Vlad Bogdan-Tudor, 917
VladB

1) $15N^3 + 1099N^2 + 5N\log_2 N$ ← Let this be A

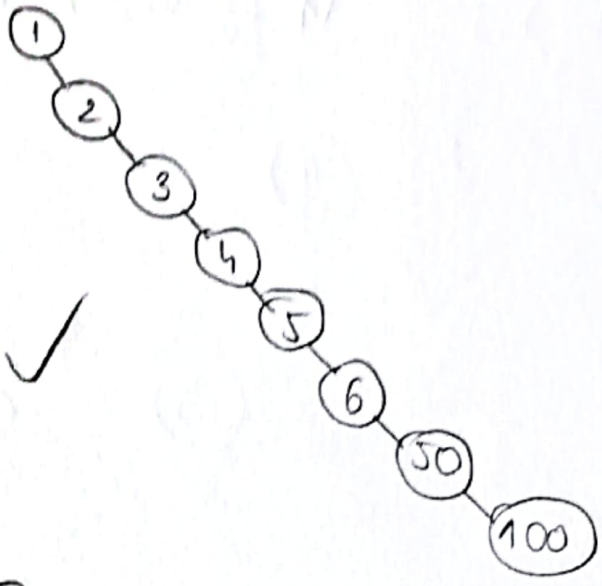
$\lim_{n\to\infty} \frac{A}{N^2} = \infty \Rightarrow$ (B)

$\lim_{n\to\infty} \frac{A}{N^3} = 15 \Rightarrow$ (E)

Vlad Bogdan-Tudor, 917

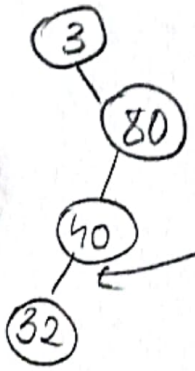
Vlad

2) A.



Looks good! ✓

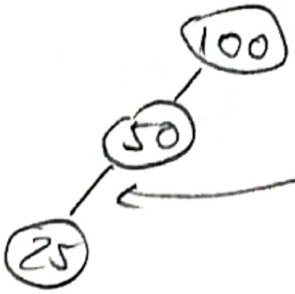
B



52 > 40 ⇒ here we would go right or stop, not left!

✗

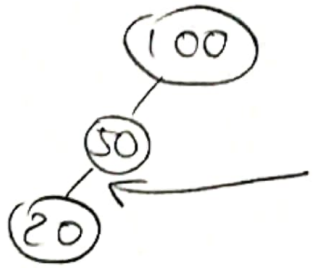
C



52 > 50 ⇒ same as B

✗

D

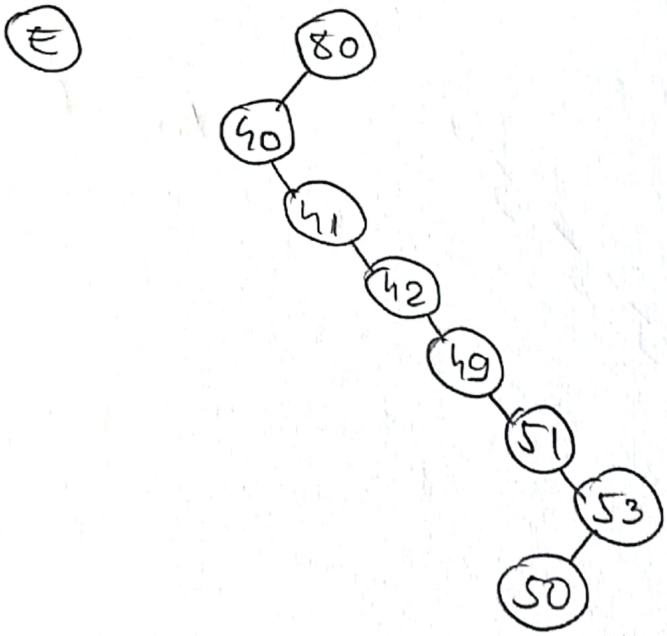


52 > 50 ⇒ same as B, C

E

(on next page)

Vlad Bogdan-Tudor, 311
VladB

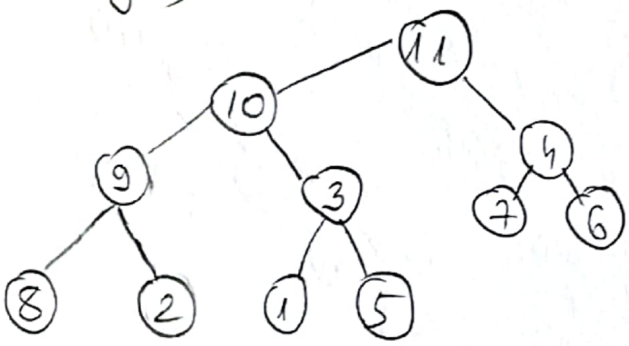


looks good!
✓

→ A, E

Vlad Bogdan-Tudor, 917
Vlad

3) INORDER: 8, 9, 2, 10, 1, 3, 5, 11, 7, 4, 6
(left, visit, right)



Check: 8, 9, 2, 10, 1, 3, 5, 11, 7, 4, 6

PREORDER: 11, 10, 9, 8, 2, 3, 1, 5, 4, 7, 6
(visit, left, right)

Vlad Bogdan-Tudor, 917
VlBo

4) $h_1(k, i) = (h'(k) + i) \% m$

$h_2(k, i) = (h'(k) + i \cdot h''(k)) \% m$

if $h''(k) = 1 \Rightarrow h_2(k, i) = h_1(k, i)$

$\Rightarrow$ True