

[Zur LVA in TISS](#)[Dashboard](#) / [Meine Kurse](#) / [105.731-2023S](#) / [Quizzes](#) / [Mini quiz 1](#)**Status** Beendet**Beendet am** Freitag, 31. März 2023, 09:00Frage **1**

Vollständig

Erreichbare
Punkte: 1,00In **R** the following objects are created:

```
x <- 1:10
names(x) <- LETTERS[1:10]

m <- matrix(1:12, ncol = 4)
m1 <- m[1, , drop = FALSE]
m2 <- m[1, ]
m3 <- m[, 2, drop = FALSE]

tibble4 <- tibble(
  i = 1:10,
  j = i^2,
  k = j-i
)

L1 <- list("first" = 1:3,
          "second" = letters[1:5],
          "third" = rnorm(10))
```

Wählen Sie eine oder mehrere Antworten:

- a. The object m3 has 3 rows and 1 columns.
- b. The command
`x[["A"]]`
will return an error.
- c. The command
`L1[["fi"]]`
will return an error.
- d. Object tibble4 has 3 rows and 10 columns.
- e. None of the above.

Frage **2**

Vollständig

Consider the following **R** code:

```
x <- LETTERS[1:10]
```

Erreichbare
Punkte: 1,00

```
out <- NULL
for (i in v) {
  if (i %in% "D") {
    break
  }
  out <- c(out, i)
}
i <- 5
while (i < 11) {
  i = i + 1
}
```

Wählen Sie eine oder mehrere Antworten:

- a. A while loop should be employed to investigate the number of terms required before the product $n!=1*2*3*...*n$ reaches above 10 million.
- b. In general, the for loop is appropriate when the number of iterations is known.
- c. The while loop in the code above iterates 5 times.
- d. The length of the vector out is 10.
- e. None of the above.

Frage 3

Vollständig

Erreichbare
Punkte: 1,00

In **R** the following objects are created:

```
x <- 1:3
y <- 1:1
```

and the following code is run in the **R** console:

```
x / y
```

Wählen Sie eine oder mehrere Antworten:

- a. Running the command will return a warning.
- b. An error will be returned.
- c. The answer is a scalar (i.e., vector of length 1).
- d. Recycling is performed.
- e. None of the above.

Frage 4

Vollständig

Erreichbare
Punkte: 1,00

Consider the following objects:

```
f1 <- factor(c("a", "b", "a", "a"))
f2 <- factor(c("b", "b", "c", "c", "b"))
f3 <- factor(c("d", "d"), levels = c("d", "e"))
```

Wählen Sie eine oder mehrere Antworten:

- a. The command

```
f3[2] <- 'e'
```

tries to assign the value 'e' to the second element of the vector f3. Running this will return a warning in [R](#).

- b. `typeof(f1)`
will return character.
- c. Factors are objects with additional attributes in comparison to atomic vectors.
- d. The command
`nlevels(c(f1, f3))`
will return a value greater or equal to 1.
- e. None of the above.

Frage 5

Vollständig

Erreichbare
Punkte: 1,00

Paying attention to the style conventions and using negative indexing if applicable

- a. Correct the following line of code:

```
mtcars[4 <= mtcars$cyl <= 6, ]
```

```
mtcars[4 <= mtcars$cyl & mtcars$cyl <= 6, ]
```

- b. Correct the following line of code:

```
mtcars[mtcars$cyl <= 5]
```

```
mtcars[mtcars$cyl <= 5, ]
```

Frage 6

Vollständig

Erreichbare
Punkte: 1,00

In [R](#) consider the following code chunks.

- Code chunk 1:

```
f1 <- function(a, b) a * 10; f1(10, stop("This is an error!"))
```

- Code chunk 2:

```
y <- 2
f2 <- function(x, y = 10) {
  x ^ 2 + y
}
f2(10)
```

- Code chunk 3:

```
f3 <- function(A_one, A_two, A_three) {
  A_one + A_two * A_three
}
f3(A_th = 4, 2, A_o = 3)
```

- Code chunk 4:

```
f4 <- _____ {
  g <- function(x) {
    x ^ 3
  }
  g(x)
}
```

```
> f4(2)
```

```
[1] 8
```

```
> f4(4)
```

```
[1] 64
```

Wählen Sie eine oder mehrere Antworten:

- a. The missing part in code chunk 4 is
function()
- b. Code chunk 2 returns 110.
- c. The code in chunk 1 will return an error due to lazy evaluation.
- d. Code chunk 3 returns 11.
- e. None of the above.

Frage 7

Vollständig

Erreichbare Punkte: 1,00

The following objects are created in [R](#):

```
x <- 1:10
```

```
y <- numeric()
```

```
z <- "z"
```

```
w <- NA
```

What do the following code chunks return?

Code chunk 1: `if (length(x)) "not empty" else "empty"`

Code chunk 2: `if (length(y)) "not empty" else "empty"`

Code chunk 3: `ifelse(length(x), "no", "yes")`

Code chunk 4: `switch(z, a = 1, z = 2)`

Wählen Sie eine oder mehrere Antworten:

- a. Code chunk 1 returns
"empty"
- b. Code chunk 2 returns an error.
- c. Code chunk 3 returns
"yes"
- d. Code chunk 4 returns an error.
- e. None of the above.

Frage 8

Vollständig

Erreichbare Punkte: 1,00

In [R](#) the following objects are created:

```
x <- 2
```

```
y <- 18
```

What will running the following code in the [R](#) console return?

```
!(!(x < 4) & !(y > 12))
```

Wählen Sie eine oder mehrere Antworten:

- a. A warning stating that the objects are not logicals.
- b. FALSE
- c. Running the code in the console will generate an error.
- d. TRUE
- e. None of the above.

Frage 9

Vollständig

Erreichbare Punkte: 1,00

In R one can differentiate between homogeneous and non-homogeneous data structures. Consider the following objects:

```
w <- c(TRUE, FALSE, TRUE)
x <- 2.71828
y <- c("thunderstorm", "sun")
z <- c(1L, 3L)
```

Wählen Sie eine oder mehrere Antworten:

- a. `is.logical(w)` will return TRUE.
- b. Combining `w` and `x` using the function `list()` will return an object of length 4.
- c. `as.logical(z)` will return TRUE.
- d. Combining `x` and `w` using the function `c()` will return an vector of type character.
- e. None of the above.

Frage 10

Vollständig

Erreichbare Punkte: 1,00

Wählen Sie eine oder mehrere Antworten:

- a. R shares characteristics with object-oriented programming languages. For example, the output of function `plot()` will be different depending on the type of input.
- b. The coercion `as.integer(c(1, 2L, "a"))` will return an atomic vector of length 2.
- c. Running the following command will return an error.
`_abc <- 1`
- d. Applying the function

`is.infinite()`
to the operation
`Inf / Inf`
will return TRUE.

- e. None of the above.

[◀ Experience with R](#)

Direkt zu:

[Mini quiz 2 ▶](#)