# Isolating DE Genes from Expression analysis (XX vs XX)

## Set up initial Rmd Environment (Code Block 1)

knitr::opts\_chunk$set(echo = TRUE)

## Clear Global Environment (Code Block 2)

remove(list = ls())

## Libraries to install (Code Block 3)

install.packages('VennDiagram')

## Accessing the Library and loading the read count table into the local environment (Code Block 4)

Since the remainder of the analysis does not differ in between Linux and Windows, the rest of the analysis was done in Windows. The first part of the actual analysis is to set the working directory. This can be done using the commands below:

#Set working directory  
#PC Path  
#Set Library Directory  
.libPaths(c("L:/RStudios/RPackRatLibLocations", "L:/RStudios/RPackRat\_2019\_04\_DESEQLibs"))  
#Set working directory  
#PC Path  
setwd("E:/Dropbox/Dropbox/Harrison Lab - Trevor Randall/RNASeq Analysis/RNASeqAnlyPkrat\_2020\_03/CF39vsCF39S/25 vs 25/DE\_Reg\_Genes\_Analysis/")  
#Laptop Path  
#Set Library Directory  
#.libPaths(c(""))  
#setwd("")  
#sink(file = "./RSessionRawRun.txt")

## Libraries to open (Code Block 5)

library(readr)  
#library(VennDiagram)

## (Code Block 6)

ColNameLablesDESeqTrevor <- c("locus", "baseMean", "log2FoldChange", "lfcSE", "stat", "pvalue", "padj")

## Opening Datasets (Code Block 7)

TDESeq\_25vs25 <- read\_delim("../My DESEQ Script/DESeqNew\_results.txt", "\t", escape\_double = FALSE, trim\_ws = TRUE)  
colnames(TDESeq\_25vs25) <- ColNameLablesDESeqTrevor  
  
LocusGeneAssociation <- read\_csv("../../SourceRNASEQCountsForDESEQ/Locus\_GeneNamesAndPredictedFunction.csv")

## Add Gene info to the files based on locus (Code Block 8)

TDESeq\_25vs25 <-merge(TDESeq\_25vs25, LocusGeneAssociation, by ="locus")

## Parapemers for Screening (Code Block 9)

#PAdjusted value to subset from data set  
PAdjValue = 0.05  
  
#False discovery rate to screen for  
FDRValue = 0.05

## Data Screening (Code Block 10)

Obtain DE Genes from the DESeq data that was parsed using the algorithem that Trevor set up:

TDESEQ25vs25 <- TDESeq\_25vs25[((TDESeq\_25vs25$padj <PAdjValue)& (!is.na(TDESeq\_25vs25$padj))), ]  
  
write.table(x = TDESEQ25vs25, file="./TDESEQ25vs25.txt", sep="\t", row.names=FALSE, col.names=colnames(TDESEQ25vs25), quote=F)

## Session Info (Code Block 11)

sink(file = "./SessionInfo.txt")  
sessionInfo()  
sink(file = NULL)

## Citations (Code Block 12)

sink(file = "./SessionCitations.txt")  
  
citation("VennDiagram")  
citation("readr")  
citation("gridExtra")  
  
sink(file = NULL)

Venn Diagram Page: <https://rstudio-pubs-static.s3.amazonaws.com/13301_6641d73cfac741a59c0a851feb99e98b.html?fbclid=IwAR1h2pL9V1tblTk4z9E1JX9udrel2ILE_WKKp2M8Kjd6HB0ZC6wwctFu61Y>