BHao_Assign12

```
mpg = read.table('auto-mpg.data')
names(mpg) = c('disp', 'hp', 'weight', 'accel', 'mpg')
str(mpg)
```

```
## 'data.frame':    392 obs. of  5 variables:
##  $ disp  : num  307 350 318 304 302 429 454 440 455 390 ...
##  $ hp    : num  130 165 150 150 140 198 220 215 225 190 ...
##  $ weight: num  3504 3693 3436 3433 3449 ...
##  $ accel : num  12 11.5 11 12 10.5 10 9 8.5 10 8.5 ...
##  $ mpg   : num  18 15 18 16 17 15 14 14 14 15 ...
```

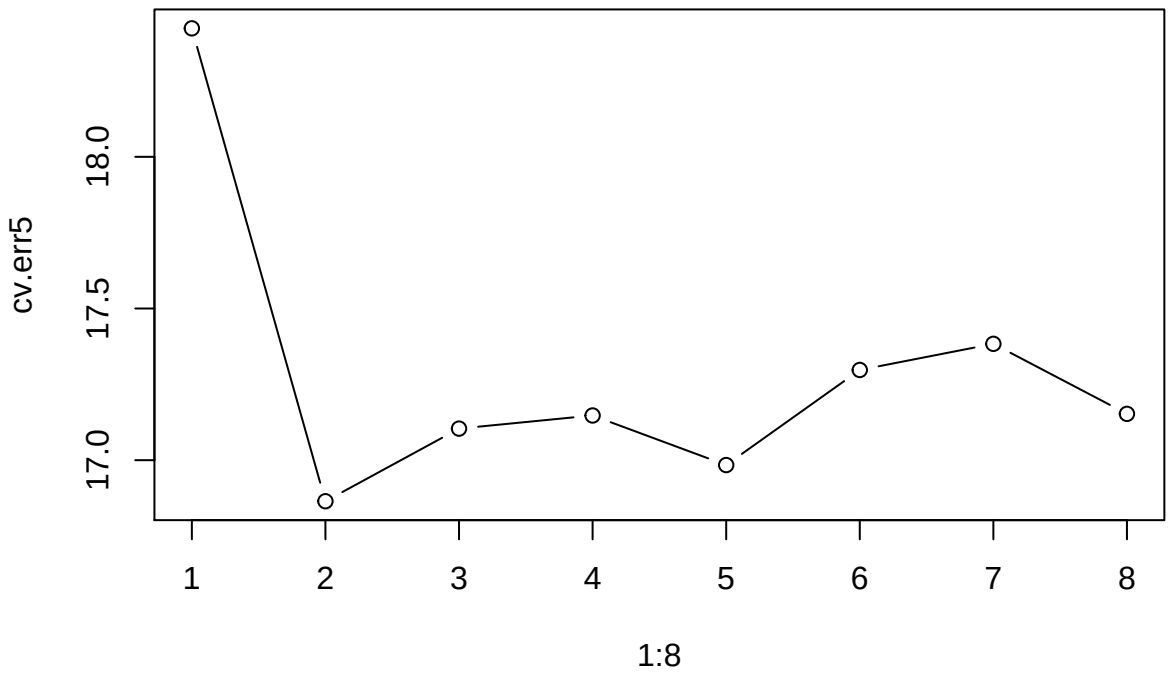
```
cv.err5 = list()

set.seed(8956)
for (n in 1:8) {
  glm.fit = glm(mpg ~ poly(disp + hp + weight + accel, n), data = mpg)
  cv.err5[n] = cv.glm(mpg, glm.fit, K = 5)$delta[1]
}

cv.err5
```

```
## [[1]]
## [1] 18.42348
##
## [[2]]
## [1] 16.86469
##
## [[3]]
## [1] 17.10415
##
## [[4]]
## [1] 17.14734
##
## [[5]]
## [1] 16.98396
##
## [[6]]
## [1] 17.2974
##
## [[7]]
## [1] 17.38351
##
## [[8]]
## [1] 17.15276
```

```
plot(1:8, cv.err5, type = 'b')
```


cv.err5
18.0
17.5
17.0
1
2
3
4
5
6
7
8
1:8