



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

```
1 input <- readLines("input/day01.txt")
2 out <- vector(mode = "numeric", length = 1) # prepare output vector
3 for (i in 1:length(input)) {
4   input[i] <- paste0( # concatenate
5     stringi::stri_extract_first_regex(input[i], "\\d"), # first digit
6     stringi::stri_extract_last_regex(input[i], "\\d")) # last digit
7   out <- out + as.numeric(input[i])
8 }
9 out
```

DAY 1 - R WALKTHROUGH

PART 2

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


DAY 1 - R WALKTHROUGH

PART 2

```
1 input <- readLines("input/day01.txt")
2 pattern <- "[0-9]|on(?=e)|tw(?=o)|thre(?=e)|four|fiv(?=e)|six|seve(?=n)|eig
3
4 out <- vector(mode = "list", length = length(input)) # prepare output list
5 for (i in 1:length(input)) {
6   out[[i]] <- c(
7     stri_extract_first_regex(input[i], pattern), # first digit
8     stri_extract_last_regex(input[i], pattern)) # last digit
9 }
10 out <- unlist(sapply(out,
11   function(x) paste0(replace_word(x), collapse = ""),
12   simplify = F))
13 sum(as.numeric(out))
```

USING R TO IMPORT DAILY INPUT DIRECTLY

Prerequisites

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

Warning

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

```
1 base_url <- "https://adventofcode.com/2023/"
2
3 cookie <- Sys.getenv("AOC_TOKEN")
4 req <- httr::GET(
5   paste0(base_url, "day/", 1, "/input"),
6   set_cookies("session"= cookie)
7 )
8
9 out <- readLines(textConnection(httr::content(req, as="text")))
```

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](#)

R CAFÉ

@TU DELFT



JANUARY MEET-UP Create an R package



DATE <- 'Thursday 11 Jan 2024'

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

LOC <- 'Library, Orange Room'

 +  <- 'FREE'

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

DELFT R CAFÉ

 delft-rcafe.github.io/home/

 rcafe-lib@tudelft.nl

 [delft-rcafe](https://github.com/delft-rcafe)

