BruteForce Algorithms Assignment Report

2019311801 이균서

Execution Environment

OS

```
Distributor ID: Ubuntu
Description: Ubuntu 22.04.3 LTS
Release: 22.04
Codename: jammy
```

Python3 Runtime and Pipfile (pipenv)

Runtime Version: Python 3.11.6
package manager and virtual environment: pipenv

package dependencies 가 없는 것을 확실히 하기 위해 pipenv 를 사용했습니다.

하기 Pipfile 에 명시된 대로, denpendencies 는 없습니다.

```
[[source]]
url = "https://pypi.org/simple"
verify_ssl = true
name = "pypi"

[packages]

[dev-packages]

[requires]
python_version = "3.11"
python_full_version = "3.11.6"
```

즉, 추가로 설치한 패키지는 없습니다.

Program Source Code

```
# 2019311801 이균서
import sys
import csv
import re
from collections import defaultdict

print = sys.stdout.write
fin = open("data.csv", "r", encoding="utf-8")
csv_fin = csv.reader(fin)
data = []
user_dict = defaultdict(int)
msg_cnt = 0
for i, line in enumerate(csv_fin):
    if i == 0:
        continue
    msg_cnt += 1
    # if line[2] includes " ㅋ" more than 3 times sequentially, then add 1 to user_dict[line[1]]
    if re.search(r" ㅋ {3,}", line[2]):
        user_dict[line[1]] += 1

# print user who has the most high value of user_dict
max_value = max(user_dict.values())
for k, v in user_dict.items():
    if v == max_value:
        print(k + "\n")
# 백분율로 소수점 2 번째 자리까지 출력
print(f"{max_value * 100 / msg_cnt:.2f}%\n")
fin.close()
```

Data

- KakaoTalk_Chat_____2023-10-04-17-06-34.csv

Program Execution

How to Execute

data.csv(KakaoTalk_Chat_____________2023-10-04-17-06-34.csv) 파일을 python file 과 디렉토리에 위치시킨 후, 하기 명령어를 실행합니다.

Program Execution Command

python3 main.py

실행 결과는 하기와 같습니다.

20 오승준
8.57%

Program Execution ScreenShot

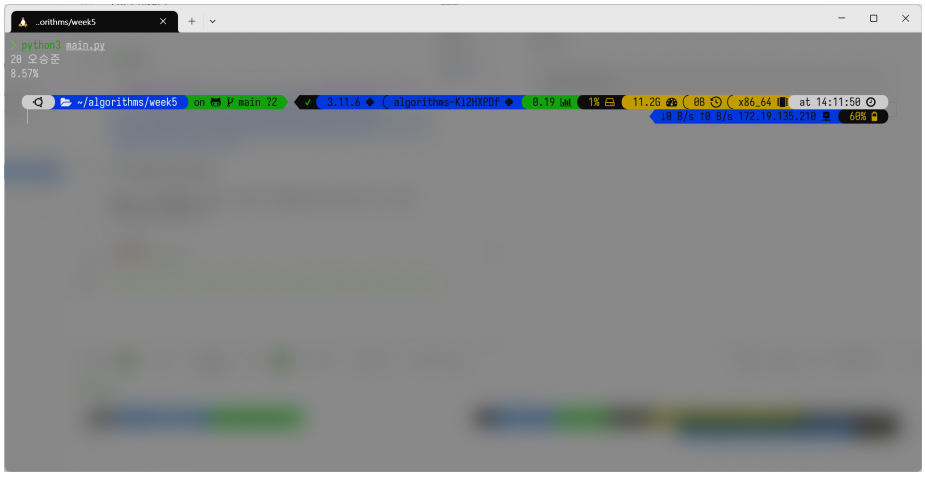

Figure 1: Program Execution ScreenShot

How to Measure Program Execution Time

/usr/bin/time binary 를 이용하여 실행 시간을 측정합니다.

/usr/bin/time python3 main.py

실행 결과는 하기와 같습니다.

20 오승준
8.57%
0.00user 0.01system 0:00.02elapsed 96%CPU (0avgtext+0avgdata 11080maxresident)k
0inputs+0outputs (0major+1266minor)pagefaults 0swaps

약 $0:00.02$ 가 소요되었습니다.

Measured Program Execution Time ScreenShot

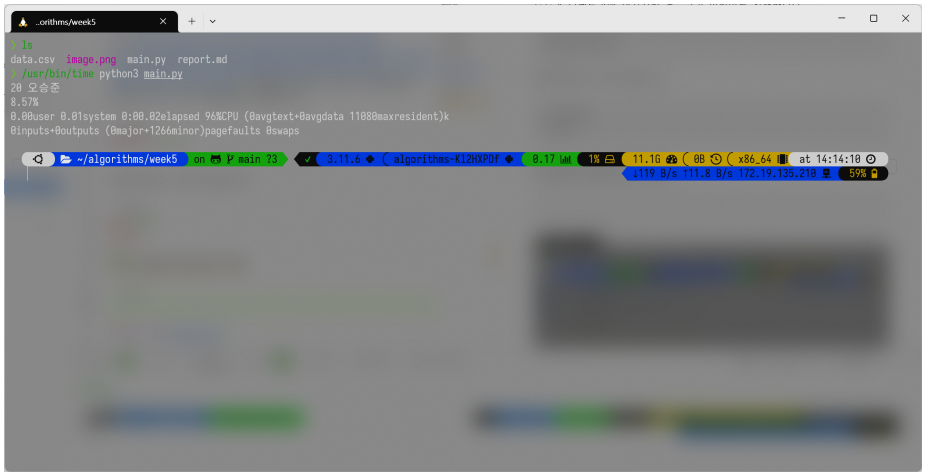

Figure 2: Measured Program Execution Time ScreenShot