

Pseudo Code Assignment

The handout can be found [here](#).

Preface

To keep it simple we will take a look at a *single thread solution*. Then we will try to see what can be done to optimize the execution using multiple threads. For brevity, we will just list some possibilities.

Single thread

Given a growing list of mails (listOfMails):

```
recruitment = 0
spam = 0
sales = 0
reception = 0

intervalInMin = INPUT("Interval in minutes?")

WHILE liveSorting
    get listOfMails
    listOfMails -> stream
    FOREACH mail of listOfMails
        IF contains "CV" (~ title / body / attachment ???)
            forward to "recruitment@parkshark.com"
            recruitment++
            delete mail (* in mailbox)
        ELSE IF contains "Promo" OR contains "advertising" (~)
            forward to "spam@parkshark.com"
            spam++
            delete mail (*)
        ELSE IF contains "sales" (~)
            forward to "sales@parkshark.com"
            sales++
            delete mail (*)
        ELSE
            forward to "reception@parkshark.com"
            reception++
            delete mail (*)

    print # of mails
    sleep (intervalInMin toMillis)

getListOfMails
    listOfMails = (List) GET someApi
    return listOfMails

deleteMail
    DELETE someApi

print # of mails
    total = recruitment + spam + sales + reception
    print: total, recruitment, spam, sales, reception
```

Multiple threads

Things we could try to optimize: - Use a **parallelStream** instead - List of mails has to be big enough to improve execution speed - Introduce a **thread pool** and pass what comes after FOREACH to executors - Have **different threads each take a list**, then filter for containing a string before FOREACH - Some lists could be made to have more / less importance

Questions for 'Park Shark'

- Where does the list of mails come from?
- What is the average amount of mails received in the mailbox?
- What are the preferences regarding the interval to check the mailbox?

- What should be the frequency?
 - Should it be changeable?
 - Where will this program be running?
 - Should this program have an own interface?
 - Or will it be integrated and run with command line arguments?
 - ...
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– Steven D'Hondt