

My Solution

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2022-12-07

Part 1

Find the item type that appears in both compartments of each rucksack. What is the sum of the priorities of those item types?

Initialize DF

```
df = read.table('./data/input.txt')  
  
df2 <- df  
  
lowerLetters <- letters[1:26]  
upperLetters <- LETTERS[1:26]  
myLetters <- append(lowerLetters, upperLetters)  
  
# match("A", myLetters) - # Outputs 27
```

Loop through DF

```
for (i in 1:nrow(df)){  
  
  string <- df$V1[i]  
  
  # Determine Length of string  
  length <- nchar(string)  
  
  # Parse string  
  firstHalf <- substr(string, 1, length/2)  
  
  secondHalf <- substr(string, length/2+1, length)  
  
  # Add to DF  
  df$V2[i] <- firstHalf  
  df$V3[i] <- secondHalf  
  
}
```

```
# Finds common value and adds priority score to new col based
for (i in 1:nrow(df)){

  firstHalf <- unlist(strsplit(df$V2[i], ""))
  secondHalf <- unlist(strsplit(df$V3[i], ""))

  commonChar <- intersect(firstHalf, secondHalf)

  df$score[i] <- match(commonChar, myLetters)
}
```

```
df %>%
  summarise(total = sum(score))
```

```
##    total
## 1  7824
```

Part 1 Complete

After finding the item type that appears in both compartments of each rucksack, assigning a priority score and summing them... we get an answer of 7824.

Part 2

Find the item type that corresponds to the badges of each three-Elf group. What is the sum of the priorities of those item types?

```
df3 <- data.frame(V1 = NA, V2 = NA, V3 = NA)

i <- 1

while (i <= nrow(df2)){

  string1 <- df2$V1[i]
  string2 <- df2$V1[i+1]
  string3 <- df2$V1[i+2]

  df3[nrow(df3)+1, 1] <- string1
  df3[nrow(df3), 2] <- string2
  df3[nrow(df3), 3] <- string3

  i <- i+3
}

df3 <- df3[-1,]
```

```
for (i in 1:nrow(df3)){
```

```

first <- unlist(strsplit(df3$V1[i], ""))
second <- unlist(strsplit(df3$V2[i], ""))
third <- unlist(strsplit(df3$V3[i], ""))

commonChar <- intersect(intersect(first, second), third)

df3$score[i] <- match(commonChar, myLetters)
}

```

```

df3 %>%
  summarise(total = sum(score))

```

```

##    total
## 1  2798

```

Part 2 Complete

After Finding the item type that corresponds to the badges of each of the three elves... the sum of the priorities of those items was 2,798