ass3

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5      v purrr   0.3.4
## v tibble  3.1.4      v dplyr   1.0.7
## v tidyr   1.1.3      v stringr 1.4.0
## v readr   2.0.1      v forcats 0.5.1
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(readr)
data <- read_csv("~/Desktop/204 R/WHEATRNA.csv")
```

```
## Rows: 18 Columns: 3
```

```
## -- Column specification -----------------------------------------------------------
## Delimiter: ","
## dbl (3): RNA, MNSOD, PLD
```

```
##
## i Use 'spec()' to retrieve the full column specification for this data.
## i Specify the column types or set 'show_col_types = FALSE' to quiet this message.
```

```
dim(data)
```

```
## [1] 18  3
```

```
x1=data$RNA
y1=data$MNSOD
type1=rep(1,18)
x2=data$RNA
y2=data$PLD
type2=rep(0,18)

x=c(x1,x2)
y=c(y1,y2)
type=c(type1,type2)
acc=data.frame(y,x,type)
acc
```

```
##         y    x type
## 1    401 0.00    1
## 2    336 0.00    1
## 3    337 0.00    1
## 4    711 0.33    1
## 5    637 0.33    1
## 6    602 0.33    1
## 7    985 0.50    1
## 8    650 0.50    1
## 9    747 0.50    1
## 10   904 0.67    1
## 11  1007 0.67    1
## 12  1047 0.67    1
## 13  1151 0.80    1
## 14  1098 0.80    1
## 15  1061 0.80    1
## 16  1261 1.00    1
## 17  1272 1.00    1
## 18  1256 1.00    1
## 19    80 0.00    0
## 20    83 0.00    0
## 21    75 0.00    0
## 22   132 0.33    0
## 23   148 0.33    0
## 24   115 0.33    0
## 25   147 0.50    0
## 26   142 0.50    0
## 27   146 0.50    0
## 28   146 0.67    0
## 29   150 0.67    0
## 30   184 0.67    0
## 31   173 0.80    0
## 32   201 0.80    0
## 33   181 0.80    0
## 34   193 1.00    0
## 35   187 1.00    0
## 36   199 1.00    0
```

```
wheat.model=lm(y~x+type+x*type)
summary(wheat.model)
```

```
##
## Call:
## lm(formula = y ~ x + type + x * type)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -162.998  -15.673   -3.826   11.808  172.002
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)     86.03      24.47   3.516  0.00134 **
## x              114.49      38.31   2.988  0.00535 **
## type           266.39      34.61   7.698 8.94e-09 ***
```

```
## x:type          806.66        54.18   14.888 6.14e-16 ***
## ---
## Signif. codes:   0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 52.79 on 32 degrees of freedom
## Multiple R-squared:  0.9858, Adjusted R-squared:  0.9844
## F-statistic: 738.5 on 3 and 32 DF,  p-value: < 2.2e-16
```