Four main memory access each requiring 1 microsecond

Two disk file accesses each requiring 1 millisecond

Total of 2.004 milliseconds for the statements within the inner loop to complete

The inner loop has a big O efficiency of N, since it’s counting down from N to 0

The outer loop is counting from X=1 until X is greater than N\*N, incrementing each time by X + X. This has a big O efficiency of Log(N\*N).

Therefore, the total **big O efficiency of the program is N\*Log(N\*N)**

If N = 1000, and the statements in the inner loop take 2.004 milliseconds to run, then:

NLog(N^2) \* 2.004 = 1000\*Log(1000\*1000) \*2.004 = 1000\*20\*2.004 = 40080 milliseconds

(*recall that log is in base 2)*

**The construct would require 40080 milliseconds to run**