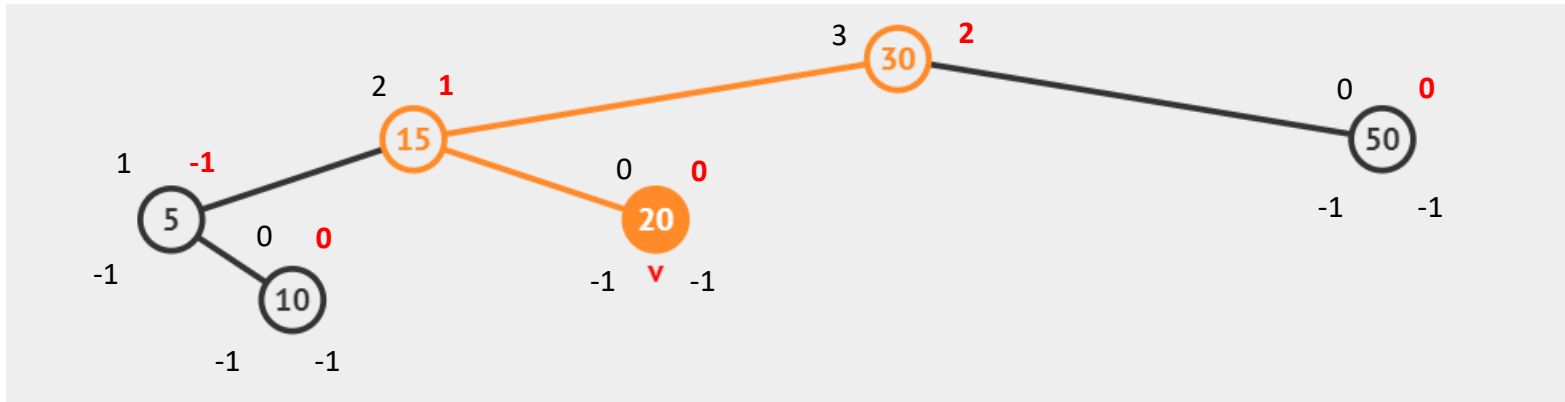
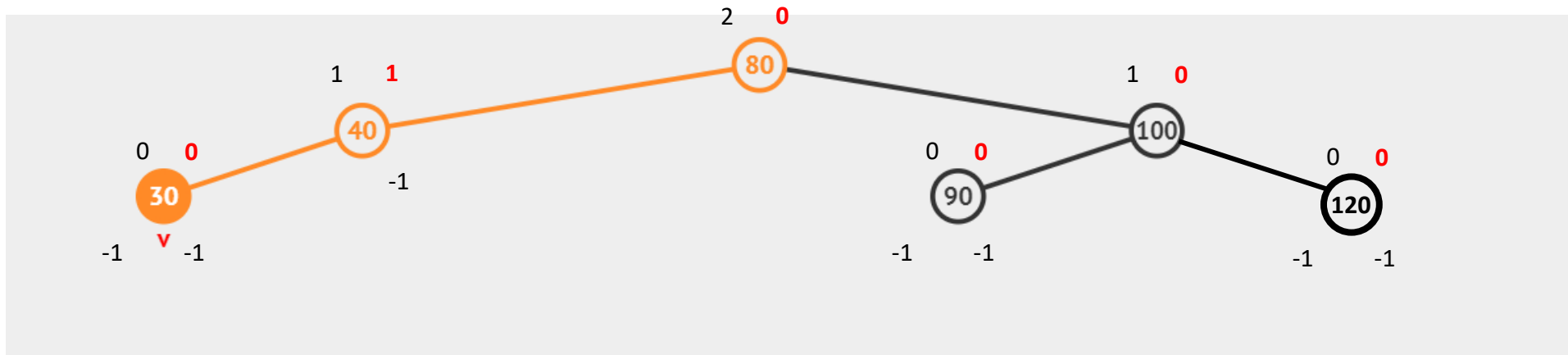


a)[30,15,50,5,10,20]



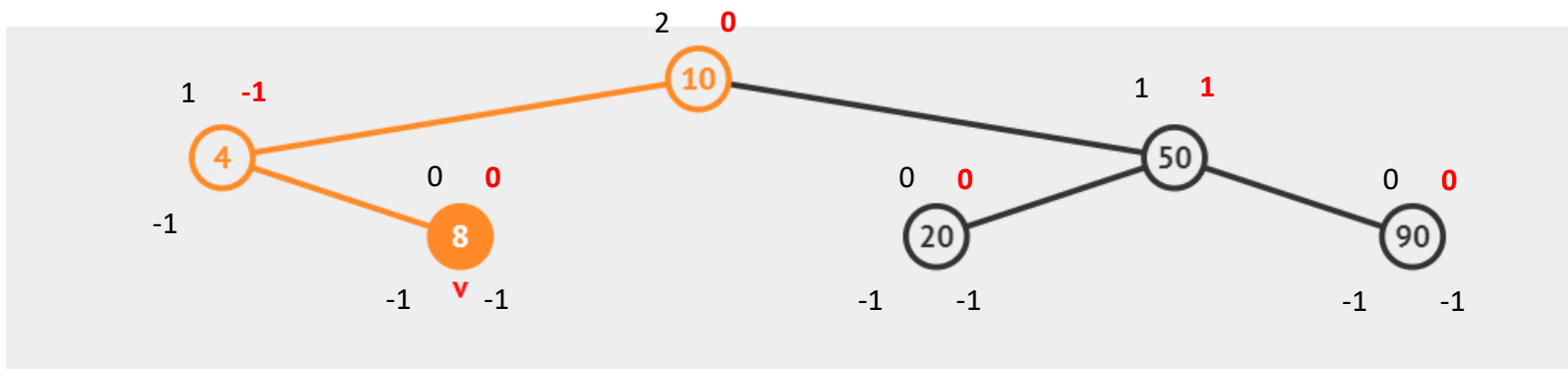
Não é AVL, pois esta desbalanceada no nó raiz (30).

