

20210618

```
#### 2021/06/18 ####
rm(list=ls())
##
pop <- c(2.833, 1.233, 2.144, 3.849, 8.214, 1.448, 1.513, 1.297, 1.257,
0.93)
me <- c(31.5, 30.5, 30.9, 31.6, 34.2, 34.2, 30.7, 31.7, 32.5, 32.6)
df1 <- data.frame(pop, me)
regressor <- lm(me~pop, data = df1)
summary(regressor)

##
## Call:
## lm(formula = me ~ pop, data = df1)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.2028 -0.9918 -0.3293  0.7422  2.4387
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  31.3672     0.6158  50.935 2.45e-11 ***
## pop           0.2722     0.1901   1.432   0.19
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.259 on 8 degrees of freedom
## Multiple R-squared:  0.204, Adjusted R-squared:  0.1045
## F-statistic:  2.05 on 1 and 8 DF, p-value: 0.1901

##
public <- c(978, 1035, 964, 996, 1117, 863, 975, 999, 1019, 1037)
private <- c(1335, 1167, 1236, 1317, 1192, 1079, 1160, 1063, 1110, 1093)
y <- c(public, private)
sector <- rep(c("public", "private"), each = 10)
gender <- rep(c("men", "women"), each = 5)
df2 <- data.frame(gender, sector, y)
a1 <- aov(y~gender*sector, data = df2)
summary(a1)

##              Df Sum Sq Mean Sq F value    Pr(>F)
## gender         1  44086   44086   11.443   0.0038 **
## sector         1 156468  156468  40.614 9.24e-06 ***
## gender:sector   1  14851   14851    3.855   0.0672 .
## Residuals     16  61640    3853
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```