Effect_plot(ex6-2)

Kei Sakamoto

```
load("~/計量経済学演習/R data sets for 5e/hprice2.RData")
hprice2<-data

res <- lm( log(price) ~ log(nox)+log(dist)+rooms+I(rooms^2)+stratio,
                                                    data=hprice2)
```

Manual way to plot the effect

rooms = 4~8 で、他の regressor は全て sample mean で fix して prediction

```
X <- data.frame(rooms=seq(4,8),nox=5.5498,dist=3.7958,stratio=18.4593)
```

Calculate predictions and “confidence”" interval(95%)

```
pred <- predict(res, X, interval = "confidence") #data.frame で返ってくる
```

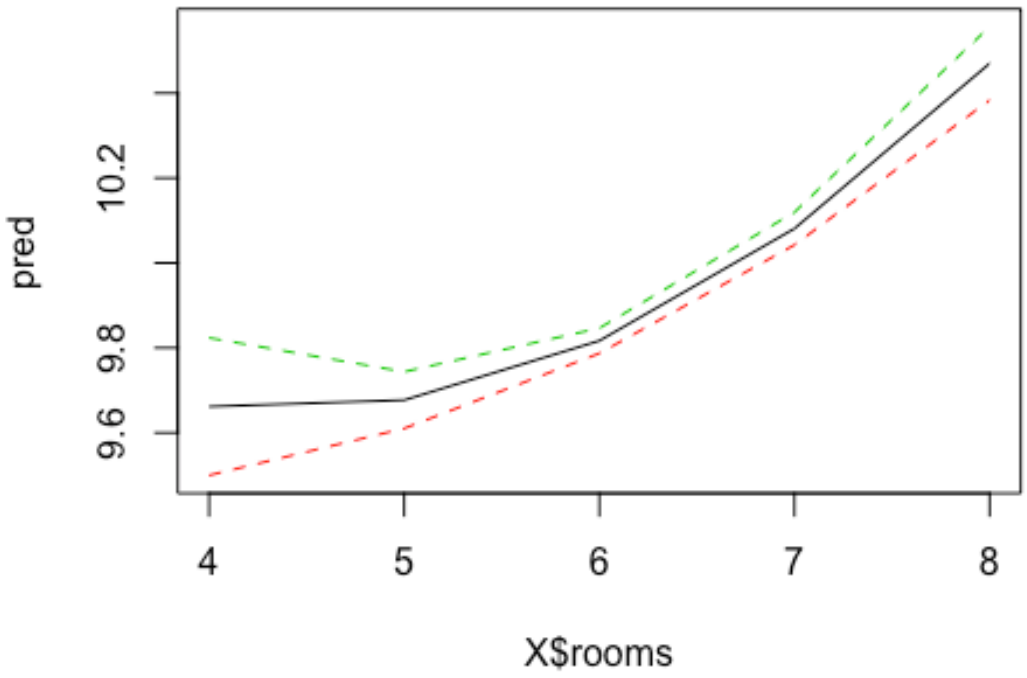
regressor values と prediction と confidence interval を table にして見やすく(data.frame 同士も cbind できる)

```
cbind(X,pred)
```

```
##   rooms    nox   dist stratio       fit       lwr       upr
## 1     4 5.5498 3.7958 18.4593  9.661698  9.499807  9.823589
## 2     5 5.5498 3.7958 18.4593  9.676936  9.610210  9.743661
## 3     6 5.5498 3.7958 18.4593  9.816696  9.787050  9.846341
## 4     7 5.5498 3.7958 18.4593 10.080978 10.042404 10.119553
## 5     8 5.5498 3.7958 18.4593 10.469783 10.383355 10.556211
```

plot

```
matplot(X$rooms, pred, type="l", lty=c(1,2,2))
```



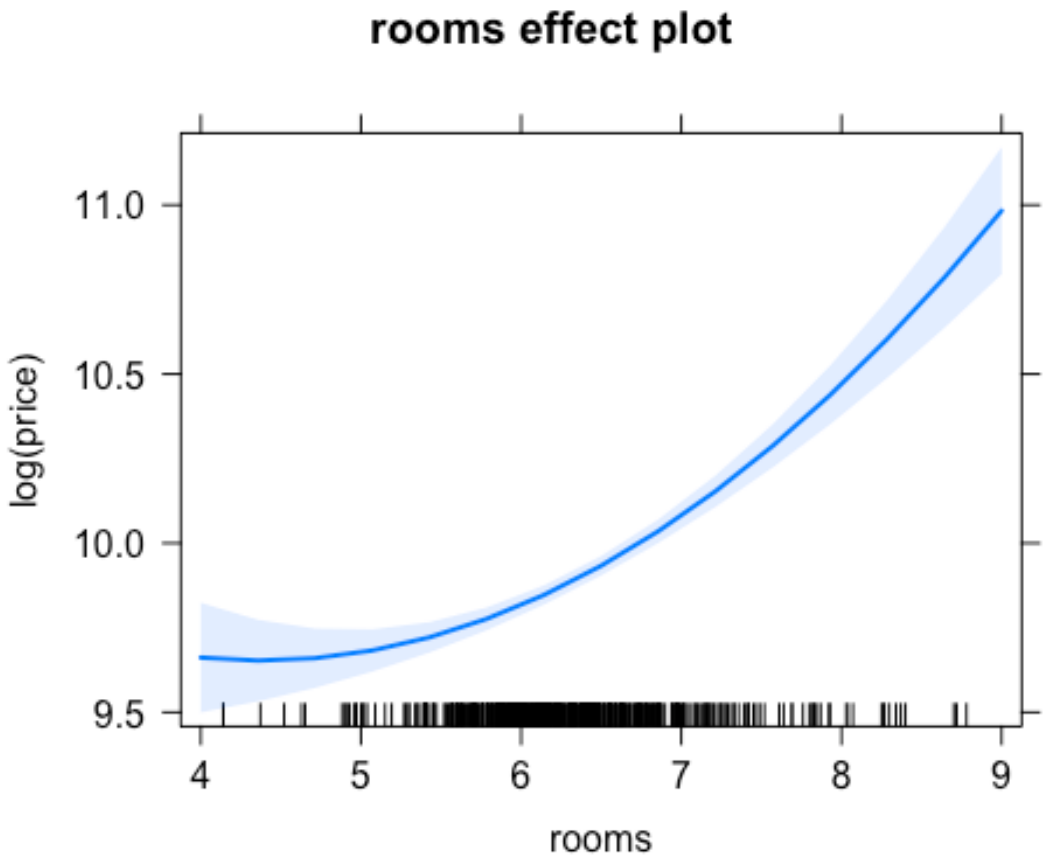
Automatic way

```
library(effects) #install.packages("effects")

## Loading required package: carData

## lattice theme set by effectsTheme()
## See ?effectsTheme for details.

plot(effect("rooms",res))
```



sample 多いところは confidence interval 小さい。effects 使うと rooms 以外の regressor は自動で sample mean になる