

Bubblesort

29 SF 48 37 12 92 86 33

29 48 SF 37 12 92 86 33

29 48 37 SF 12 92 86 33

29 48 37 12 SF 92 86 33

29 48 37 12 SF 86 92 33

29 48 37 12 SF 86 33 92

29 48 37 12 SF 86 33 92

29 37 48 12 SF 86 33 92

29 37 12 48 SF 86 33 92

29 37 12 48 SF 86 33 92

29 37 12 48 SF 33 86 92

29 37 12 48 SF 33 86 92

29 12 37 48 SF 33 86 92

29 12 37 48 SF 33 86 92

25 12 37 48 57 33 [86 92]

25 12 37 48 33 [57 86 92]

12 25 37 48 33 [57 86 92]

12 25 37 48 33 [57 86 92]

12 25 37 48 33 [57 86 92]

12 25 37 33 [48 57 86 92]

12 25 37 33 [48 57 86 92]

12 25 37 33 [48 57 86 92]

12 25 33 [37] 48 57 86 92

12 25 [33] 37 48 57 86 92

12 [25] 33 37 48 57 86 92

[12 25 33 37 48 57 86 92]

Seleção direta

25 57 48 37 12 92 86 33

12 57 48 37 25 92 86 33

12 25 48 37 57 92 86 33

12 25 33 37 57 92 86 48

12 25 33 37 57 92 86 48

12 25 33 37 48 92 86 57

12 25 33 37 48 57 86 92

12 25 33 37 48 57 86 92

12 25 33 37 48 57 86 92

Inserção Direta

25 SF 48 37 12 92 86 33

25 SF 48 37 12 92 86 33

25 48 SF 37 12 92 86 33

25 37 48 SF 12 92 86 33

12 25 37 48 SF 92 86 33

12 25 37 48 SF 92 86 33

12 25 37 48 SF 92 86 33

12 25 33 37 48 SF 86 92

Quick Sort

25 SF 48 SF 12 92 86 33

25 SF 48 SF 12 92 86 33 A

25 SF 48 SF 12 92 86 33 A

25 33 48 SF 12 92 86 57

25 33 48 SF 12 92 86 57

25 33 48 SF 12 92 86 57

25 33 12 SF 48 92 86 57

25 33 12

48 92 86 57

25 33 12

48 92 86 57

25 12 33

48 92 86 57

25 12

48 SF 86

12 25

48 SF 86

12 25 33 37 48 57 86 92

HeapSort

0 1 2 3 4 5 6 7
25 57 48 37 12 92 86 33

25 57 48 86 12 92 37 33

25 57 92 86 12 48 37 33

25 92 57 86 12 48 37 33

92 25 57 86 12 48 37 33

0 1 2 3 4 5 6
33 25 57 86 12 48 37 92

33 25 57 86 12 48 37 92

33 25 57 86 12 48 37 92

33 86 57 25 12 48 37 92

86 33 57 25 12 48 37 92

0 1 2 3 4 5
37 33 57 25 12 48 86 92

37 33 57 25 12 48 86 92

37 33 57 25 12 48 86 92

37 57 33 25 12 48 86 92

57 37 33 25 12 48 86 92

0 1 2 3 4 5
48 37 33 25 12 | 57 86 92

48 37 33 25 12 57 86 92

48 37 33 25 12 57 86 92
0 1 2 3
12 37 33 25 | 48 57 86 92

12 37 33 25 48 57 86 92

37 12 33 25 48 57 86 92
0 1 2 3
25 12 33 | 37 48 57 86 92

25 33 12 37 48 57 86 92

33 25 12 37 48 57 86 92

12 25 | 33 37 48 57 86 92

25 12 33 37 48 57 86 92

12 25 33 37 48 57 86 92

ShellSort

$h = \{3, 2, 1\}$

$h = 3$

0 1 2 3 4 5
10 20 12 5 8 15

10 20 12 5 8 15

$h = 2$

5 20 12 10 8 15

$h = 1$ (Insertion)

