HW2

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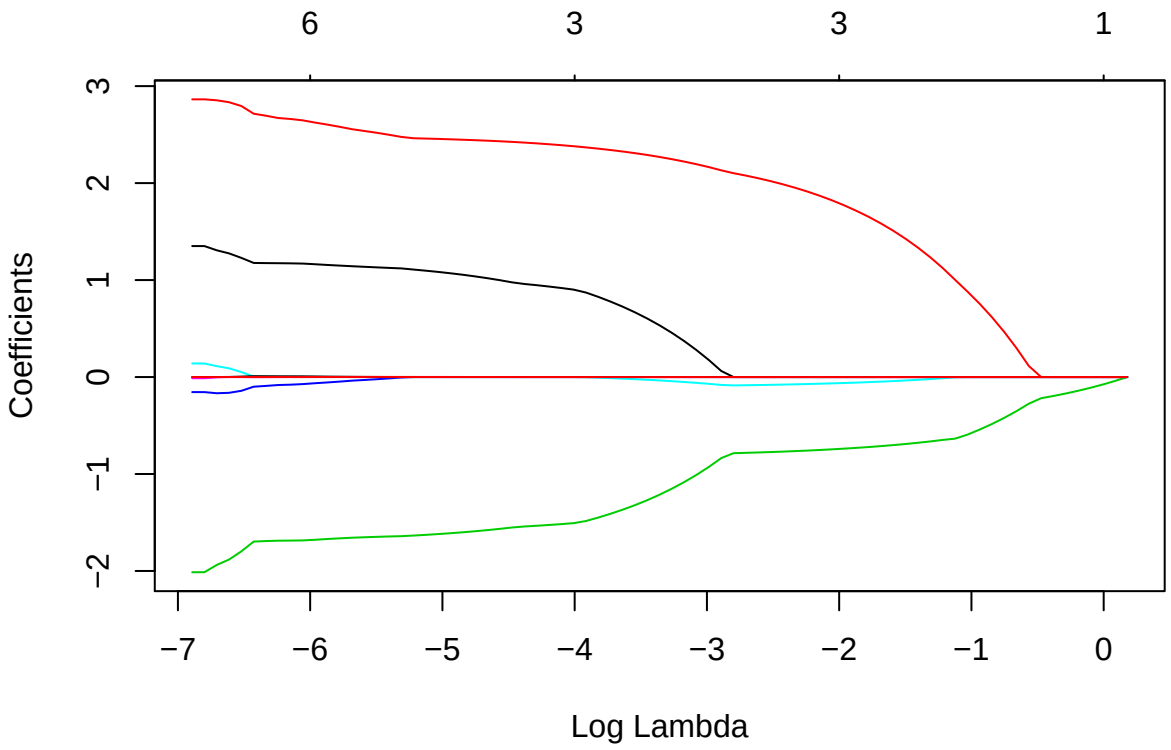
```
library(leaps)
x <- runif(100,-1.5,2.5)
epsilon <- rnorm(100,0,2)
B <- c(2,0.9,2,-1.5)
y <- B[1] + B[2]*x + B[3]*x^2 + B[4]*x^3 + epsilon
dat <- data.frame(y=y, x1=x, x2=x^2, x3=x^3, x4=x^4, x5=x^5, x6=x^6, x7=x^7, x8=x^8)
models <-regsubsets(y~.,data=dat, nvmax=8)
summaries <- summary(models)
df <- data.frame("Adjusted R2"=summaries$adjr2, "Cp"=summaries$cp)


models <-regsubsets(y~.,data=dat, nvmax=8, method=c("forward"))
models <-regsubsets(y~.,data=dat, nvmax=8, method=c("backward"))

library(glmnet)
```

```
## Loading required package: Matrix
```

```
## Loaded glmnet 3.0-2
```

```
# you can include a lambda parameter
fit <- glmnet(y=y, x=as.matrix(dat[,2:9]),data=dat)
coefficients <- coef(fit)
plot(fit, xvar = c("lambda"))
```


6
3
3
1
Coefficients
3
2
1
0
−1
−2
−7
−6
−5
−4
−3
−2
−1
0
Log Lambda