DeSeq2_Test

Mehmet Umut Caglar

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The Aim of the File

This is a file to test the behaviour of DeSeq algorithm under multiple different conditions, the procedure helps to understand how DeSeq behaves.

We will investigate mRNA data will all possible conditions for 3 different paramaters.

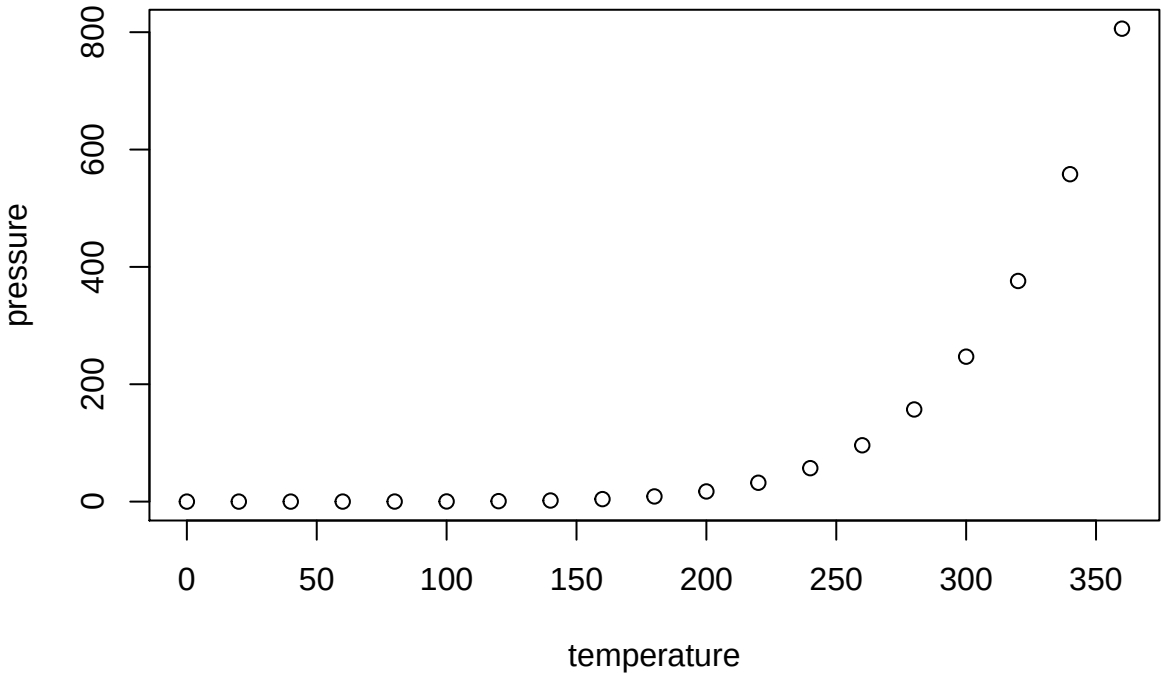
- Na levels. Those tests compose of 2 distinct categories "baseNa" and "highNa"
- Mg Levels. Those tests compose of 3 distinct categories "lowMg", "baseMg" and "highMg"
- Carbon Sources. Those test composes of 4 distict categories "glucose", "glycerol", "gluconate", "lactate". In addition to that the there are no shared batches

```r
# Do the DeSeq2 test
# c("Mg_mM_Levels", "Na_mM_Levels", "growthPhase", "carbonSource")
test_for="Mg_mM_Levels"
DESeq2::design(deseq_DataObj)<- as.formula(paste0("~ ",test_for))
differentialGeneAnalResults<-DESeq2::DESeq(deseq_DataObj, quiet = TRUE)
res_Mg <- DESeq2::results(object = differentialGeneAnalResults, pAdjustMethod ="fdr")
res_Mg
```

```
## log2 fold change (MAP): Mg_mM_Levels lowMg vs baseMg
## Wald test p-value: Mg_mM_Levels lowMg vs baseMg
## DataFrame with 4279 rows and 6 columns
##              baseMean log2FoldChange     lfcSE       stat       pvalue
##             <numeric>      <numeric> <numeric>  <numeric>    <numeric>
## ECB_00001   40.830894     -1.1664440 0.2126009  -5.486543 4.098757e-08
## ECB_00002  154.981765     -1.0361568 0.3050069  -3.397159 6.808941e-04
## ECB_00003   63.974640     -0.6345497 0.3061960  -2.072365 3.823145e-02
## ECB_00004   70.799780     -0.6995564 0.3415010  -2.048475 4.051344e-02
## ECB_00005    7.776502     -0.4838169 0.2859694  -1.691848 9.067486e-02
## ...               ...            ...       ...        ...          ...
## ECB_04275   3.1587613    -0.60858344 0.2321910 -2.6210462  0.008766038
## ECB_04276   2.0482919    -0.45247884 0.2663901 -1.6985570  0.089402678
## ECB_04277 868.1807703    -0.57297016 0.2264018 -2.5307672  0.011381336
## ECB_04278   0.2128701    -0.04782999 0.4450616 -0.1074683  0.914417510
## ECB_04279   2.5620707    -0.31682100 0.2201649 -1.4390171  0.150145679
##                   padj
##              <numeric>
## ECB_00001 1.459656e-06
## ECB_00002 2.904853e-03
## ECB_00003 7.973989e-02
## ECB_00004 8.348353e-02
## ECB_00005 1.614455e-01
## ...                ...
## ECB_04275   0.02384798
## ECB_04276   0.15990261
## ECB_04277   0.02967277
## ECB_04278           NA
## ECB_04279   0.24011126
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.