

ADVENT OF CODE

R Café 15th December



ICEBREAKER

Who has participated in this year's Advent of Code?

Who has completed all the puzzles to date?

Who is using a language other than R?

Who feels like a fish out of water?



DOWNLOADING DAILY INPUT FOR PUZZLE

Go to your puzzle input page, e.g.:

https://adventofcode.com/2023/day/1/input

(You need to be logged in)

Right-click anywhere on the page > Save Page As... > nameOfFile.txt

Solve the puzzle



Tip

Solve the puzzle using the test input (on page with puzzle) first.



DAY 1 - PLAIN-LANGUAGE WALKTHROUGH PART 1

- 1. Read through the file line-by-line
- 2. Read the first and last digit in the line (loop from the left for the first, loop from the right for the second)
- 3. Store the combined number in a variable. There are multiple ways to go about it. A simple one would be to concatenate them as a string and converting back to int. Perhaps a more efficient way would be to multiply the first number by 10 and then adding the second number.
- 4. Keep track of the sum by adding the result from 1.3 to another variable.
- 5. Output the variable from 1.4.



DAY 1 - PLAIN-LANGUAGE WALKTHROUGH PART 2

- 1. Read through the file line-by-line
- 2. Read the first and last digit/number-word in the line (loop from the left for the first, loop from the right for the second)
- 3. replace number-word with number
- 4. Store the combined number in a variable. There are multiple ways to go about it. A simple one would be to concatenate them as a string and converting back to int. Perhaps a more efficient way would be to multiply the first number by 10 and then adding the second number.
- 5. Keep track of the sum by adding the result from 1.3 to another variable.
- 6. Output the variable from 1.4.



SOLVE DAY 1

(or whichever day you have reached)



DAY 1 - R WALKTHROUGH PART 1

```
input <- readLines("input/day01.txt")
out <- vector(mode = "numeric", length = 1) # prepare output vector
for (i in 1:length(input)) {
   input[i] <- paste0( # concatenate
       stringi::stri_extract_first_regex(input[i], "\\d"), # first digit
       stringi::stri_extract_last_regex(input[i], "\\d")) # last digit
   out <- out + as.numeric(input[i])
}
out</pre>
```



DAY 1 - R WALKTHROUGH PART 2

```
1 replace_word <- function(x){</pre>
     out <- dplyr::case_match(</pre>
      Х,
      "on" ~ "1",
   "tw" ~ "2",
   "thre" ~ "3",
   "four" ~ "4",
   "fiv" ~ "5",
   "six" ~ "6",
10 "seve" ~ "7",
  "eigh" ~ "8",
11
"nin" ~ "9",
13 .default = x
14
15
     out
16 }
```



DAY 1 - R WALKTHROUGH PART 2

```
input <- readLines("input/day01.txt")
pattern <- "[0-9]|on(?=e)|tw(?=o)|thre(?=e)|four|fiv(?=e)|six|seve(?=n)|eig

out <- vector(mode = "list", length = length(input)) # prepare output list
for (i in 1:length(input)) {
  out[[i]] <- c(
    stri_extract_first_regex(input[i], pattern), # first digit
    stri_extract_last_regex(input[i], pattern)) # last digit
}

out <- unlist(sapply(out,
    function(x) paste0(replace_word(x), collapse = ""),
    simplify = F))
sum(as.numeric(out))</pre>
```



USING R TO IMPORT DAILY INPUT DIRECTLY

Prerequisites

- httr R package
- Advent of Code login
- Session cookie

Marning

Do not spam the AoC API. Downloading the input once a day is no problem.



USING R TO IMPORT DAILY INPUT DIRECTLY: GETTING SESSION COOKIE

Open browser on Advent of Code

Open developer mode (F12)

Go to Storage > Cookies > Session > copy 'value'

Store as AOC_TOKEN in .Renviron

(usethis::edit_r_environ())



USING R TO IMPORT DAILY INPUT DIRECTLY: R CODE

```
base_url <- "https://adventofcode.com/2023/"

cookie <- Sys.getenv("AOC_TOKEN")

req <- httr::GET(
   paste0(base_url, "day/", 1, "/input"),
   set_cookies("session"= cookie)

)

out <- readLines(textConnection(httr::content(req, as="text")))</pre>
```



OTHER SOLUTIONS?



AOC RESOURCES

Local leaderboard and GitHub Discussions: https://edu.nl/jyxfe

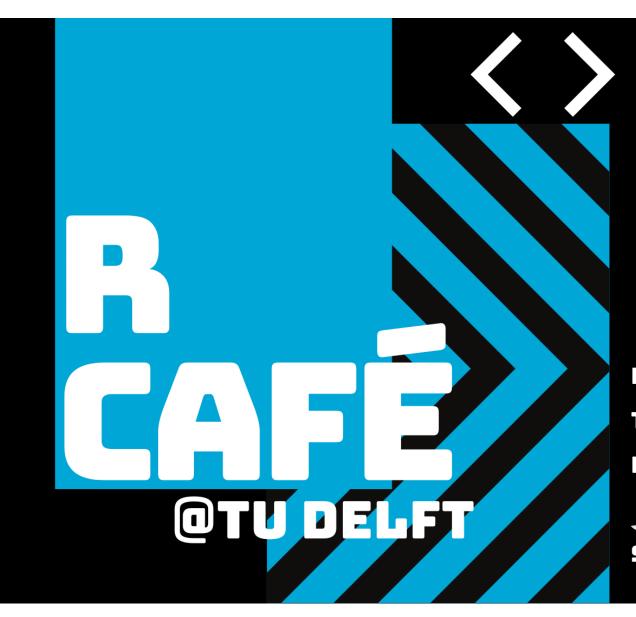
Many coders will post their code on GitHub

Use the 'Languages' filter in GitHub search

You can also find them on social media with #AdventOfCode and the language of choice (e.g. #rstats)

Reddit: r/adventofcode





JANUARY MEET-UP Create an R package



DATE <- 'Thursday 11 Jan 2024'

TIME <- '12:00 - 13:30 CEST'

LOC <- 'Library, Orange Room'



SIGN UP <- 'bit.ly/tud-rcafe'



DELFT R CAFÉ

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