Problem 1

To test the algorithms, I timed them with a range of 10,000-10,000,000 and a step size of 250,000. For the inputs m and n, I made them both random integers with a range between 10,000 to 100,000,000. Once the programs were done being timed I put the results into Excel and sorted them by the lowest inputs to the highest since they were out of order in the program. I concluded that the consecutive integer algorithm was only faster than Euclid’s at lower input sizes but once the input size began to increase Euclid’s algorithm far outperformed the consecutive integer algorithm

Problem 2

The Big(O) of my algorithm is n2

Problem 3

a)      Linear: 15

b)      O(N log N): 21~

c)      Quadratic: 75

d)     Cubic: 375

Problem 4

a)      Linear: 10,000,000

b)      O(N log N): 56,438~

c)      Quadratic: 22,630~

d)     Cubic: 158,113~