b)[80,40,100,120,90,30]



É AVL, pois esta balanceada

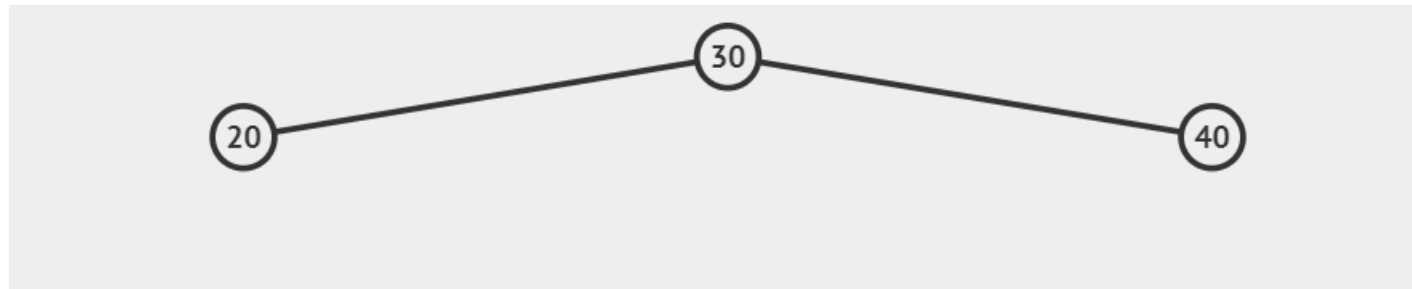
c)[10,50,4,90,20,8]



É AVL, pois esta balanceada

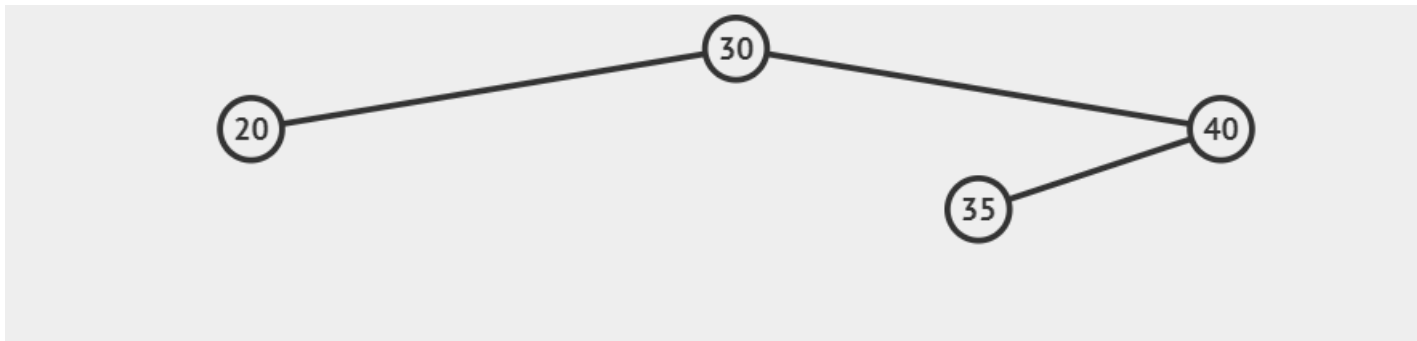
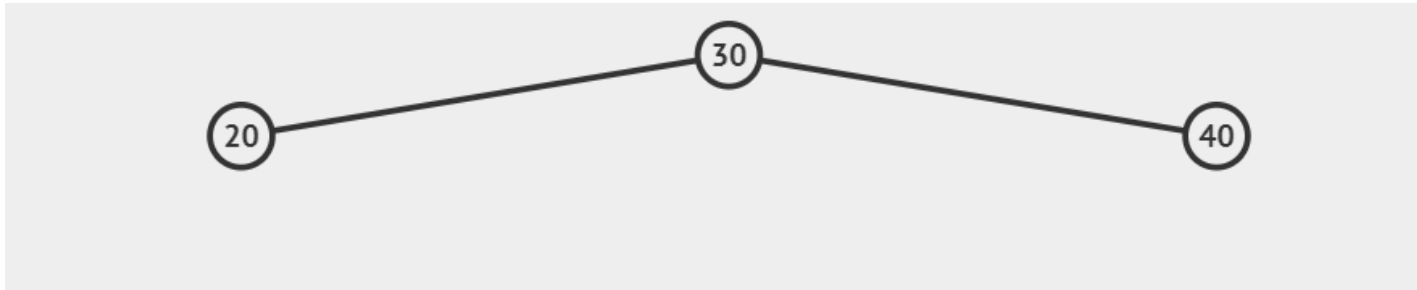
Rotação simples à Direita

a)[40,30,20]

