Finding your way around R

1. Accessing Help on
    1.a) Variance of a random variable: Use Option 1 [?xxx]
    1.b) Square root of a number: Use Option 2 [help()]
    1.c) The R graphics package: Use Option 3

2. Working Directory
    2.a) Obtain the current working directory in R
    2.b) Choose a directory and set it as the Working Directory
    2.c) Change the working directory again.

3. Navigation
    3.a) Obtain the square of a number: type number^2.
    3.b) Obtain the sine of a number: type sin(number*pi/180).
    3.c) Recall the prior command [square of a number] and change it to the cube of the number
    3.d) Recall all three prior commands and select any one at random to redo

Basic Commands: Assignment

1. Assignment
    - 1.a) Assign a value of 3 to *a* using <–. Assign a value of 5 to *A* using =. Check the values of *a* and *A*
    - 1.b) Set *b* to 6. Increase the value of *b* by 5.
    - 1.c) Set *c* to 7. Now change the value of c to “China”.

2. Continuation: Before completing an assignment, use the Enter key. Perform the assignment over more than 2 lines

3. Assignment
    - 3.a) Perform an assignment and include blank spaces. Now, perform an assignment without any blank spaces.
    - 3.b) Perform an assignment using a standard key word, say “var”.
    - 3.c) Use .Last.value in an assignment.

4. Comments
    - 4.a) Enter a comment at the command line
    - 4.b) Enter a comment at the end of an assignment
    - 4.c) Enter a comment in the middle of an assignment

Arithmetic and Logical Operators

1. Operations
    1.a) Perform a operation involving addition, subtraction and multiplication without brackets
    1.b) Perform the same operation, now including a round bracket around the addition/ subtraction. Try it with a round bracket and then a square bracket.

2. Assignment: Perform 1, as part of an assignment. Check the results. Use .Last.value and comments as appropriate

3. Expand the scope of the expression in 1) by including all possible operators

4. Assign values to variables x and y. Test x and y for operators: ==, !=, >, >=, <, <=

5. Assign values to variables X and Y. Test X and Y with operators &, | and !

6. Test logical operators on numbers [no assignment]

Miscellaneous

1. Objects
    1.a) List all variables created thus far
    1.b) Remove one variable. Now remove two variables in the same command.

2. Missing, indefinite, infinite
    2.a) Missing: Perform a valid assignment. Test whether the variable has a missing value
    2.b) Missing: Assign the value c(1:3) [using function *c*()] to a variable x. This variable will now have three values x[1], x[2] and x[3]. Test whether x[4] is missing
    2.c) Test for infinite and indefinite values

3. Review the list of available packages

4. Using the menu features, install and load a package

5. Using the menu, detach the package

6. Using the command prompt, load a package
    6.a) Use *library* to obtain help on loading a package

7. Using the command prompt, detach the package

8. Review global preferences in R. What do "*defaultPackages*" and "*pdfviewer*" control [hint: use R help]?

9. Assign a decimal number to a variable. Review the value. Change the number of decimal places and review the value again.