Example7-8

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Breaking Numeric Variables into Factors

```
load("~/計量経済学演習/R data sets for 5e/lawsch85.RData")
lawsch85<-data
```

Define cut points for the rank

```
cutpts <- c(0,10,25,40,60,100,175)
```

Create factor variable containing ranges for the rank

```
lawsch85$rankcat <- cut(lawsch85$rank, cutpts)
head(lawsch85$rankcat)
```

```
## [1] (100,175] (100,175] (25,40]   (40,60]   (60,100]  (60,100]
## Levels: (0,10] (10,25] (25,40] (40,60] (60,100] (100,175]
```

Display frequencies

```
table(lawsch85$rankcat)
```

```
##
##   (0,10]  (10,25]  (25,40]  (40,60] (60,100] (100,175]
##       10       16       13       18       37       62
```

Choose base(reference) category((0,10]でなくtop rank)

```
lawsch85$rankcat <- relevel(lawsch85$rankcat,"(100,175]")
```

Run regression (and display result)

```
(res <- lm(log(salary)~rankcat+LSAT+GPA+log(libvol)+log(cost), data=lawsch85))
```

```
##
## Call:
## lm(formula = log(salary) ~ rankcat + LSAT + GPA + log(libvol) +
##     log(cost), data = lawsch85)
##
## Coefficients:
##     (Intercept)    rankcat(0,10]   rankcat(10,25]   rankcat(25,40]
##       9.1652952        0.6995659        0.5935434        0.3750763
##  rankcat(40,60]  rankcat(60,100]             LSAT              GPA
##       0.2628191        0.1315950        0.0056908        0.0137255
##     log(libvol)       log(cost)
##       0.0363619        0.0008412
```

それぞれbase categoryからのinterceptの差