5 20 8 10 12 15

5 20 8 10 12 15

5 8 20 10 12 15

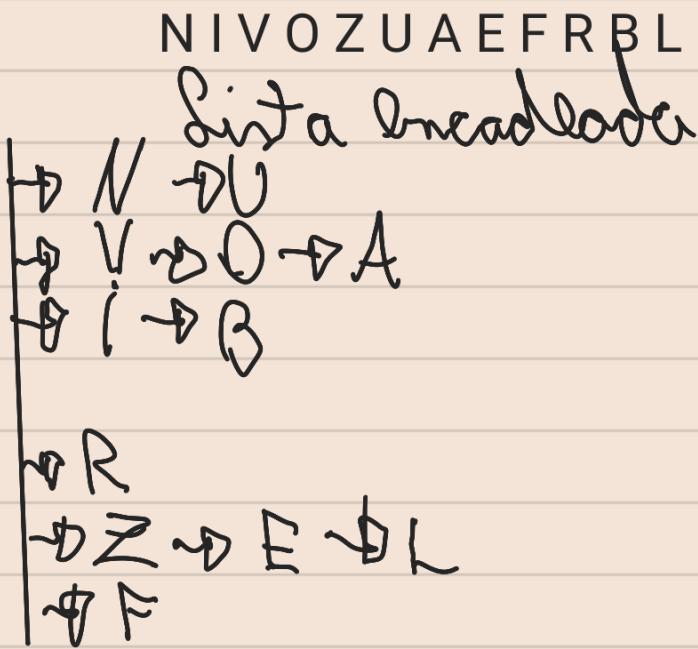
5 8 10 20 12 15

5 8 10 12 20 15

5 8 10 12 15 20

Exercicio Hash

0
1
2
3
4
5
6

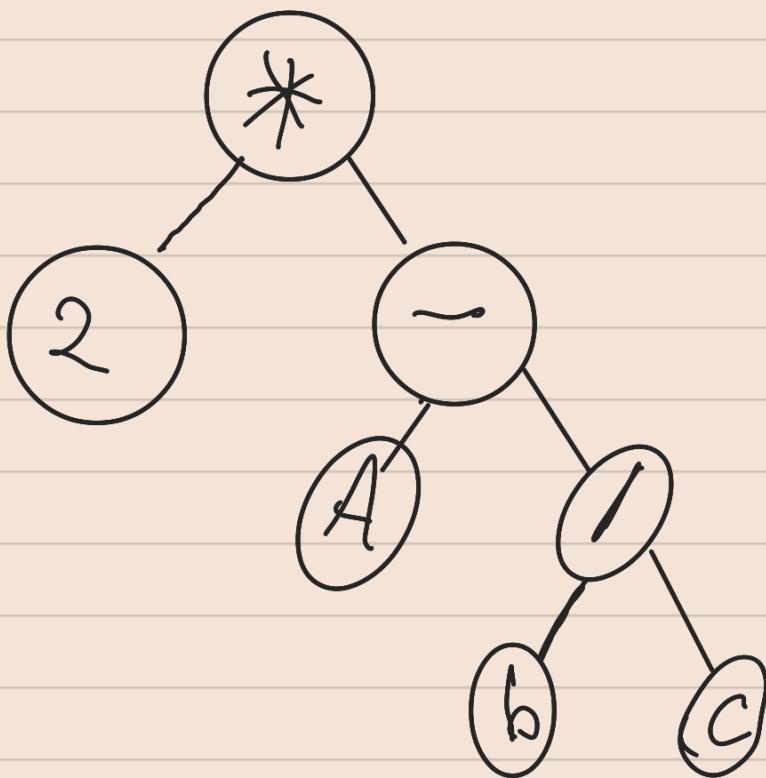


Hashing Simples

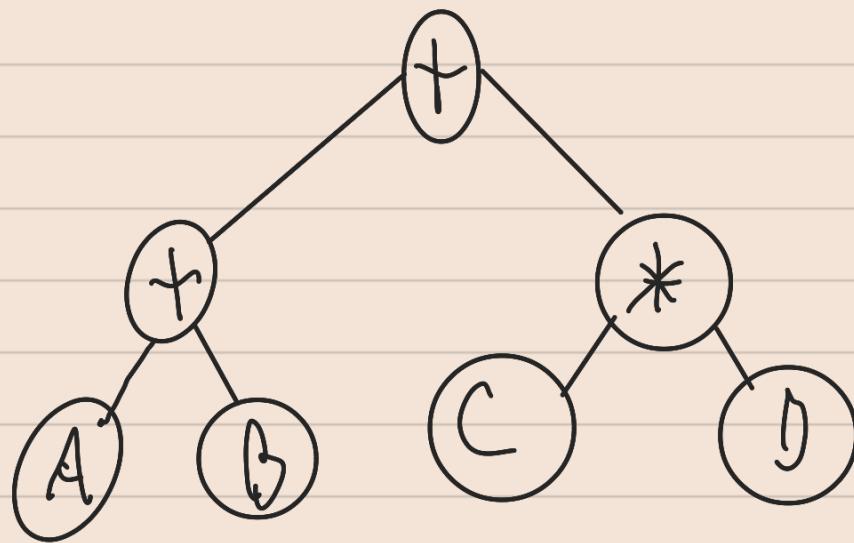
0
1
2
3
4
5
6
7
8
9
10
11
12

NNONATROND
- CRIPTADO -
V
L

$$a) 2 * (a - b / c)$$



$$b) a + b + c * d$$



REO, ERO, EDR

Exercício:

