R and RStudio

R is a programming language for statistical computing

In R you can:

- import, store, manipulate data
- conduct statistical analyses
- create tables, graphs, etc. to visualize data

R is also a software environment in which to run existing or develop new code/algorithms

Developed by Ross Ihaka and Robert Gentleman at the University of Auckland, with the core group of developers forming in 1997

New versions of R are released frequently and there is a very active community of contributors- as of May 2021, there are 17,000 packages available on the Comprehensive R Archive Network (CRAN)

R is free to use!

RStudio is an integrated development environment that implements the program R in a user-friendly, graphical way

DESeq2

R package designed for statistical analysis of gene expression data

Very versatile, powerful, customizable

Written by Mike Love with tons of documentation, support, and updates

tutorials and user manuals:

http://bioconductor.org/packages/devel/bioc/vignettes/DESeq2/inst/doc/DESeq2.html

https://bioconductor.org/packages/release/bioc/html/DESeq2.html

https://bioconductor.org/packages/devel/bioc/manuals/DESeq2/man/DESeq2.pdf

http://129.82.125.224:34/rob_data/RWC15_DEseq2_Vignette/180417%20Analyzing%20RNA-seq%20data%20with%20DESeq2.pdf

DESeq2

Warning message: what does this mean??

https://genviz.org/module-04-expression/0004/02/01/DifferentialExpression/
- great online tutorial, but example data no longer available
- modify script to run on *Tigriopus* infiles: conditions.txt & count_matrix.txt