

CS2323 - Computer Architecture

Lab Exam 1

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November 25, 2023

1 Coding Approach :

GCD of two numbers was implemented by repeated division (division was implemented by repeated subtraction) i.e if the remainder isn't 0 the new divisor is the remainder and the new dividend is the previous divisor. This is repeated till remainder is 0. On termination of the process the last divisor which we used for the division process is the gcd of the two numbers.

2 Verification :

The code was verified for the following test cases :

1. 1
0 5
Output : 0
2. 1
1 8
Output : 1
3. 1
0 0
Output : 0
4. 1
5 6
Output : 1
5. 1
5634 8738
Output : 2
6. 1
686 42
Output : 14
7. 10
14 35 35 34 16 8 16 17 19 361 7 11 15 15 0 12 0 0 1 5
Output : 7 1 8 1 19 1 15 0 0 1

3 Conclusion :

Part1 of the Lab Exam was successfully implemented for 64 bit unsigned numbers.