

## Week 4

```
soil <- read.table('6.2.data', header=T)
lm.s <- lm(Y~1+X1+X2+X3, data=soil)
summary(lm.s)
```

```
Call:
lm(formula = Y ~ 1 + X1 + X2 + X3, data = soil)

Residuals:
    Min       1Q   Median       3Q      Max
-28.349 -11.383  -2.659   12.095   48.807

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  43.65007    18.05442     2.418  0.02984 *
X1           1.78534     0.53977     3.308  0.00518 **
X2          -0.08329     0.42037    -0.198  0.84579
X3           0.16102     0.11158     1.443  0.17098
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 19.97 on 14 degrees of freedom
Multiple R-squared:  0.5493,    Adjusted R-squared:  0.4527
F-statistic: 5.688 on 3 and 14 DF,  p-value: 0.009227
```

第一次结果 R 方和西塔的检验都通不过，X2，X3 的显著性严重不足

```
lm.step<-step(lm.s)
```

```
summary(lm.step)
```

发现结果还是不理想，尝试手工添加

```
lm.step1 <- update(lm.step,.~.+X3^2)
```

但效果好象还不明显，继续尝试中