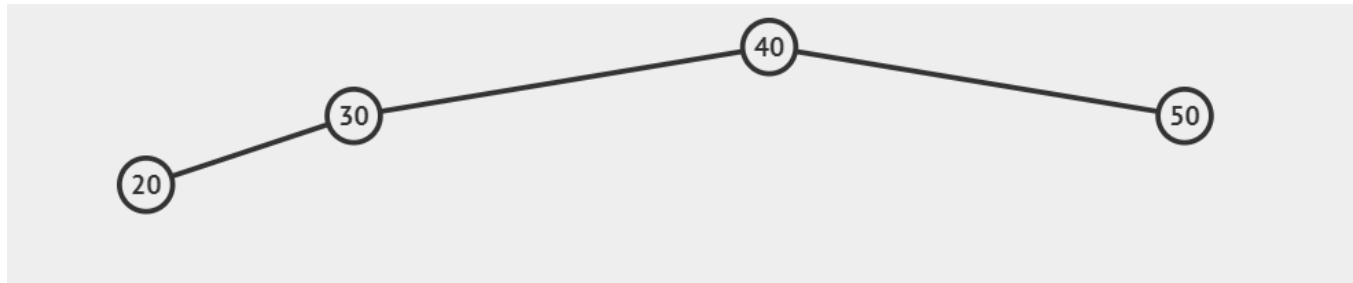
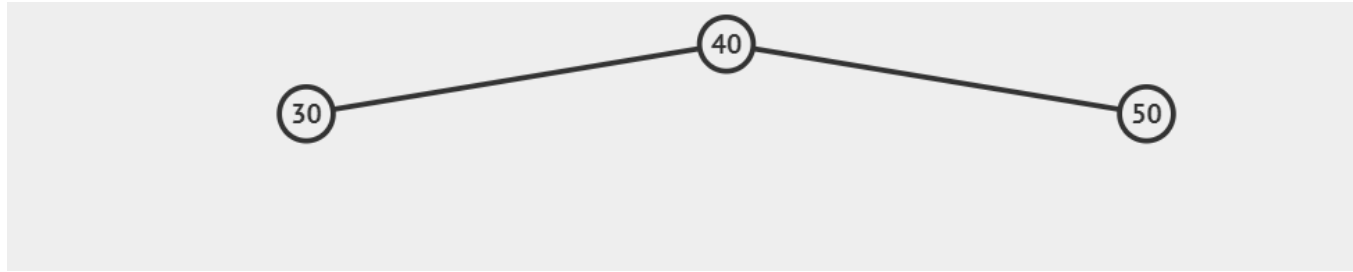


Rotação simples à Direita

b)[40,30,20,35]

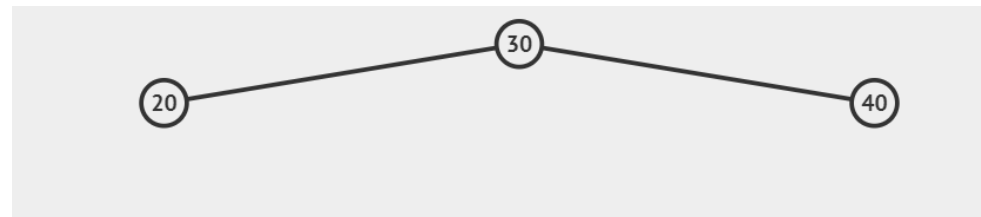
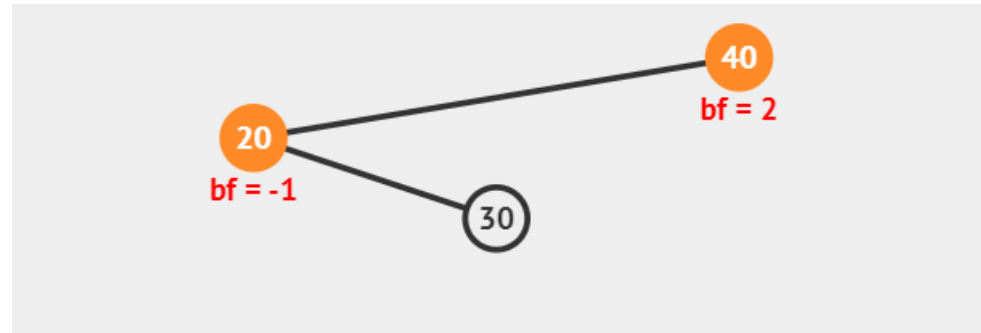


c)[40,50,30,20,35]



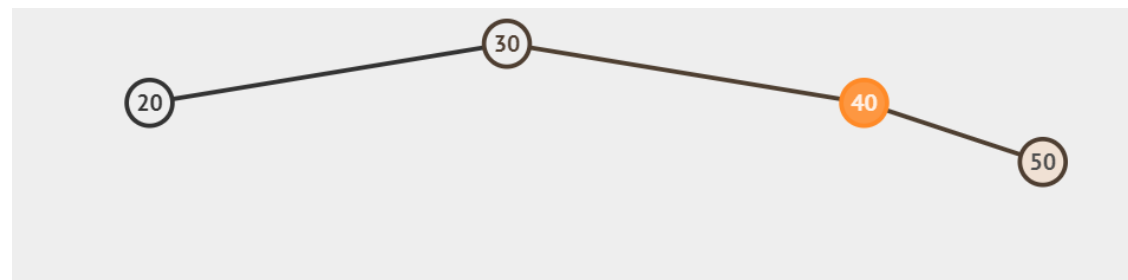
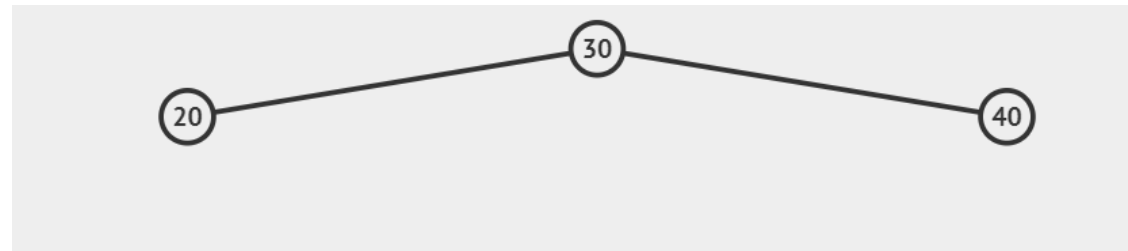
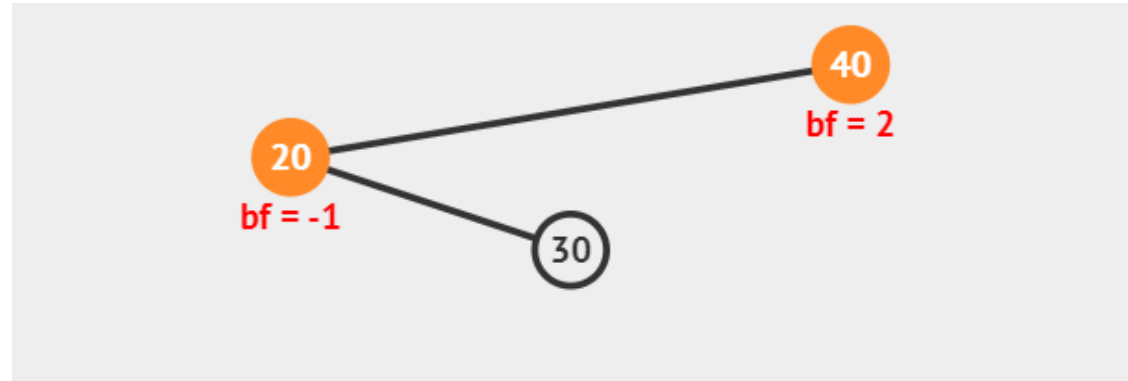
Rotação dupla a direita