Arvore 1

pré-ordem = 1, 2, 4, 5, 3, 6, 7

in-ordem = 4, 2, 5, 1, 6, 3, 7

pós-ordem = 4, 5, 2, 6, 7, 3, 1

Balanceada

Perfeitamente Balanceada

Altura = 2

Folhas = 4, 5, 6, 7

Arvore 2

pré-ordem = A, B, D, F, E, C, G, H

in-ordem = F, D, B, E, A, G, H, C

pós-ordem = F, D, E, B, H, G, C, A

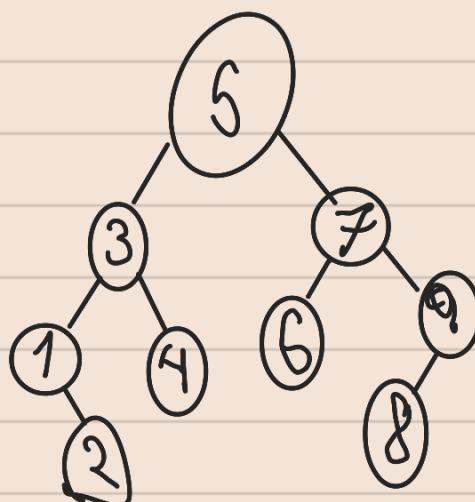
Não balanceada

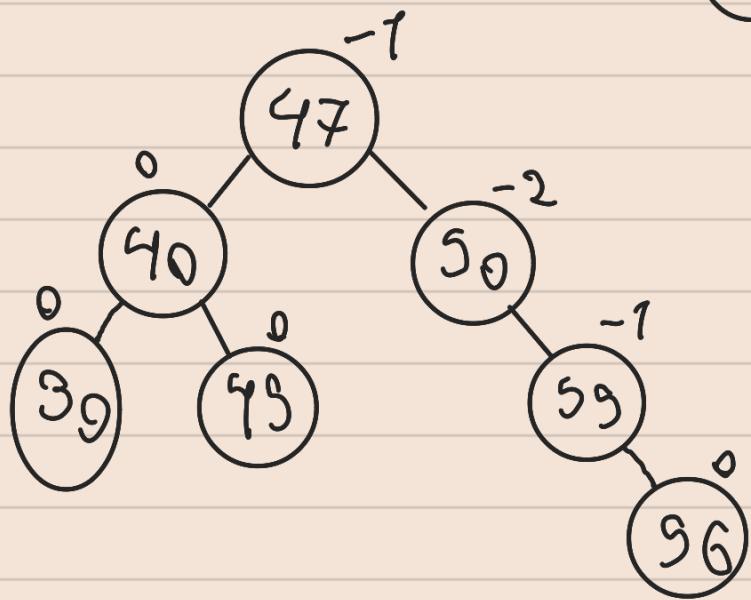
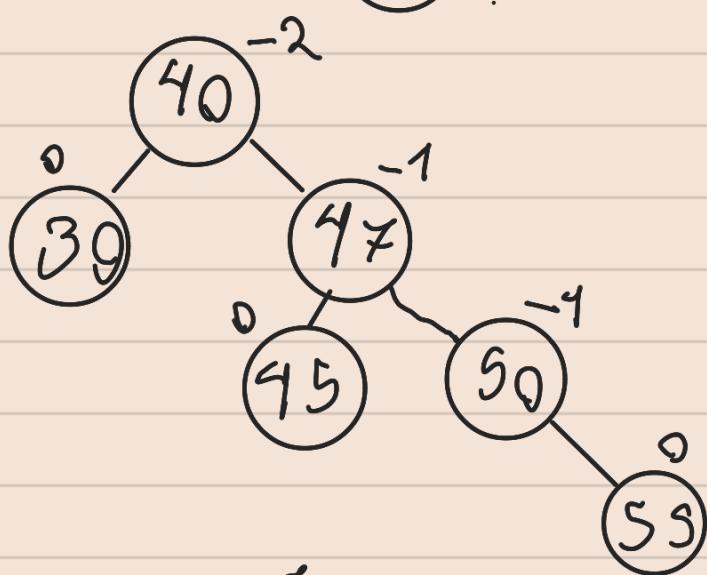
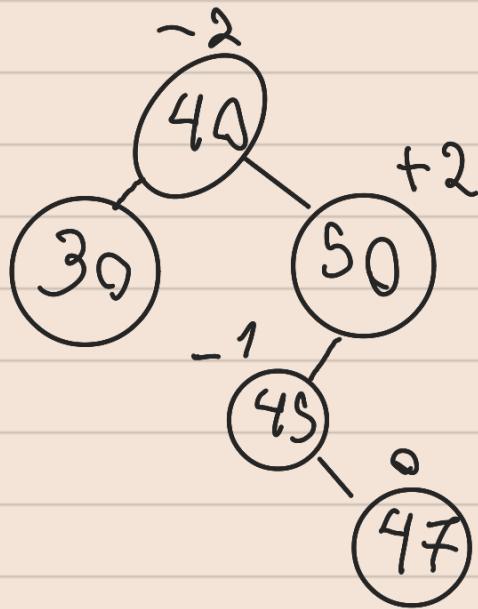
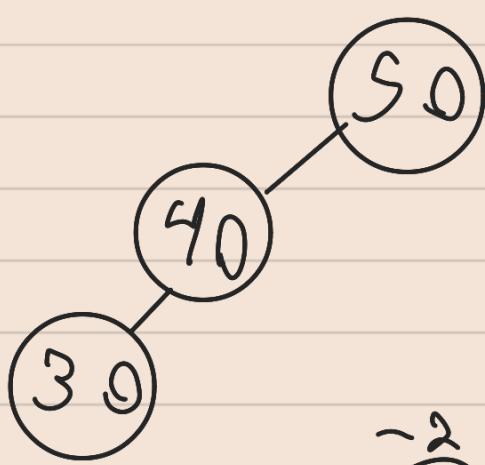
Não é perfeitamente balanceada

