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INFO 6205

Program Structures & Algorithms

Fall 2020

Assignment No4

Note: the UF_Alternative file is in the package named UF_HWQUPC_Client

1. Task:

For weighted quick union, store the depth rather than the size;

For weighted quick union with path compression, do two loops, so that all intermediate nodes point to the root, not just the alternates.

For both of these, code the alternative and benchmark it against the implementation in the repository. You have all of that available from a previous assignment.

2. Output:

```
D:\Java\jdk\bin\java.exe "-javaagent:D:\intelliJ IDEA\IntelliJ
Please input the size of sites:10000
weighted-QU's pairs generated is: 50498

compression-path-QU's pairs generated is: 46626

weighted-compression-path-QU's pairs generated is: 60398
```

3. Relationship conclusion:

For saying clearly, we customize the weighted-QU is 'A' function, the compression-path-QU is 'B' function, and the weighted-compression-path-QU is 'C' function. So it can be observed that the number of pairs of 'A' is similar as that of 'B', and the generated pairs of 'C' are more than 'A' and 'B'.