

**COP 3503 Spring 2024 Program #3 Grading Criteria (100 points total)**

1. Has a loop to process the proper number of queries (2 pts)
2. Has two choices in the loop to process unions and queries. (2 pts)
3. Has a GCD function. (2 pts)
4. GCD function runs in  $O(\max(\lg a, \lg b))$  time, where  $a$  and  $b$  are inputs to the function (10 pts)
5. Has a disjoint set class with a parent array. (2 pts)
6. Has attempted to add a facility of some sort to keep track of set sizes to the disjoint set class, not outside of it. (10 pts)
7. Follows specification for output (2 pts – fraction)
8. Header Comment, Comments, Use of White space, Good consistent coding style (10 points)
9. 12 test cases, 5 points per test case, so 60 points total. May give partial on a test case as you see fit.

**Run Time Limit =  $3X$ , where  $X$  is the run time of my solution on your (TAs) computer. If a case doesn't finish in this amount of time, then it gets no points.**

**If program doesn't compile, max grade of 35 out of 100 → can get most pts from items 1 – 8, but an extra 5 pts taken off for not compiling.**