

# M 362M Homework 1

Lee Wei Xuan EID: wl22963

## Exercise 1

1. Upload a screenshot of setting “Save workspace to .RData on exit” to “Never”.

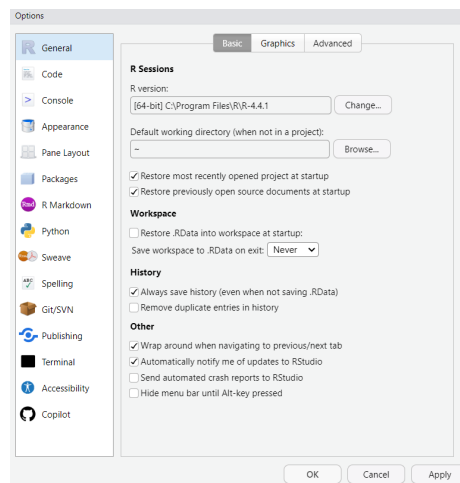


Figure 1: Setting “Save workspace to .RData on exit” to “Never”

2. Upload a screenshot of installing tidyverse.



Figure 2: Installing tidyverse

## Exercise 2

1. Define two variables  $a$  and  $b$  with values 3 and 4 and “put” their product into a variable called  $c$ . Output the value of  $c$ .

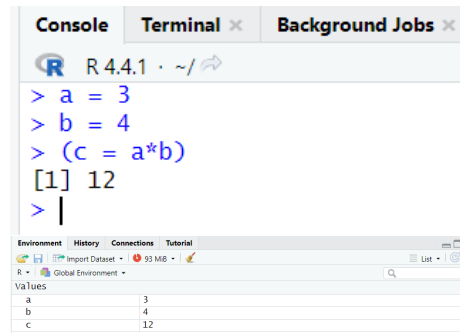


Figure 3: Console and Environment for Problem 1.2.1

2. Define two vectors  $x$  and  $y$  of length 3, such that the components of  $x$  are 1, 2, 3 and the components of  $y$  are 8, 9, 0. Output their (componentwise) sum.

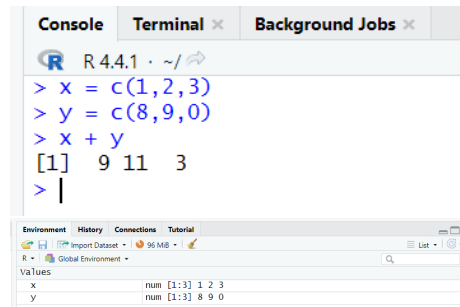
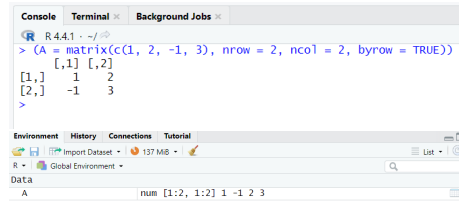


Figure 4: Console and Environment for Problem 1.2.2

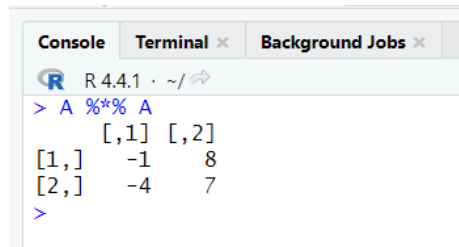
3. Define a  $2 \times 2$  matrix  $A = \begin{pmatrix} 1 & 2 \\ -1 & 3 \end{pmatrix}$ .



The screenshot shows the R console with the command `> (A = matrix(c(1, 2, -1, 3), nrow = 2, ncol = 2, byrow = TRUE))` and its output: `[1,] 1 2` and `[2,] -1 3`. The Environment pane below shows the variable `A` as a numeric matrix of size `2x2` with values `1 -1 2 3`.

Figure 5: Console and Environment for Problem 1.2.3

4. Compute the matrix square  $A^2$ .



The screenshot shows the R console with the command `> A %*% A` and its output: `[1,] -1 8` and `[2,] -4 7`.

Figure 6: Console for Problem 1.2.4