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CSC 340

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CSC 340 HW 6 Optional

Optional Question One

1. for (int i=0; i<n; i++) //assume n is divisible by 3

2. for (j=n/3; j>i; j--)

3. sum = i+j;

Line 1: (n+1)

Standard incremented iterator until n. +1 for the final check which results in failure.

Line 2: ((n/3)/2) +1

Rewrote it as for(j=i; j<n/3 ; j++), while the way the iterator is incremented or decremented, the number of times it runs stays the same. Using similar method from previous problems, insert (n/3) in place of n, there for (n/2)+1 becomes ((n/3)/2)+1. +1 being the final check which results in failue.

Optional Question Two

1. for (int i=1; i<n; i=i\*5) //assume n is a power of 5

2. for (j=i; j < n; j++)

3. sum = i+j;

Line 1: (log\_5(n)) +1

Similar to HW#6 problem 2 but its power of 10 instead and add one at the end for final check which results in failure

Line 2: (log\_5(n))((n/2)+1)

Taking however many times line 1 ran and take away one since final check that results in failure will not go to the second line and multiply ((n/2)+1) , refer to the HW #6 question 3 for the explanation of why it is n/2 ( square cut in half diagonally).

Line 3: (log\_5(n)(n/2)

Take one away from ((n/2)+1) because of the check in which results in failure, since that is ran multiple times you must remove each time it fails in the check which results in failure. And (log\_5(n) is how many times line 1 goes to line 2.