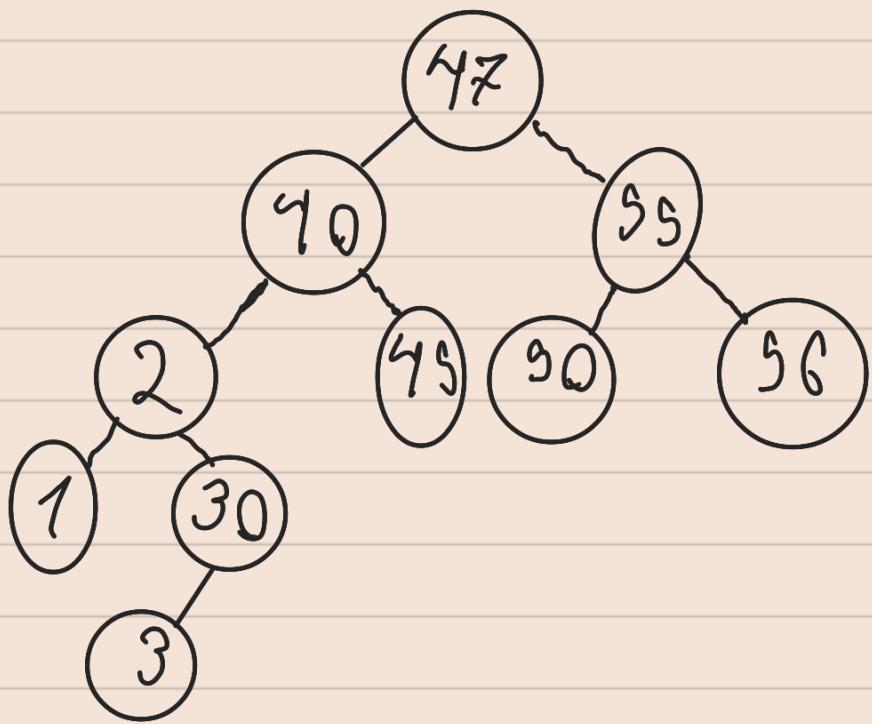
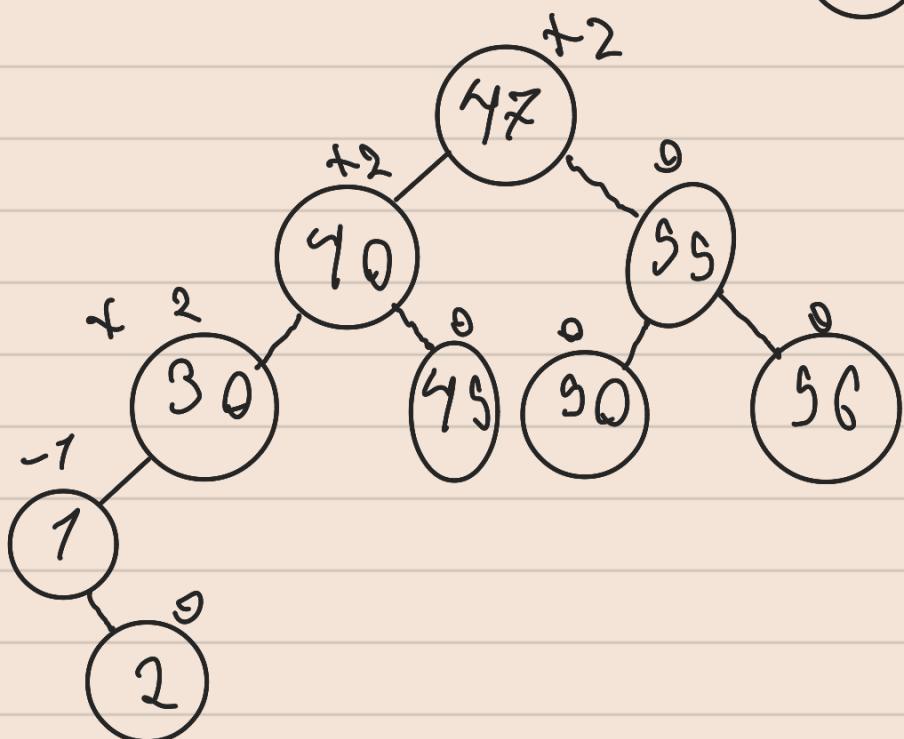
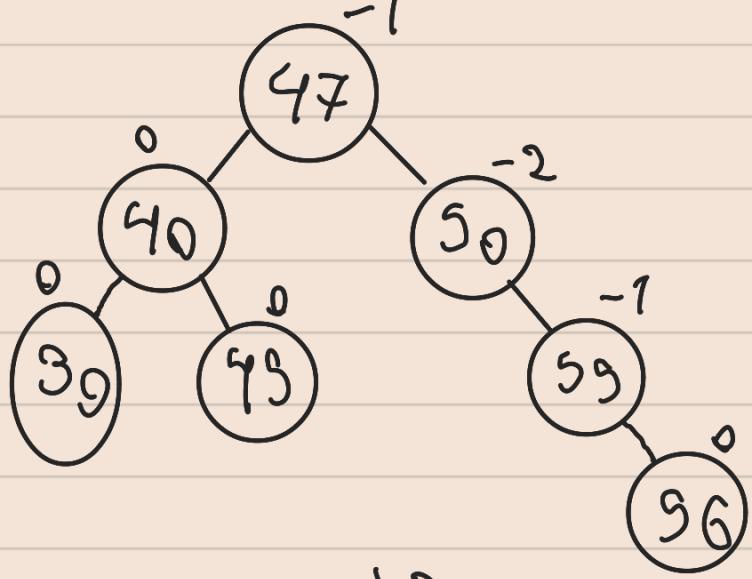
Altura = 3

