Advent of Code 2021 - Day 1 Speed Edition

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```r
# fastest solution
# data.table was faster until I turned on warn=FALSE in readLines for Base R
dt <- as.numeric(readLines("input.txt", warn = FALSE))
# part 1
sum(diff(dt, lag = 1) > 0)
```

```
## [1] 1374
```

```r
# part 2
sum(diff(dt, lag = 3) > 0)
```

```
## [1] 1418
```

```r
rbenchmark::benchmark(
  "First try" = {
    library(tidyverse)
    library(data.table)
    dt <- data.table(read.table("input.txt", sep = "\n"))
    # part 1
    dt$diff <- c(0, diff(dt$V1))
    dt %>% filter(diff > 0) %>% nrow()
    # part 2
    dt$diff <- c(0, 0, 0, diff(dt$V1, lag = 3))
    dt %>% filter(diff > 0) %>% nrow()
    },
  "Base R" = {
    dt <- as.numeric(readLines("input.txt", warn = FALSE))
    # part 1
    sum(diff(dt, lag = 1) > 0)
    # part 2
    sum(diff(dt, lag = 3) > 0)
    },
  "data.table" = {
    # part 1 and 2
    data.table::fread("input.txt",
                  sep = "\n")[, .(diff1 = sum(diff(V1, lag = 1) > 0),
                                  diff3 = sum(diff(V1, lag = 3) > 0))]
  },
  replications = 1000, columns = c(1:5), order = "user.self")
```

```
##         test replications user.self sys.self elapsed
## 2     Base R         1000     0.208    0.028   0.237
## 3 data.table         1000     0.335    0.030   0.365
## 1  First try         1000     1.300    0.070   1.371
```