Lab 3 goals

1.) Create slide(s) similar to last week where slide includes picture of data set and several different pythonmapper outputs for this data set (similar to last week's sample.pptx). Upload to Lab 2 slides on ICON. **Include slides from a "real" data set. Put your name on these slides. They will be collated and posted on ICON so that the entire class can see what data sets you are interested in.**

2.) Take Survey 2/1 on ICON.

3.) Work with pythonmapper (see **mappersummary2a.pdf** and **http://danifold.net/mapper/index.html**) on a linux machine.

4.) Create figures that you can use to illustrate TDA mapper both for your poster and project. Consider constructing some artificial data sets by modifying **createArtificalDataSets2.r** and/or using the datasets in pythonmapper and/or examples in TDAmapper README.

5.) Spend time working with a real data set. You can find a real data set via

- googling (or duckduckgoing, etc): "topic of interest" type:.csv
- http://archive.ics.uci.edu/ml/datasets.html
- https://www.kaggle.com/datasets
- Using the following command in R: data()

Files in http://homepage.divms.uiowa.edu/~idarcy/COURSES/TDA/LABS/LAB1_Rintro

lap1.pptx/ lap1.pdf: Instructions on installing and working with R/Rstudio.

createArtificalDataSets2.r: various ways to create artificial data. Also includes how to download data sets from the web, plot data, clean data, and output files for use in python mapper.

Matrices_and_Data_Frames.R: commands from the Swirl course by this name.

uploadDatatoRetc.R: commands for reading data into R. Also includes commands taken from the Swirl course: Manipulating data with dplyr - Getting and Cleaning Data.

TDAmapperScripts.r: Modify this script by changing parameters and applying TDA mapper to a variety of data sets.

data.rnw: Sweave file for those interested in combining R with latex (you may ignore this file)

File in http://homepage.divms.uiowa.edu/~idarcy/COURSES/TDA/LABS/LAB2_pythonMapper/

mappersummary2a.pdf: Instructions for installing pythonmapper on a linux box in basement computer lab. Also includes instructions for working with pythonmapper.

Please also see documentation avaialable at **http://danifold.net/mapper/index.html**