

# Spring 2022 courses

## ds Test 1

### Entry Quiz + Quiz 1-3 Question Bank - DS 205

- What are regular expressions?
- What do you need to run R inside GNU Emacs?
- Which of these are valid PATH settings?
- Which symbols mark Org-mode meta data?
- What is the result of this operation? `NA != NA`
- What is `LETTERS > letters`?
- `is.na(NA)` is TRUE. What is `!is.na(!NA)`
- What is the result of the last operation? `foo <- c(1,2,3,4,5)` `bar <- tail(foo,2)` `foo[1:2] < bar`

### What's the difference between these two expressions?

```
1) strsplit("hi",split="")
2) strsplit("hi",split="")[[1]]
```

TRUE:

- 1) is a list, 2) is a character vector

FALSE

- There is no difference
- 1) prints "h" "i", 2) prints "h"
- 1) is a character, 2) is a list

### How can you check the object class of an R object data?

TRUE:

- `class(data)`

FALSE:

- `is.object(data)`
- `mode(data)`

### Which expression for the for loop checks for equality with r or R?

TRUE:

- `for(char = "r" || char = "R") { ... }`
- `for(char = "r" | char = "R") { ... }`

FALSE:

- `for(char = "\"r\""" || char = "\"R\"") { ... }`
- `for(char = "r" |& char = "R") { ... }`
- `for(char = "r" && char = "R") { ... }`

**The expression `for(i in 1:length(x))` performs worse than `for(i in x)`**

TRUE

**How can you get help on an unknown R function `func`?**

TRUE:

- Check in the console with `?func`
- Check in the console with `help(func)`
- Check in the console for R examples with `example(func)`

FALSE:

- Check on the command shell with `which func`

**What's wrong with this `while` loop?**

```
ctr <- 1
while(ctr <= 7) {
  paste("ctr is set to", ctr)
  ctr <- ctr +1
}
```

TRUE:

- The `print()` function around `paste()` is missing

FALSE:

- It should be `ctr <- 7`, not `ctr <= 7`
- The `while` is limited by round parentheses `(..)`, not `{..}`

**What is the purpose of the Org-mode header argument `:tangle file.R`**

TRUE:

- It lets you create an R script from the Org-mode file

FALSE:

- It lets you create documentation from the Org-mode file
- It runs the R script inside Emacs

**"hello" > "goodbye" is an example of vectorization**

FALSE

**What are properties of interactive notebooks (like Org-mode)?**

TRUE:

- They combine code + documentation + output
- They are useful to communicate data science insights

FALSE:

- They are very fast
- They don't require meta data

## **You can download R from CRAN - the Comprehensive R Archive Network**

TRUE

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