**Introduction to R**

Exercise 1:

Use R as you would a calculator to find numeric answers to the following (show your work):

1. 1+2(3+4)
2. 
3. cos(4π)
4. ln(0)
5. 6!
6. 52C5
7. (1+2i)(1-2i)

Exercise 2:

1. Let our small data set be

2 5 4 10 8

1. Enter this data into a data vector named x.
2. Find the square root of each number.
3. Subtract 6 from each number.
4. Divide each number by 10 and find the square for each of the numbers.
5. You recorded the number of sales for a certain day from employees in a company as follows:

1 1 3 4 7 11

1. Find the number of employees you recorded.
2. Calculate the total sales for the day.
3. Find the vector of cumulative sums for the data you produce.
4. If the number of sales for all the emplyees are the same for 3 days, calculate the product of sales for the 3 days,

i.e (Total Sales Day 1) × (Total Sales Day 2) × (Total Sales Day 3)

1. The vector y has the following values as its elements:

3 6 14 90 54 2 8 65 28 45 7

1. Find a vector of logical expressions where TRUE is for elements of y that have values greater than 30.
2. Find the vector where only values less than 10 is recorded.
3. What is the length for the vector with values more than or equal to 10?
4. Add 5 to the first five values of the vector y.

Exercise 3:

1. A matrix as below is observed:



1. What is the dimension for the matrix?
2. Add 3 to each element of the matrix.
3. Find the transpose matrix.
4. Do matrix multipication of the matrix and its transpose.

2.

Let , .

Find *AB*-1 and *BA*T.

1. Find a matrix of logical expressions for all elements in the matrix below where TRUE are elements that have values less than 50.

*R*=