

Programming Assignment 1 – COMP2119A

Name: Pranav Talwar

UID: 3035435462

The programs are written in Python. Numpy module must be installed for the programs to run (specifically for F3(n).py). Numpy can be installed using the pip install command. The programs can be run from the terminal using these commands

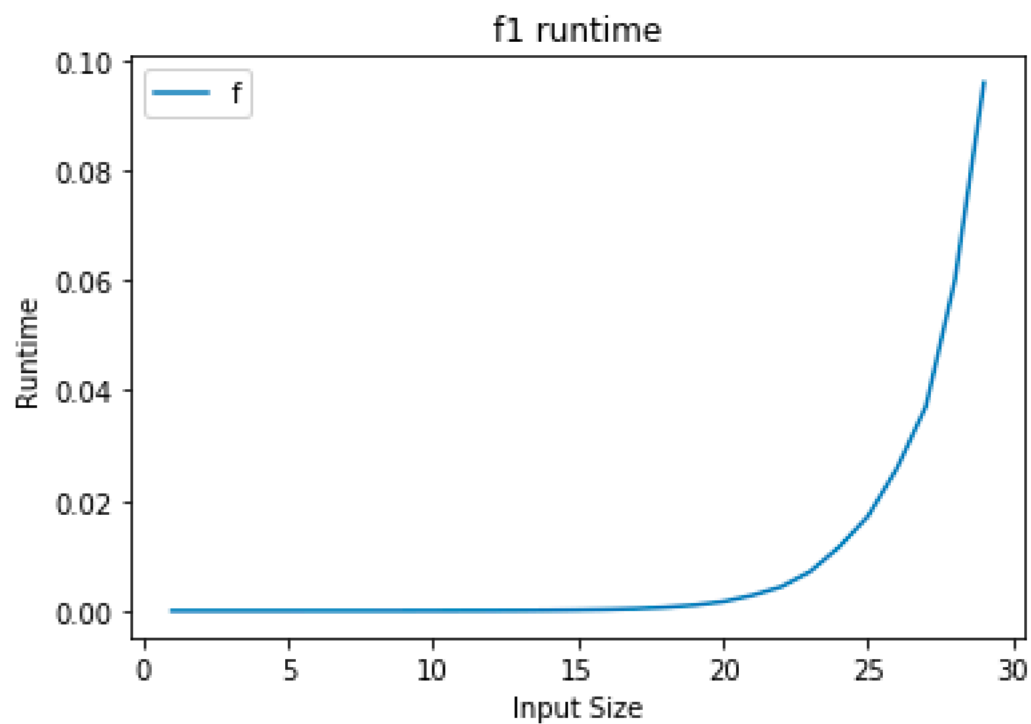
```
python F1\(\n\).py
```

```
python F2\(\n\).py
```

```
python F3\(\n\).py
```

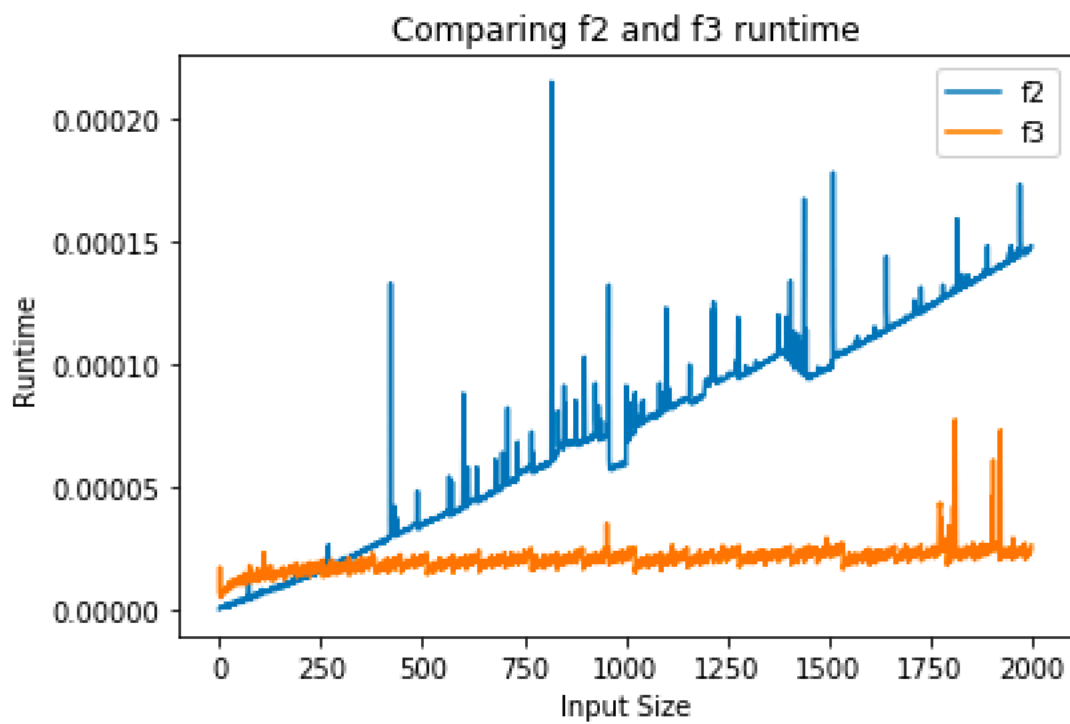
or using the python3 prefix. Python version 3.6.8 was used to write these programs. The output files are created in the same directory as the input files.

Q1.



Here we can clearly see the exponential nature of the algorithm.

Q2.



Looking at the pattern closely, we can clearly the linear time complexity of the f2 algorithm and the logarithmic time complexity of the f3 algorithm.