[40,20,30]



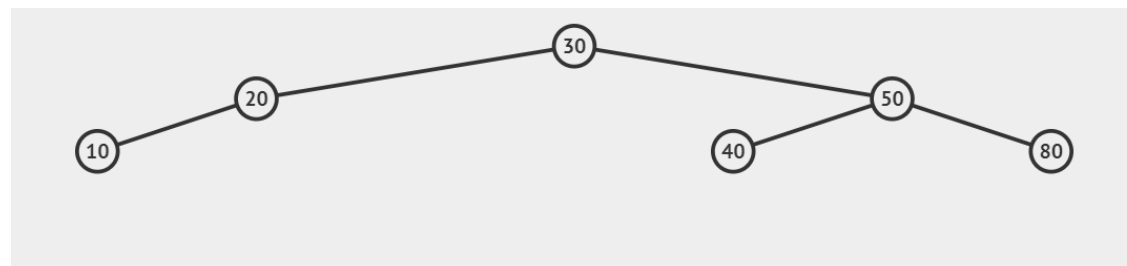
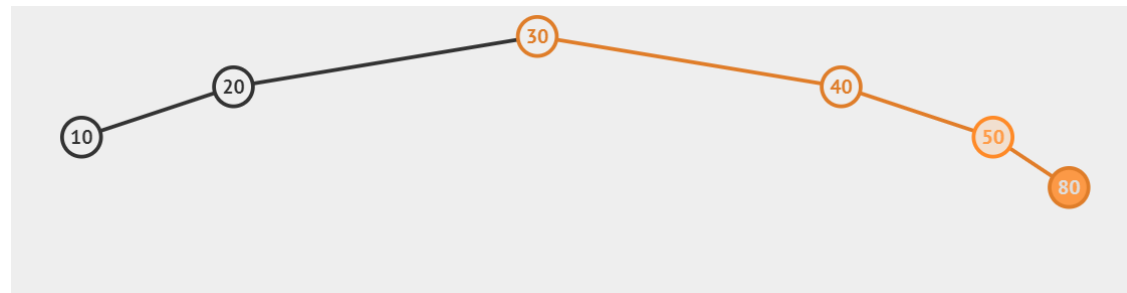
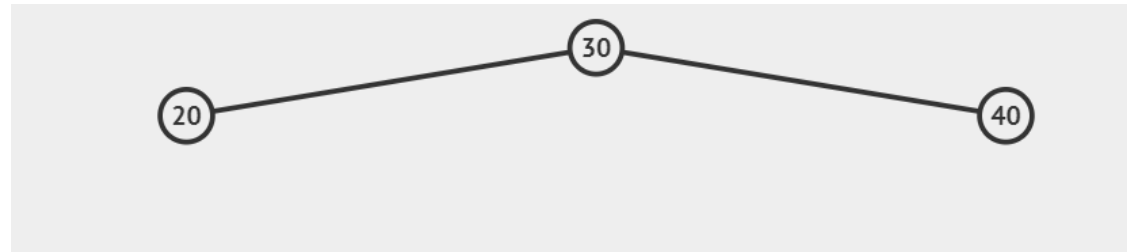
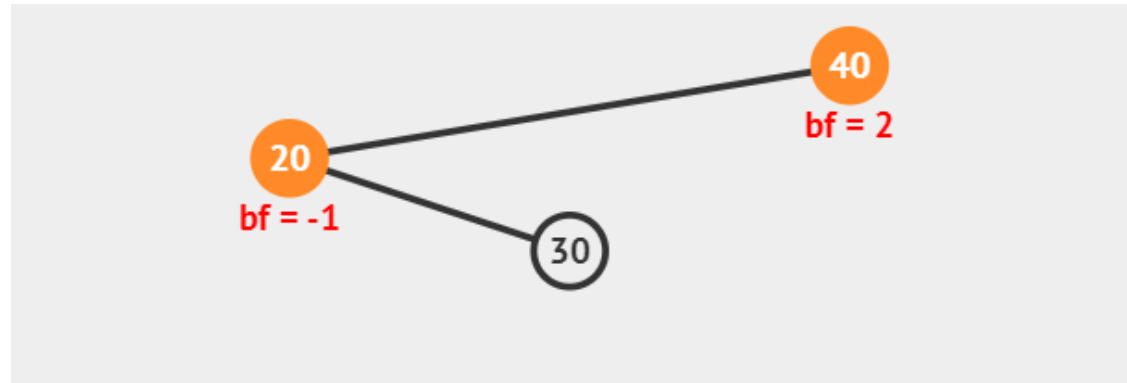
Rotação dupla a direita

b)[40,20,30,50]



Rotação dupla a direita

c)[40,20,30,10,50,80]



a)[30,15,50,5,10,20, Exclua o 15, 18]

