

XINYI WU (001529267)

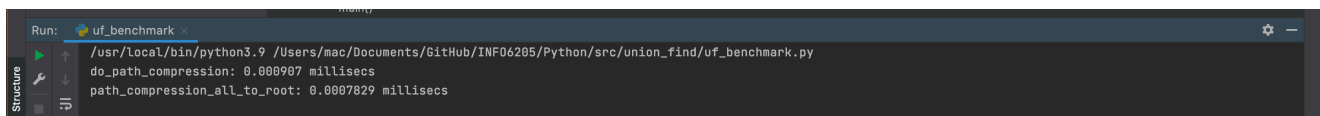
Program Structures & Algorithms

Spring 2021 Assignment No. 4

Task:

1. For weighted quick union, store the depth rather than the size;
2. For weighted quick union with path compression, do two loops, so that all intermediate nodes point to the root, not just the alternates.

Output:



```
Run: uf_benchmark
/Users/local/bin/python3.9 /Users/mac/Documents/GitHub/INF06205/Python/src/union_find/uf_benchmark.py
do_path_compression: 0.000907 millisecs
path_compression_all_to_root: 0.0007829 millisecs
```

Relationship Conclusion:

Path compression all to root makes union find save more time. It helps speed up.