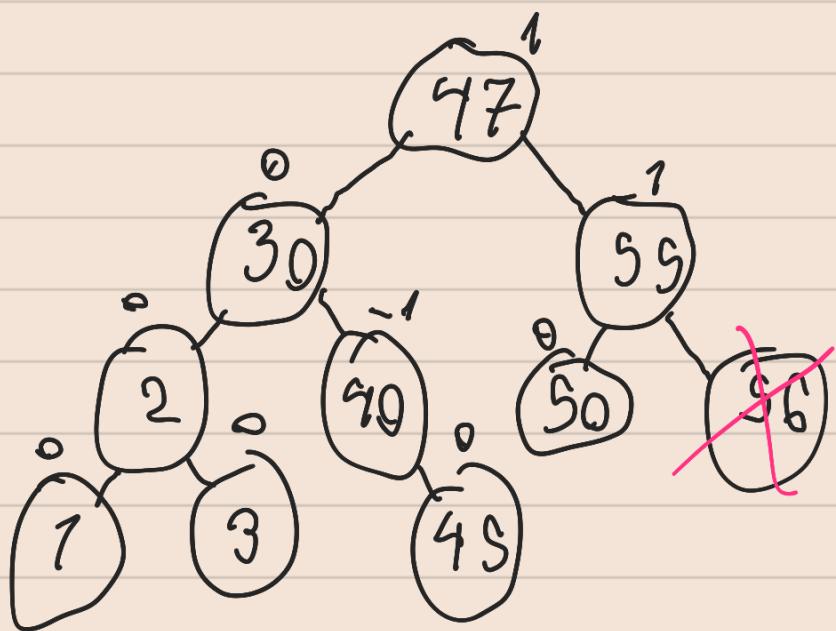
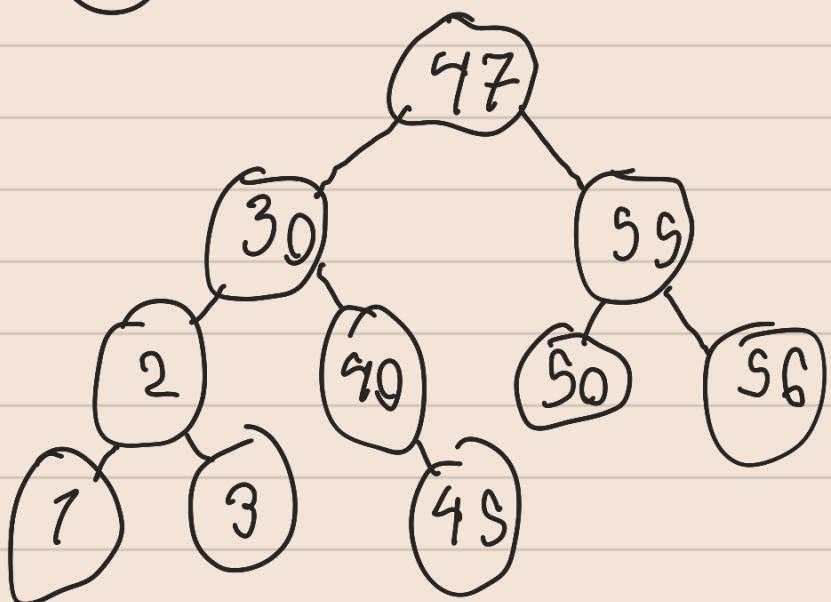
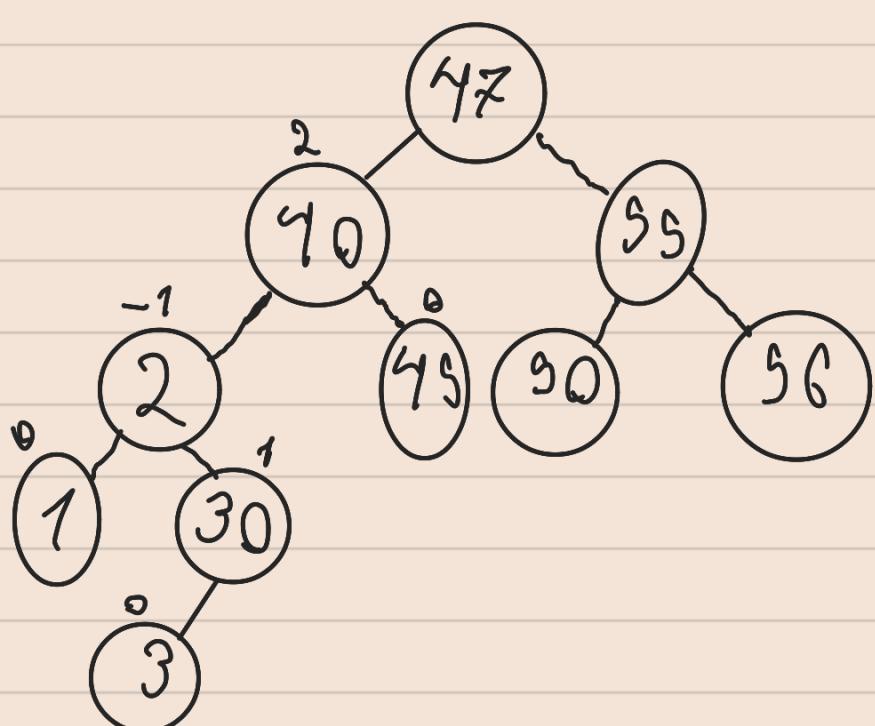
Folhas = F, E, H

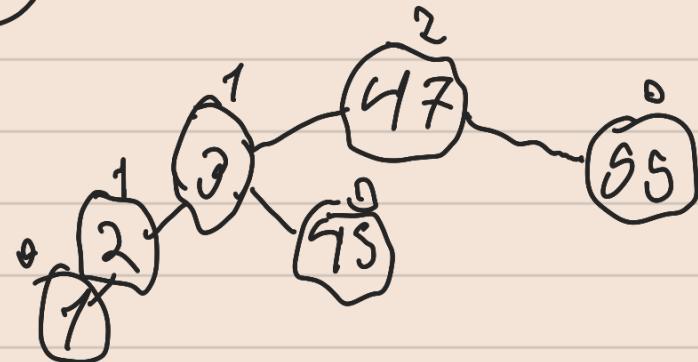
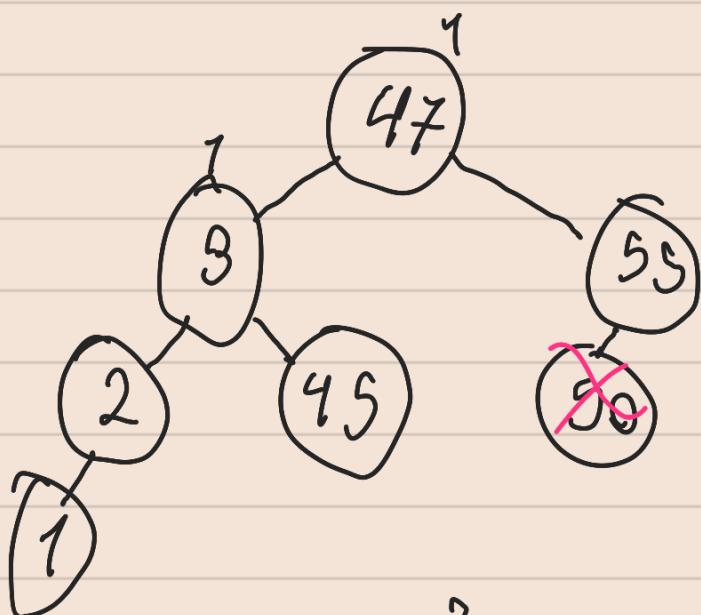
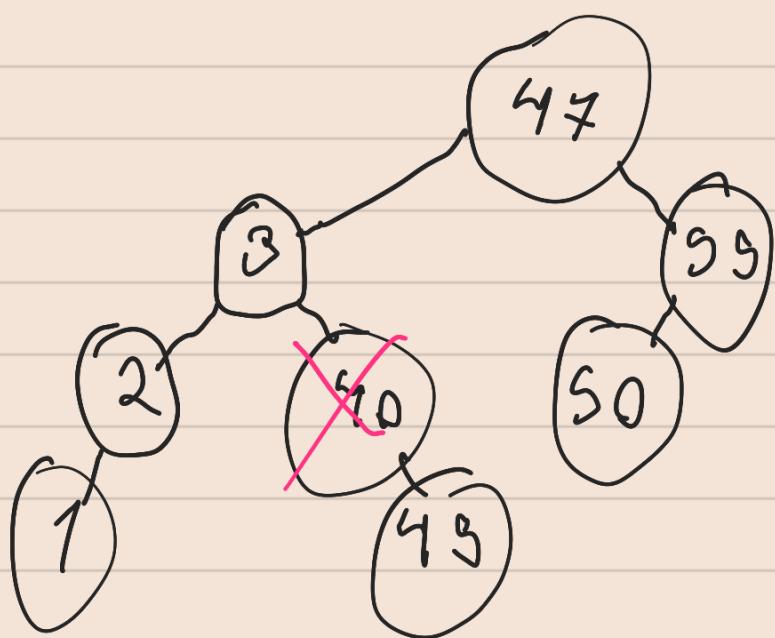
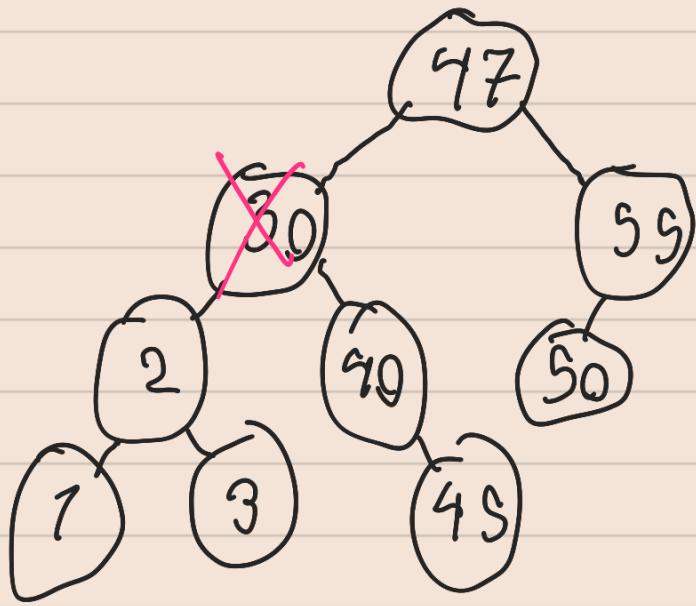
Exercicio:

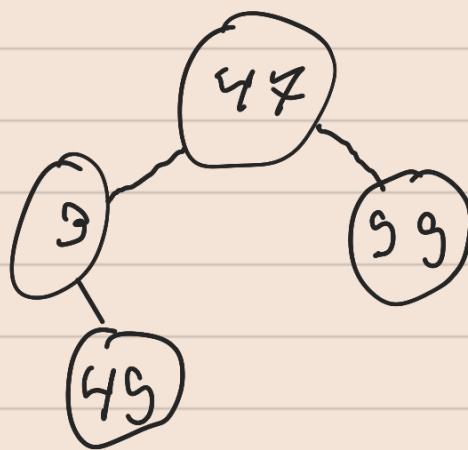
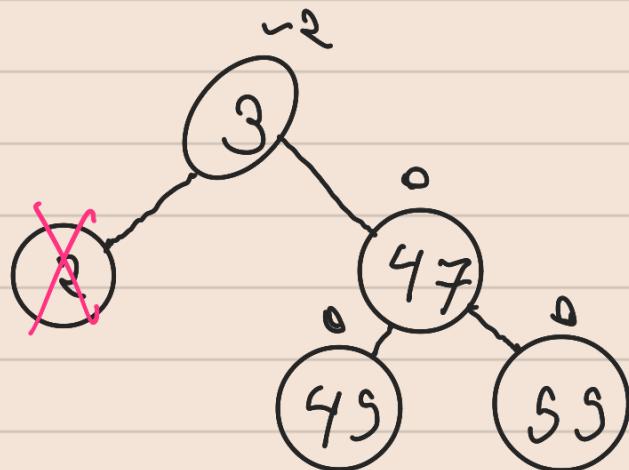
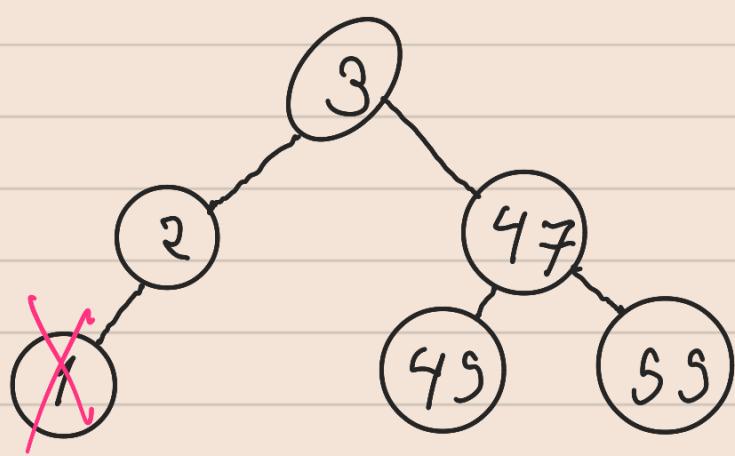






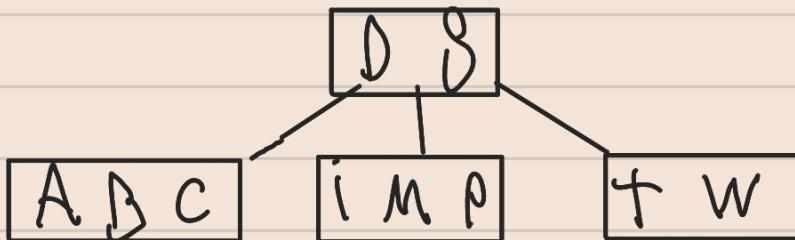
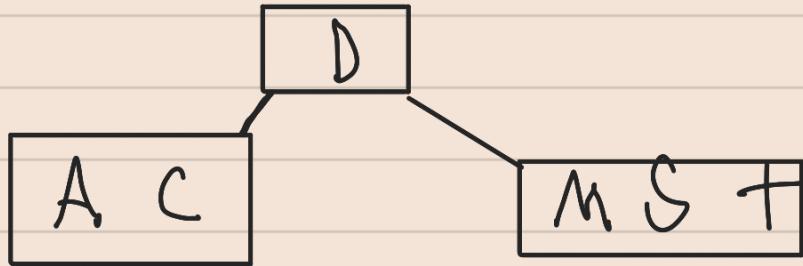