Adicionando valores 30,15,50



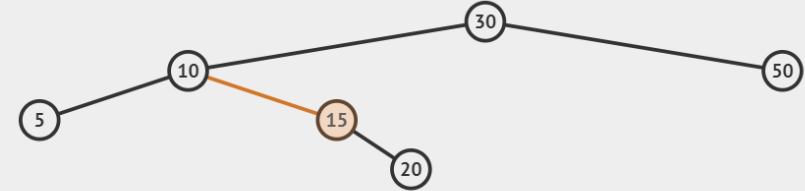
Adicionando valor 5



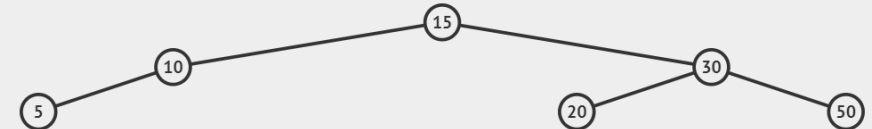
Adicionando valor 15



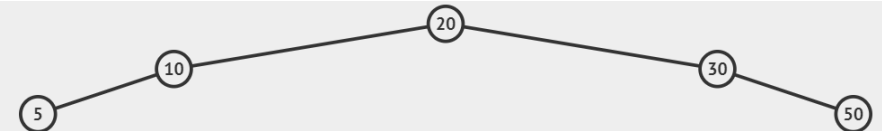
Adicionando valor 20



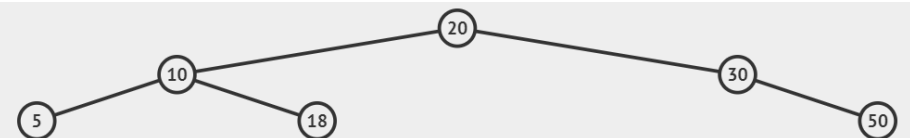
Rotação dupla a direita



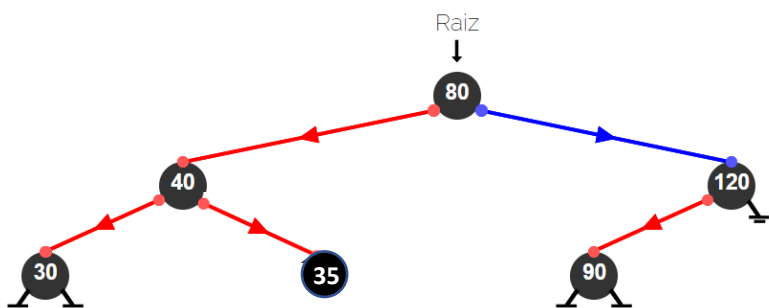
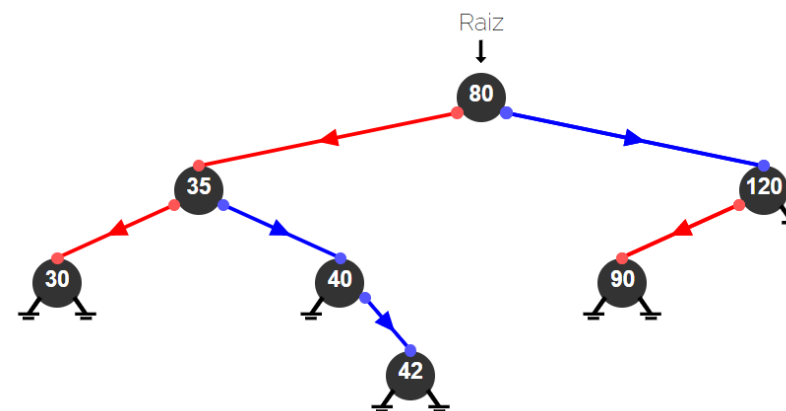
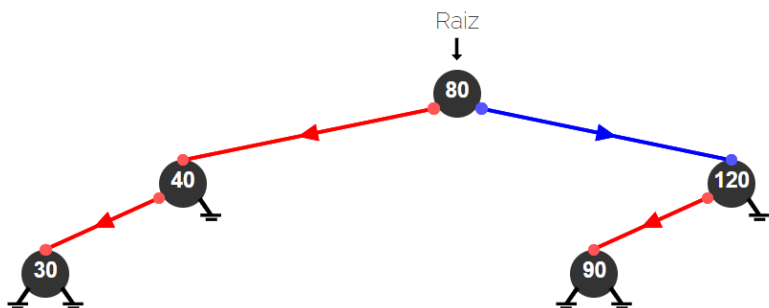
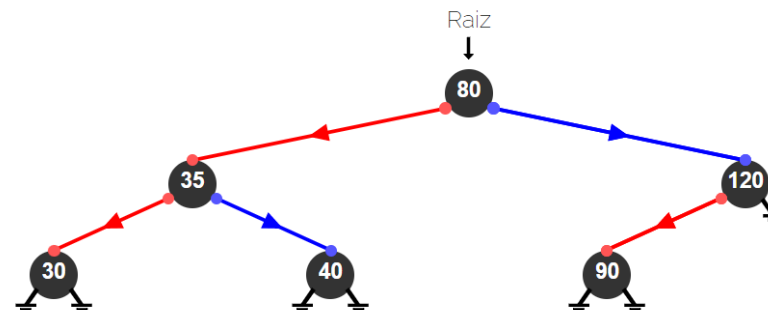
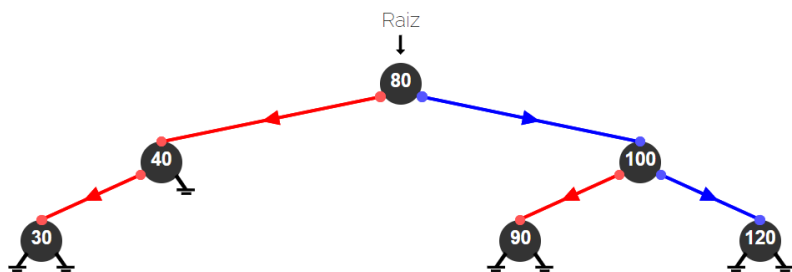
Remoção de nó com dois filhos



