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Problem 4, Exam 1: Highly Composite Numbers

Error

Looking over my pseudocode there's a couple errors I made. The first is I forgot to increment a value I was using in a while condition, making the function return the same answer every time. My pseudocode is also really sloppy and hard to read making it difficult to understand what is meant to occur when. My last conditional is also incorrect, I set my return value to 0 when I meant to set it to i. This problem was also the last one I did, I think b/c I saw pseudocode I avoided it.

Solution

Get HCN(int K)

Val = 1

Hd = 0

for i ← 1 to K

d = 0

for j ← 1 to K

if i % j == 0

d ++

if d > Hd

Val = i

return Val

Note: I got part b right but will put the answer again

$$\Theta(N^2)$$

Reflection: Looking back over the question it seems like I just rushed a bit. In my original I also used a while loop on the inside rather than a second for loop which made it more difficult. Moving

forward when I do brute force I will use for loops b/c it seems easier. I think the problem difficulty was about equal to how I originally understood it. But doing it w/o a time constraint allows me to see some of the errors I made originally that overall don't make sense.