Please complete this check on learning quiz after reviewing all of the required readings for this module. You may take this quiz as many times as you like.

# 

# Question ideas:

* Create a question about tibbles and data frames.

**Q1. Websites**

Which of the following are websites that we will use in this class? Please check all that apply.

|  |  |
| --- | --- |
| ✅ | Canvas |
| ✅ | Webex |
| ✅ | www.r4epi.com |

In this course, we will use the following websites:

1. [Canvas](https://www.uth.edu/canvas/):
   1. View instructions for completing each learning module
   2. Access links to course resources
   3. Complete and submit all graded assignments
   4. View your grades
2. [Webex](https://uthealth.webex.com/uthealth/j.php?MTID=m34022a7972f813f294b8583c8b294581):
   1. This is where my weekly virtual office hours will take place. Pop in and say hi.
3. [www.r4epi.com](https://www.r4epi.com/):
   1. An electronic textbook. Our primary resource for this course.

**Q2. Books**

What is the name of the primary tool we will use for learning R this semester?

|  |  |
| --- | --- |
|  | Advanced R |
|  | R for Data Science |
| ✅ | R for Epidemiology |
|  | Hands-on Programming with R |

The R4Epi book will be our primary tool for learning R this semester. However, all of the other resources listed here are really useful too!

**Q3. Asking questions**

There are no bad questions in this course, but there are definitely ways to ask those questions that are better than others.

|  |  |
| --- | --- |
| ✅ | True |
|  | False |

This is true. Whether you are asking me a question or asking a question online, it’s important that you ask it in a way that will allow the reader to understand what you are trying to accomplish, what you’ve already tried, and what result you are getting. Further, unless it’s something extremely straight forward, you should always provide a little chunk of data that can serve as an example of the data you are working with. This is so important that there is an R program that does nothing but help you ask good questions called [Reprex.](https://www.tidyverse.org/help/) Additionally, [Stack Overflow](https://stackoverflow.com/help/how-to-ask) and the [RStudio community](https://community.rstudio.com/t/video-reproducible-examples-and-the-reprex-package/14732) both publish guidelines for posting good questions.

**Q4. Data frames**

In the R programming community, what is the most commonly used name for a table of data laid out in columns and rows?

|  |  |
| --- | --- |
|  | Data table |
| ✅ | Data frame |
|  | Data set |
|  | It’s just called data |

In the R programming community, the most commonly used name for a table of data laid out in columns and rows is a **data frame**.

**Q5. About R**

Which of the following are true statements about the R programming language? Please select all that apply.

|  |  |
| --- | --- |
|  | R is the best programming language in the world |
| ✅ | In this course, we will interact with R using the RStudio IDE |
| ✅ | R is a functional language |
| ✅ | R is open-source software |

1. I happen to think that R is the best programming language that currently exists specifically for data analysis. However, we can't really declare R to be "the best programming language in the world."
2. In this course, we will interact with R using the RStudio Interactive Development Environment (IDE).
3. R is a functional language. That means that functions play a central role in the R programming language.
4. R is open-source software. That means it is free and that other people can build on the language -- even you!

**Q6. Installing packages**

In order to use packages that other R users have written, you must first install them on your computer. Which of the following code chunks will correctly install the dplyr package on your computer?

|  |  |
| --- | --- |
| ✅ | install.packages(“dplyr”) |
|  | install.packages(dplyr) |
|  | library(dplyr) |
|  | install(dplyr) |

1. install.packages(“dplyr”) — with quotes around “dplyr” — will correctly install the dplyr package on your computer. In general, you only have to install a package one time. If you install a new version of R on your computer, you will likely have to install user-written packages again too.
2. install.packages(dplyr) — without quotes around “dplyr” — will **NOT** correctly install the dplyr package on your computer. If you submit this command in the R console, you will get the following error: “Error in install.packages : object 'dplyr' not found”.
3. library(dplyr) will **NOT** correctly **install** the dplyr package on your computer. This is the command to load the dplyr package in your current R session. If you try to run this command without having installed dplyr first, you will get the following error: “Error in library(dplyr) : there is no package called ‘dplyr’”
4. install(dplyr) will **NOT** correctly **install** the dplyr package on your computer. This is a fake command that I made up.

**Q7. Loading packages**

You will have to explicitly tell R which packages you want to use every single time you open a new session in RStudio.

|  |  |
| --- | --- |
| ✅ | True |
|  | False |

This is true. R doesn’t keep them loaded and available for use at all times. Instead, every time you open RStudio, you will have to explicitly tell R which packages you want to use. So, when you close RStudio and open it again, the only functions that you will be able to use are Base R functions. If you want to use functions from any other package (e.g., dplyr) you will have to tell R that you want to do so using the library() function.

**Q8. R markdown files**

In this course, \_\_\_\_\_\_ is/are the recommended file type for saving and sharing R code.

|  |  |
| --- | --- |
|  | Plain text files (.txt) |
|  | R scripts (.R) |
| ✅ | R markdown files (.Rmd) |
|  | Word document files (.docx) |

In this course, R markdown files (.Rmd) are the recommended file type for saving and sharing R code.

# Q9. Code chunks

We can add R code to our R markdown files using \_\_\_\_\_\_\_.

|  |  |
| --- | --- |
| ✅ | R code chunks |
|  | Markdown |
|  | R scripts |
|  | The R console |

We can add R code to our R markdown files using R code chunks. R code chunks always start out with three backticks ( ` ) and a pair of curly braces with an "r" in them ({r}), and they always end with three more backticks.

# Q10. R markdown

Which of the following can be created from R markdown files?

|  |  |
| --- | --- |
| ✅ | Word documents |
| ✅ | PDF documents |
| ✅ | Presentations |
| ✅ | Websites |

All of these can be created from R markdown documents!!

# Q11. Style

According to the chapter on coding best practices, which of the following is the most appropriate name for a variable that contains information about the study participants' current employment status?

|  |  |
| --- | --- |
|  | EmploymentStatus |
| ✅ | employment\_status |
|  | es |
|  | employment.status |

According to the chapter on coding best practices, "employment\_status" is the most appropriate name for a variable that contains information about the study participants' current employment status (out of the options given).

"EmploymentStatus" is discouraged because of the use of capitalization. Capitalization is allowed in R variable names, but it's discouraged because R is a case-sensitive language, and using capitalization creates additional opportunities for typos.

"es" is discouraged because it isn't very informative.

"employment.status" is discouraged because it contains a period. Although periods are allowed in R variable names, they generally don't translate well to other statistical software.

# Q12. Pipes

Which of the following is the pipe operator?

|  |  |
| --- | --- |
| ✅ | %>% |
|  | !! |
|  | <- |
|  | --- |

The pipe operator looks like this: %>%

It doesn't come with base R, but you can use it after you install and load the dplyr package.