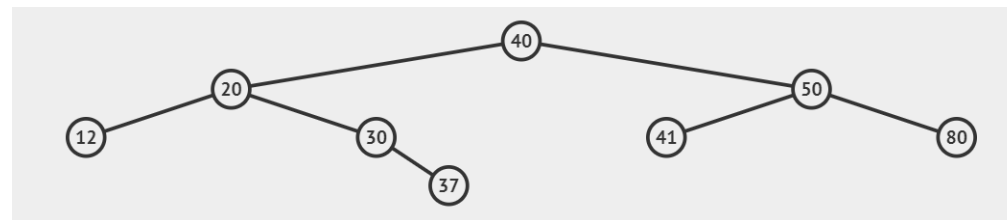
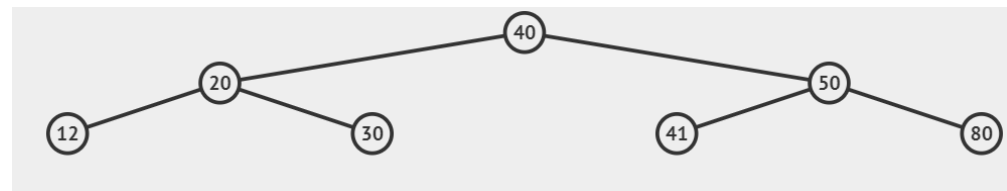
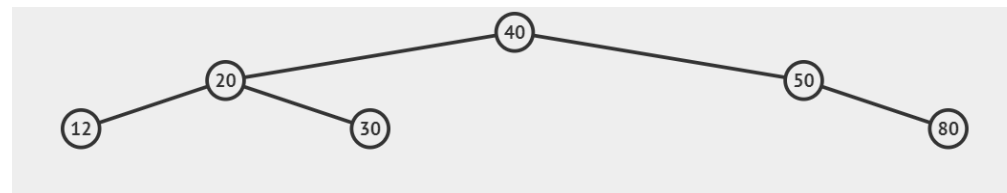
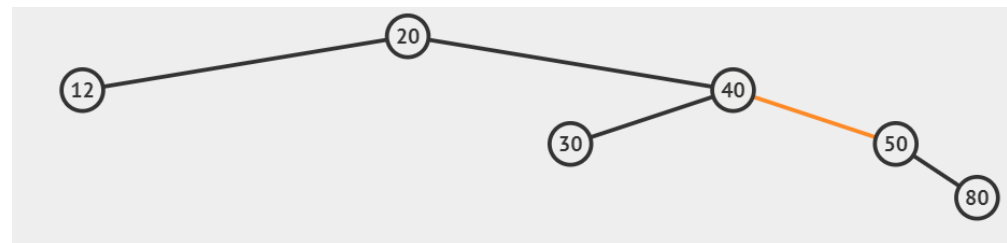
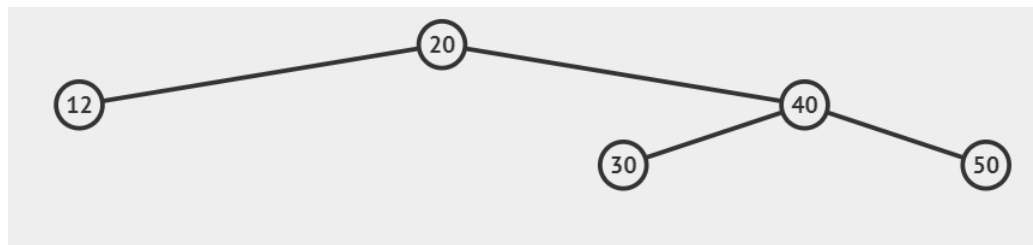
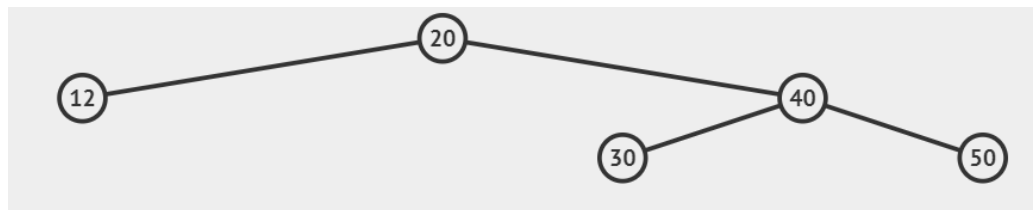
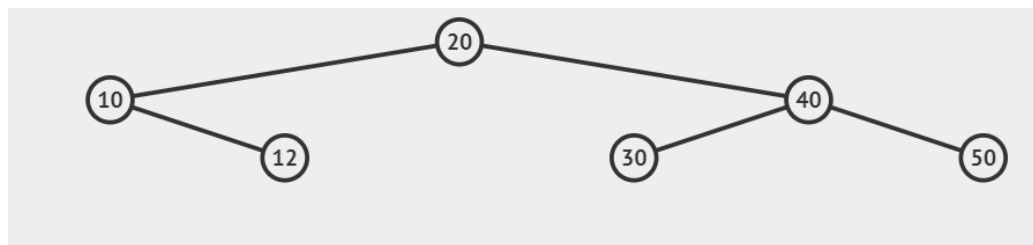
Adicionando valor 18



