# 1) What is the sum of the first 100 positive integers?

# The formula for the sum of integers 1 through n is

# n(n+1)/2. Define n=100 and then use R to compute the

# sum of 1 through 100 using the formula. What is the sum?

**n <- 100**

**n\*(n+1)/2**

**output -> [1] 5050**

# 2) Now use the same formula to compute the sum of the integers from

# 1 through 1000

**n <- 1000**

**n\*(n+1)/2**

**output -> [1] 500500**

# 3) Look at the result of typing the following code in R:

**n <- 1000**

**x <- seq(1,n)**

**sum(x)**

**output -> [1] 500500**

# Based on the result, what do you think the functions seq and sum do?

**seq creates a list of numbers in sequence and sum adds them up**

# 4) In math and programming, we say that we evaluate a function

# when we replace the argument with a given number. So if we type

# sqrt(4), we evaluate the sqrt function. In R, you can evaluate a function

# inside another function. The evaluations happen from the inside out.

# Use one line of code to compute the log, in base 10, of the square

# root of 100.

**log10(sqrt(100))**

**output -> [1] 1**

# 5) Which of the following will always return the numeric value stored

# in x?

**# c**

**x <- 5**

**log(exp(x))**

**output -> [1] 5**