   
a. First, we need to load the data set into R using the command `read.table()`. Use the help function to learn what arguments this function takes. Once you have the necessary input, load the data set into R and make it a data frame called `rain.df`.
   
b. How many rows and columns does `rain.df` have? (If there are not 5070 rows and 27 columns, something is wrong; check the previous part to see what might have gone wrong in the previous part.)
   
c. What are the names of the columns of `rain.df`?
   
d. What is the value of row 5, column 7 of `rain.df`?
   
e. Display the second row of `rain.df` in its entirety.
   
f. Explain what this command does:
   
   ```r
   names(rain.df) <- c("year","month","day",seq(0,23))
   ```
   
   by running it on your data and examining the object. (You may find the display functions `head()` and `tail()` useful here.) Is it clear now what the last 24 columns represent?
   
g. Create a new column in the data frame called `daily`, which is the sum of the rightmost 24 columns. With this column, create a histogram of the values in this column, which are supposed to be daily rainfall values. What is wrong with this picture?
   
h. Create a new data frame `rain.df.fixed` that takes the original and fixes it for the apparent flaw you have discovered. Having done this, produce a new histogram with the corrected data and explain why this is more reasonable.

2. Syntax and class-typing.
   
a. For each of the following commands, either explain why they should be errors, or explain the non-erroneous result.

   ```r
   vector1 <- c("5", "12", "7", "32")
   max(vector1)
   sort(vector1)
   sum(vector1)
   ```

   ```r
   vector2 <- c("5",7,12)
   ```

   ```r
   dataframe3 <- data.frame(z1="5",z2=7,z3=12)
   dataframe3[1,2] + dataframe3[1,3]
   ```

   ```r
   list4 <- list(z1="6", z2=42, z3="49", z4=126)
   list4[[2]]+list4[[4]]
   ```
3. Working with functions and operators.

a. The colon operator will create a sequence of integers in order. It is a special case of the function `seq()` which you saw earlier in this assignment. Using the help command `?seq` to learn about the function, design an expression that will give you the sequence of numbers from 1 to 10000 in increments of 372. Design another that will give you a sequence between 1 and 10000 that is exactly 50 numbers in length.

b. The function `rep()` repeats a vector some number of times. Explain the difference between `rep(1:3, times=3)` and `rep(1:3, each=3)`. 