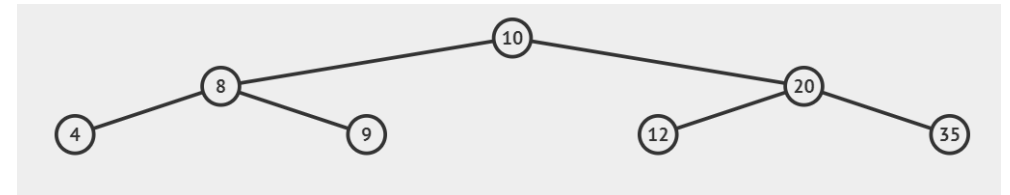
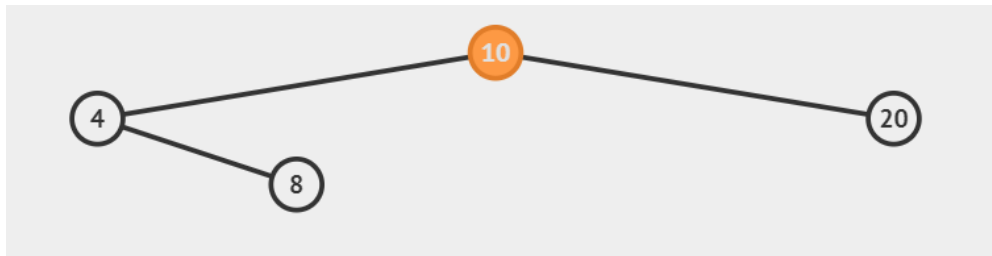
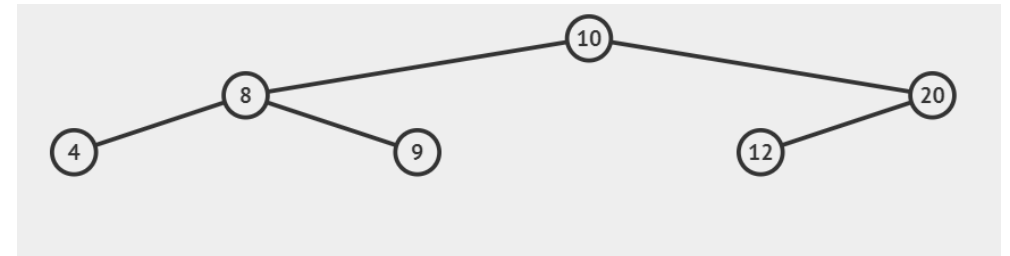
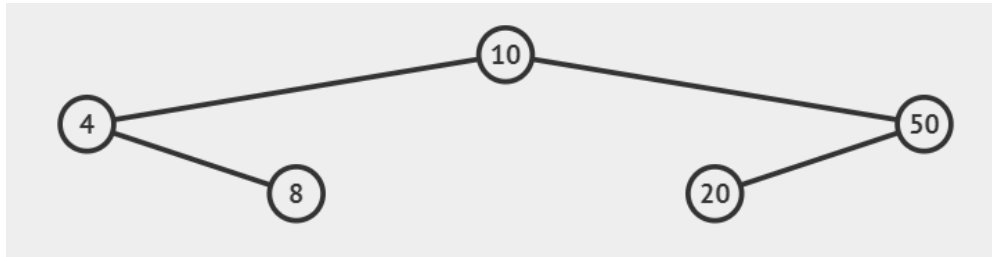
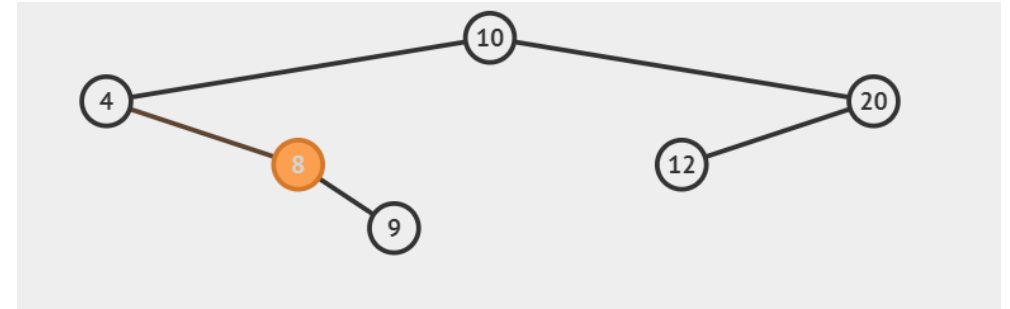
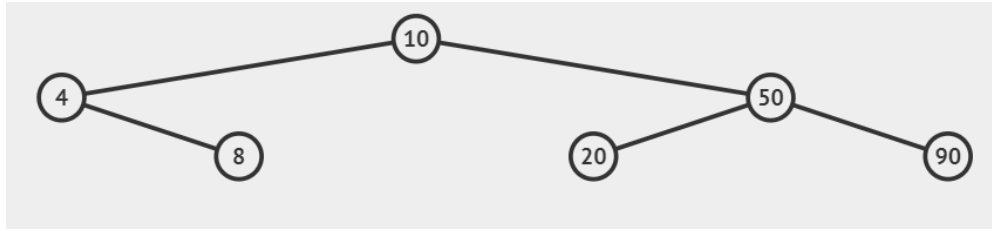
b)[80,40,100,120,90,30, Exclua o 100, 35, 42]



