Chap5_2

Anjali Krishnan and Richard Troise

First, set working directory. 'data' is a table with two columns and same number of rows, and should be numeric. Columns have headers indicating the names of the variables. **User will also input desired variable names in double quotes**

```
data <- read.csv("chap5_2.csv", header = FALSE, skip = 1)
colnames(data) <- c("No_Cont", "Cont_before", "Cont_after", "Part_cont")
```

We now combine the observations into one long column (score)

```
colnames(data) <- c("V1", "V2", "V3", "V4")
score=c(data$V1,data$V2,data$V3,data$V4)
```

We generate a second column (levels), that identifies the group for each score. **User will also input desired variable names in double quotes**

```
levels=factor(c(rep("No_cont",5),rep("Cont_before",5),
                rep("Cont_after",5),rep("Part_cont",5)))
```

We now form a data frame with the dependent variable and the factors, then print the table.

```
data=data.frame(score=score,group=levels)
knitr::kable(xtable(data))
```

score	group
3	No_cont
3	No_cont
2	No_cont
4	No_cont
3	No_cont
5	Cont_before
9	Cont_before
8	Cont_before
4	Cont_before
9	Cont_before
2	Cont_after
4	Cont_after
5	Cont_after
4	Cont_after
1	Cont_after
5	Part_cont
4	Part_cont
3	Part_cont
5	Part_cont
4	Part_cont

We now generate the ANOVA table based on the linear model

```
aov1=aov(score~levels)
print(model.tables(aov(score~levels),type = "means"),digits=3)
```

```
## Tables of means
## Grand mean
##
## 4.35
##
## levels
## levels
##  Cont_after Cont_before     No_cont    Part_cont
##         3.2         7.0         3.0          4.2
```

```
summary(aov1)
```

```
##               Df Sum Sq Mean Sq F value  Pr(>F)
## levels         3  50.95   16.98   7.227 0.00278 **
## Residuals     16  37.60    2.35
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```