

IntroRExercises

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Section A

1. What is $(1198/2) - 63 + 27$
2. Set a equal to 7 and b equal to 17 and c equal to their product
3. Type the following into R `xx <- c(29,3,6,11,0,41,101)`
4. Use the `ls()` command to view the objects in your workspace.

Section B

1. Print out the 4th element of `xx`.
2. What is the length of `xx`?
3. Print out the first three elements of `xx`
4. Print out the 4th and 7th elements of `xx`
5. Create a vector of length 20 of the even integers starting with 34.
6. (Optional) Set the vector “xvals” equal to the numbers from -2.5 to +2.5 in increments of .02. How many elements are in this vector?
7. (Optional) Create a vector with the sequence 1,3,5,7,1,3,5,7,1,3,5,7 (hint use `rep` function).

Section C

1. Type the following commands into R: `set.seed(7)` `test <- sample(1:10,size=40,replace=TRUE)`
2. How many elements in `test`?
3. What is the value of the first element of `test`? the last element?
4. What is the mean, median, standard deviation, min, max, of `test`? (refer to “List of helpful R functions.doc”)
5. (Optional) What is the mean of the first ten elements? the last ten elements?
6. How many 1’s in `test`?
7. How many elements have values less than 4?
8. (Optional) How many elements are between 6 and 9, inclusive?
9. (Optional) How many elements at the extremes (less than 2 or greater than 8)?
10. (Optional) What is the mean of the odd elements of `test`?

Section D

1. Type in the following command to R `mat <- matrix(seq(21,71,10),nrow=3)`
 - a. print out the value in the 2nd row, 2nd column
 - b. print out the last row
 - c. print out the first column
3. Use help to figure out what the function “sample” does.
4. Use “sample” to randomly order the integers from 1 to 20 and store in “twenty”

5. (Optional) Use help to look up “sort”, “order”, and “rank”. Use these functions on “twenty” to figure out what they do.
6. (Optional) Use help to figure out what “set.seed” does and verify that you understand what it does.

Section E

1. Put the file example2.dat to your local folder. You’ll need to open this file in a text editor to determine whether it has a header or not. Then read it into your R workspace.
2.
 - a. How many variables are in the data?
 - b. What are the names of the variables?
 - c. How many cases are in the data?
 - d. Print out cases 50 through 60.
 - e. Print out the values of the variable in the second column for cases 15 through 20.
3. What is the mean of column 1?
4. What is the median of column 2?

Section F

1. Make histograms of “yrs” and “happy” and save them to a word document.
2. Plot yrs (years of education) on the x-axis versus happy (happiness) on the y-axis
3. Fit a linear regression model to the data with happy as the dependent variable
4. Create a new data set of only those cases who have 12 or more “yrs” (years of education).
5. (Optional) Add the linear regression fit in (3) to the raw data plot in (2)
6. (Optional) Add new variable to the data frame called yrs_squared equal to years squared.