**Week 2 – Data Structures**

This week we will focus on the following:

1. Vectors
2. Matrices
3. Lists
4. DataFrames

**Vectors**

Vectors are the simplest data structures in R. They are sequences of elements of the same basic type. These types can be numeric, integer, complex, character, and logical. In R, the more complicated data structures are made with vectors as building-blocks. Vectors contain what are called indices

So how do you define a vector in R?   
1) Use c():

EX: number\_vector <- c(1,2,3,5,8,13,21)

2) Using an operator:

EX: number\_vector <- 1:10

3) Taking a slice from a data frame or matrix:

EX1: price\_vector <- boston\_housing\_df[,boston\_housing\_df$price]

EX2: number\_vector <- number\_mat[,1]

More on this later….

**Vector Types & Operations**

Vectors can contain any type of data in R. This means that there are special operations you can perform on the different types. Here are some that will be important for you to learn.

1. Slicing: Slicing is a way for you to subset your vectors to extract elements out of it. There are a few ways to do it