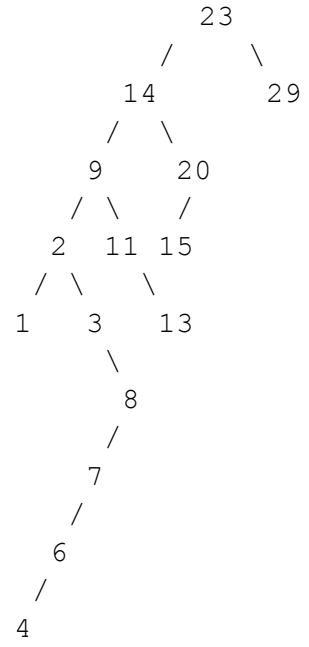
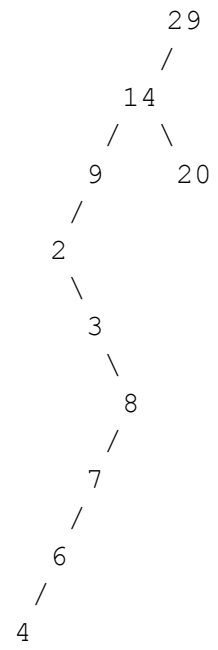
Questão 1.



Remoção de 23, 11, 13, 1, 15:



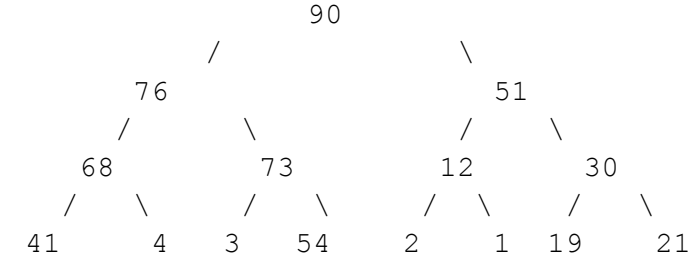
Caminho**:** 29 → 14 → 9 → 2 → 3 → 8 → 7 → 6 → 4.
Nesse caso, a árvore não seria um método eficaz, pois ela está desbalanceada, gerando complexidade de busca O(n).

Questão 2.

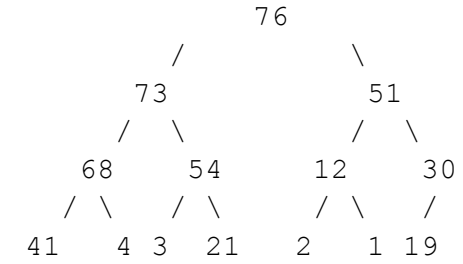
Pré-Ordem (Raiz-Esq-Dir): 50, 30, 10, 45, 59, 53, 90
Central (Esq-Raiz-Dir): 10, 30, 45, 50, 53, 59, 90
Pós-Ordem (Esq-Dir-Raiz): 10, 45, 30, 53, 90, 59, 50

Questão 4.

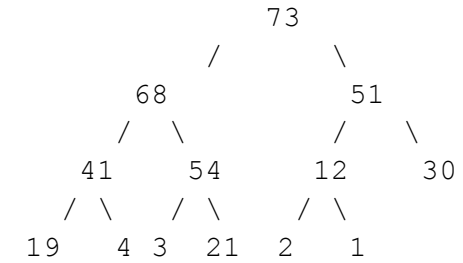
Heap inicial:



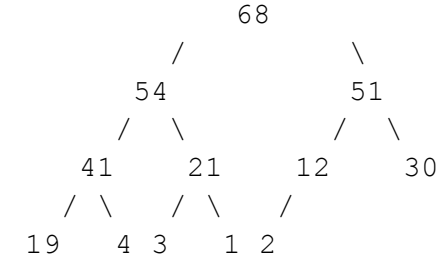
Remoção do 90:



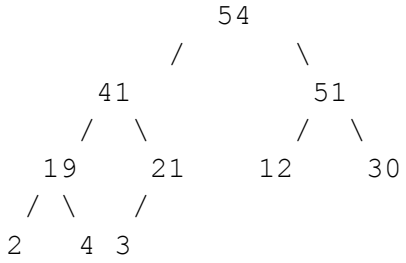
Remoção do 76:



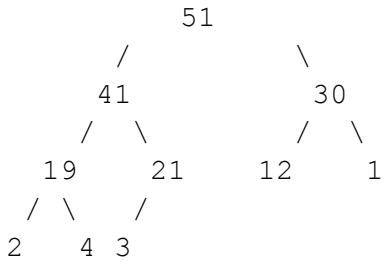
Remoção do 73:



Remoção do 68:



Remoção do 54:



Questão 5.
Listas encadeadas:

[0] : NULL
[1] : U → A → NULL
[2] : V → L → NULL
[3] : M → NULL
[4] : N → D → NULL
[5] : O → E → NULL
[6] : P→ F → NULL
[7] : NULL
[8] : R → NULL
[9] : I → NULL

Endereçamento aberto:

[0] : D
[1] : U
[2] : A
[3] : M
[4] : N
[5] : O
[6] : P
[7] : F
[8] : R
[9] : I
(V, E e L não puderam ser inseridas por falta de espaço)