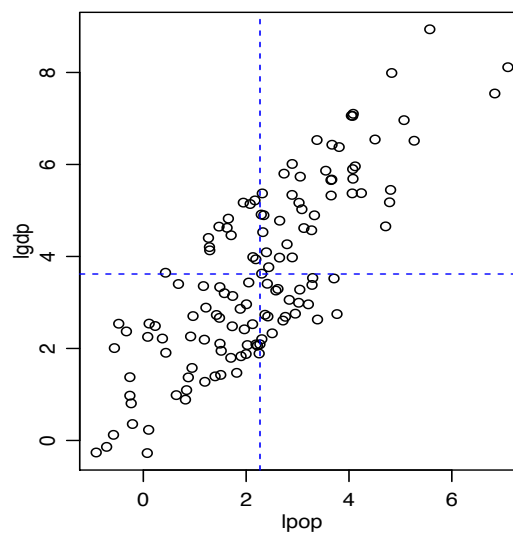
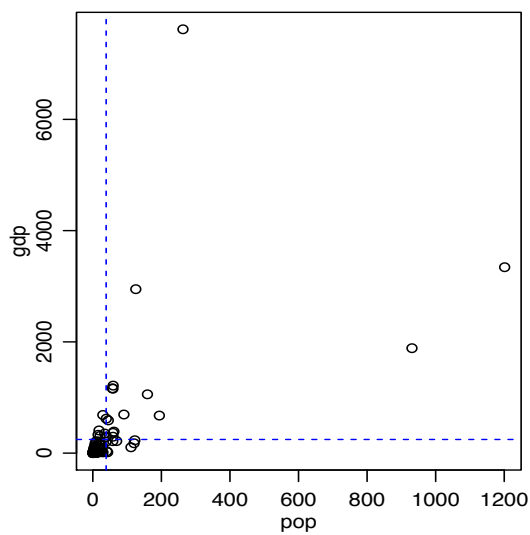
```
load("../Data/IR90s.RData")
```

```
pop<-IR90s[[2]][,1]
```

```
gdp<-IR90s[[2]][,2]
```

```
lpop<-log(pop)
```

```
lgdp<-log(gdp)
```



```
xbar<-mean(lpop)

ybar<-mean(lgdp)

sdx<-sd(lpop)

sdy<-sd(lgdp)

cxy<-cor(lpop,lgdp)
```

```
lm( lgdp ~ lpop )

##
## Call:
## lm(formula = lgdp ~ lpop)
##
## Coefficients:
## (Intercept)          lpop
##          1.321          1.013

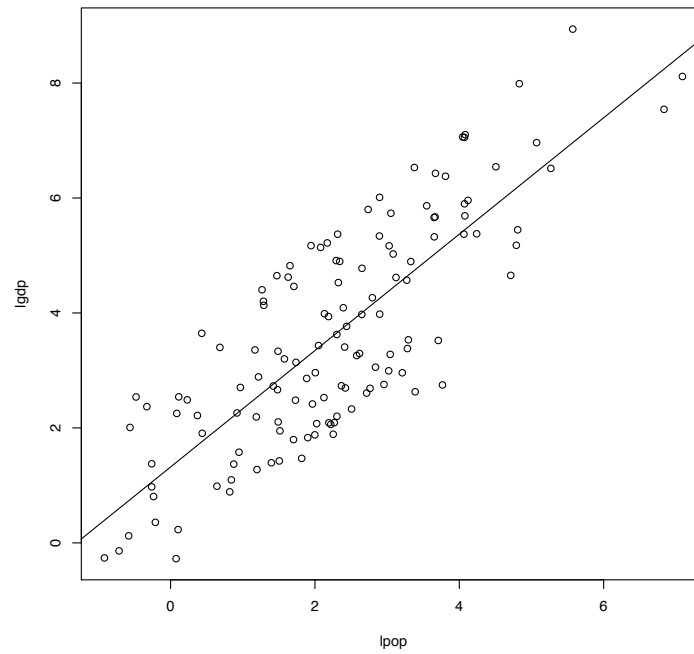
cxy*sdy/sdx

## [1] 1.012556

ybar - xbar*cxy*sdy/sdx

## [1] 1.320629
```

```
plot(lpop,lgdp) ; abline(lm(lgdp~lpop))
```



```
plot(lpop,lgdp,type="n") ; abline(lm(lgdp~lpop))
text(lpop,lgdp,labels=names(lpop))
```