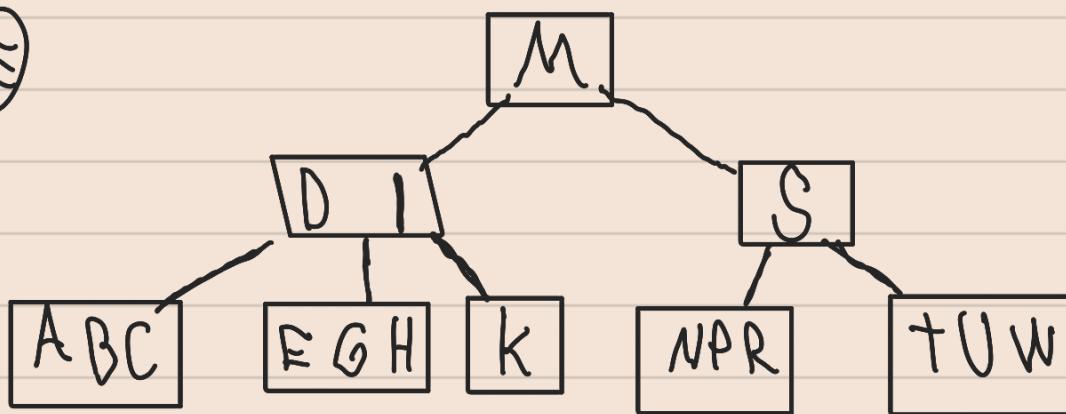


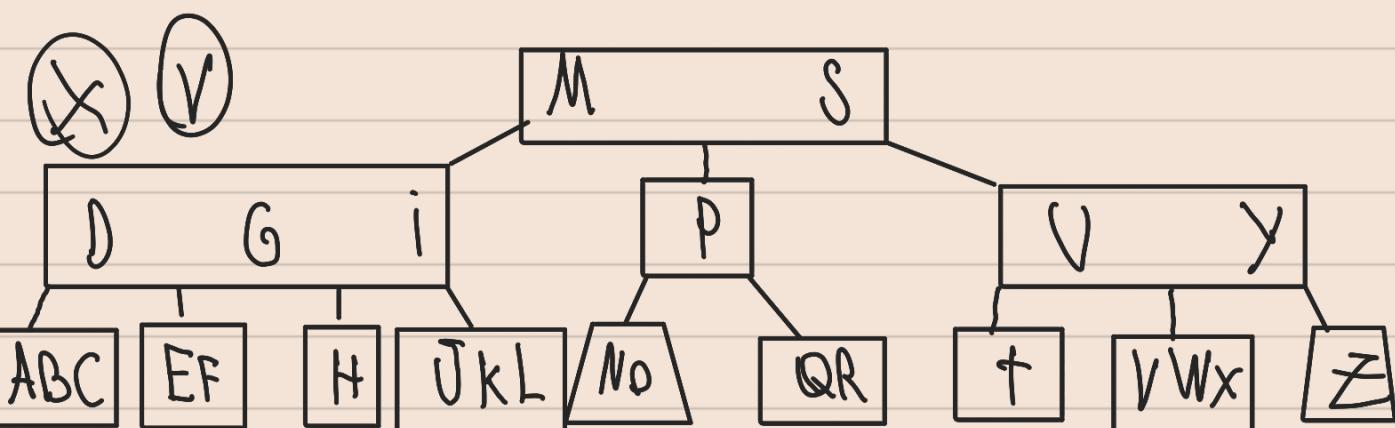
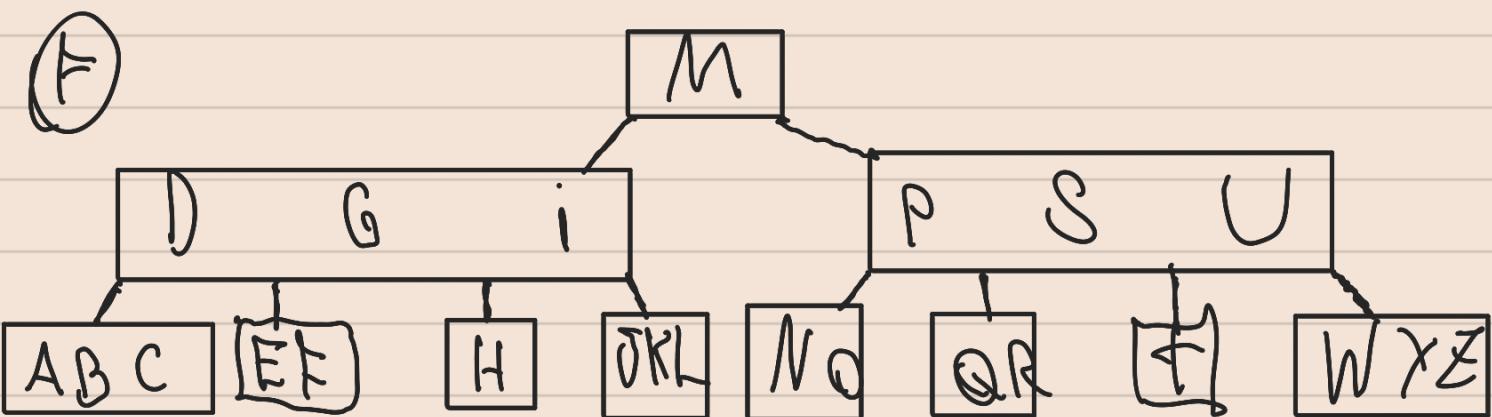
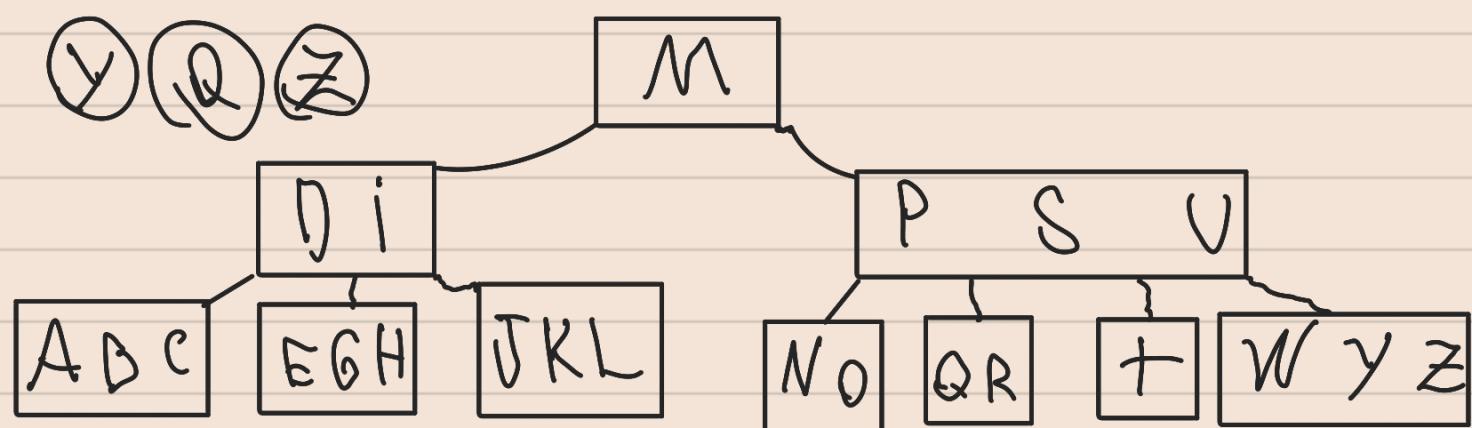
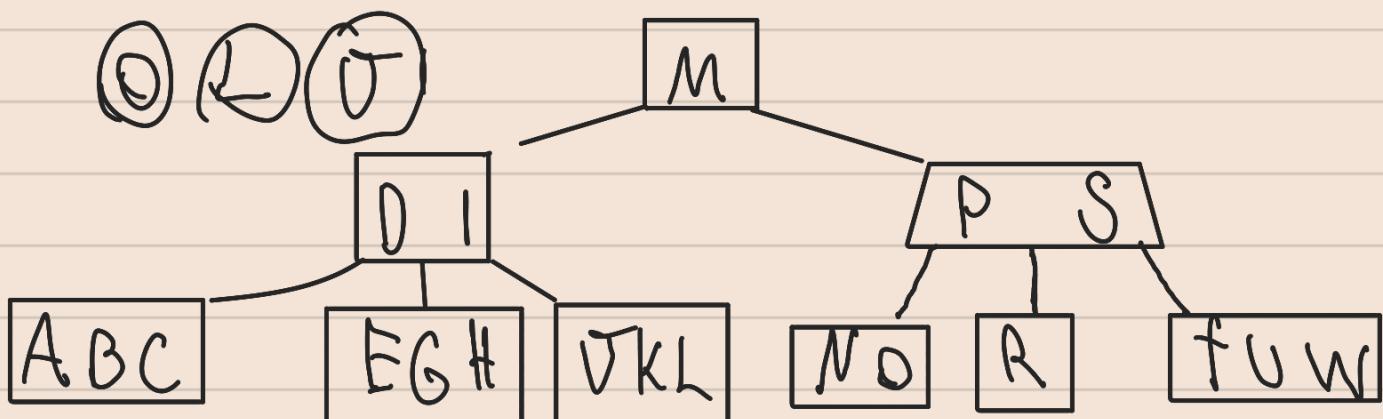
Arvore B

