

Day 4

Part 1

```
library(stringr)
setwd("/Users/saumyasinghal/PycharmProjects/aoc2023")
lines <- read.delim("day4/day4.txt", sep="\n", header = F)[[1]]
cards <- str_match_all(lines, "^Card\\s+\\d+:([ \\d]+)\\|([ \\d]+)$")
```

```
card_matches <- function (card){
  ws <- str_split(card[,2], " ")
  #print(card)
  winning <- na.omit(as.numeric(ws[[1]]))
  #print(winning)
  losing <- na.omit(as.numeric(str_split(card[,3], " ")[[1]]))
  length(intersect(winning, losing))
}
```

```
grade_card <- function(card){
  #print(common)
  n = card_matches(card)
  if (n==0){
    0
  } else {
    2^(n-1)
  }
}
```

```
sum(sapply(cards, grade_card))
```

```
## [1] 20855
```

Part 2

```
# cards_head <- head(str_match_all(lines, "^Card\\s+\\d+:([ \\d]+)\\|([ \\d]+)$"), 20)
copies <- rep(1, length(cards))

inc_copy <- function(card_num, inc_by=1){
  copies[card_num] <-<= copies[card_num] + inc_by
}
#print(card_matches(cards[[5]]))
#print(copies)
make_copies <- function (card_num){
```

```
#print(card_num > 201)
if (card_matches(cards[[card_num]]) == 0){
}
else {
  . <- mapply(inc_copy, 1:card_matches(cards[[card_num]])+card_num, inc_by=copies[card_num])
}
#print(copies)
}
. <- lapply(1:length(cards), make_copies)
print(sum(copies))
```

```
## [1] 5489600
```