Extra Credit 1

A code C runs T seconds to obtain results for an input of size S. How to find the order of runtime for the code C for given pairs:

(a) (S1,T1), (S2,T2)?

(b) (S1,T1), (S2,T2), (S3, T3)?

Algorithm

a)

1. START

2. IMPORT all necessary preprocessor headers

3. INITIALIZE time to 0.0 seconds

4. SET beginning time to clock ()

5. SLEEP for five seconds

6. INITIALIZE end time to clock ()

7. CALCULATE time = time + (end-beginning) / CLOCKS\_PER\_SECOND

8. PRINT time

9. END

b)

1. START

2. IMPORT all necessary preprocessor headers

3. INITIALIZE time, beginning time, end time

4. CALL function get time (CLOCK\_REALTIME, & beginning time)

5. SLEEP for five seconds

6. CALL function get time (CLOCK\_REALTIME, & end time)

7. CALCULATE time = (end.tv\_sec-beginning.tv\_sec) + (end.tv\_nsec-beginning.tv\_nsec)

8. PRINT time

9. END