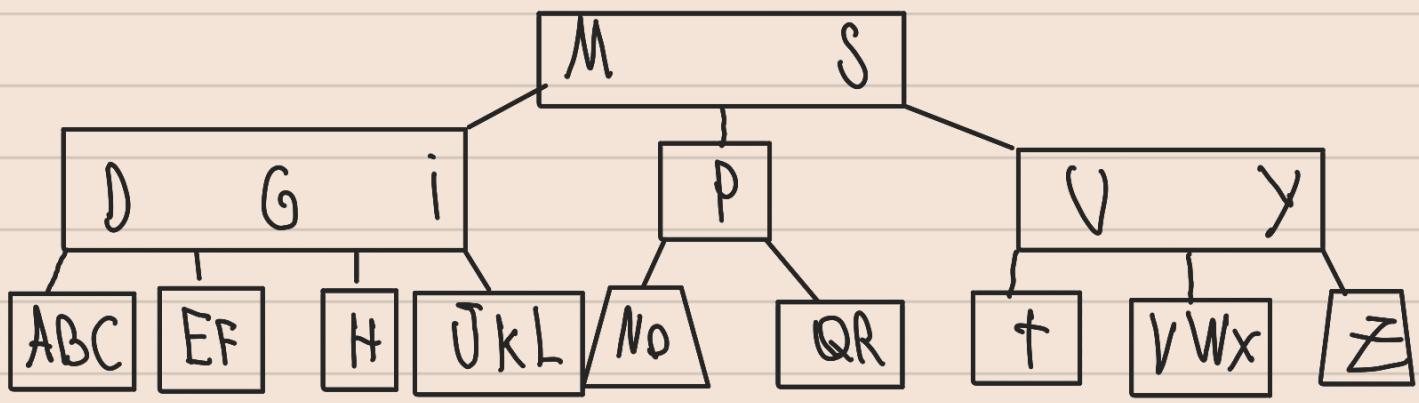
min = 1
max = 3



(T)







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