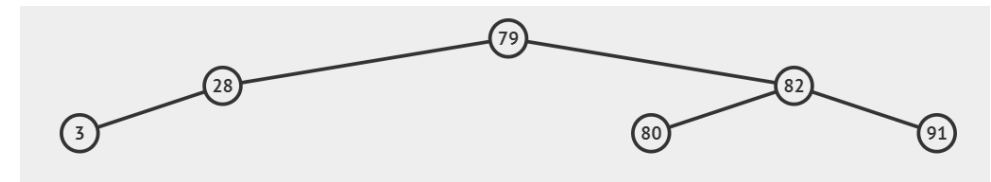
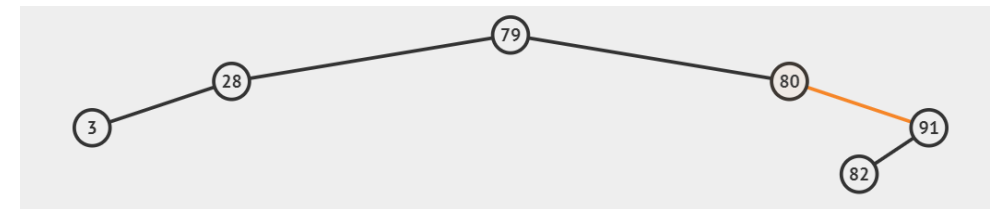
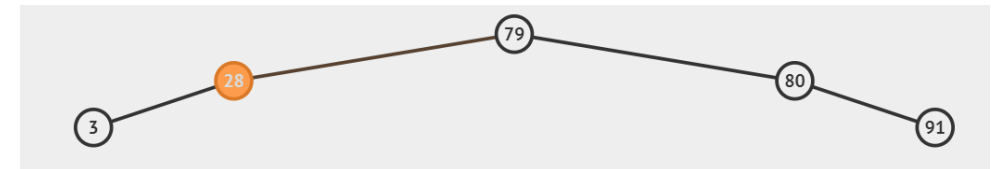
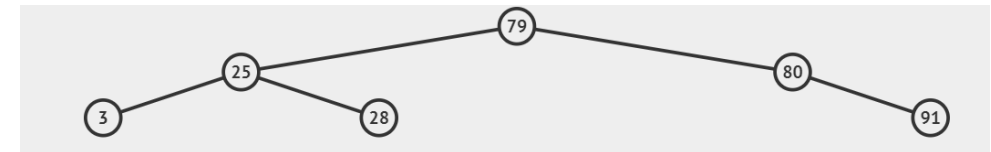
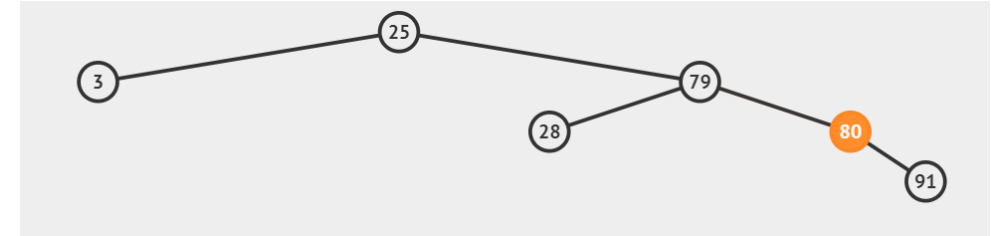
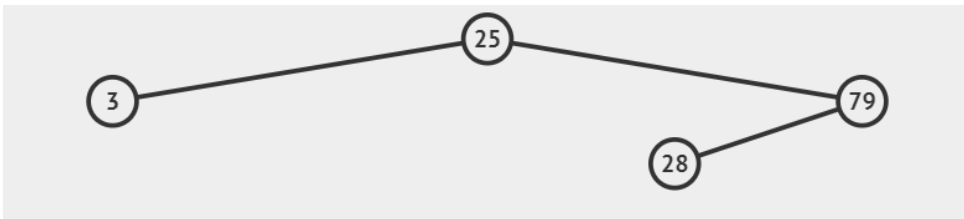
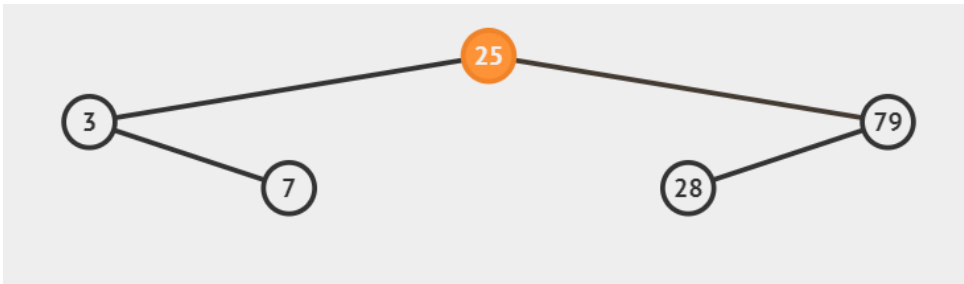
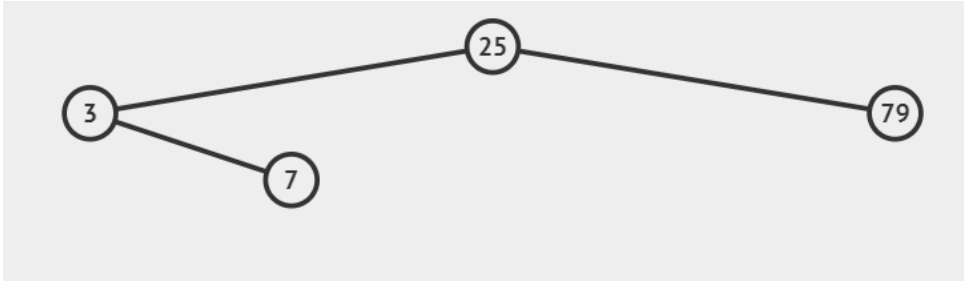
c)[20,10,40,30,50,12, Exclua o 10,80, 41, 37]



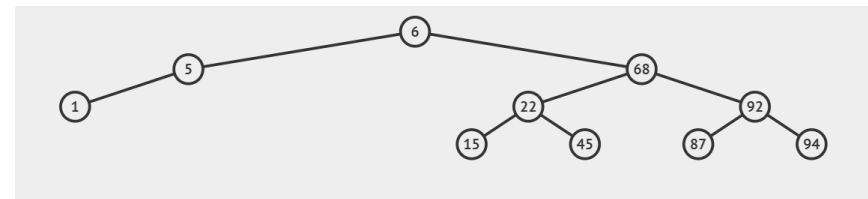
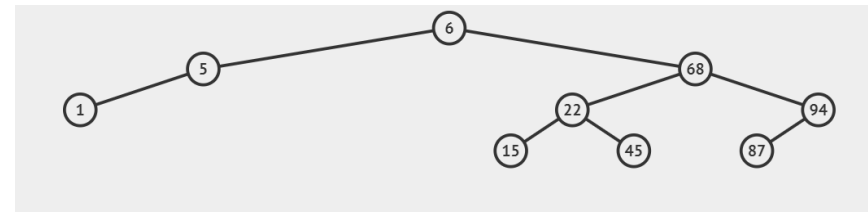
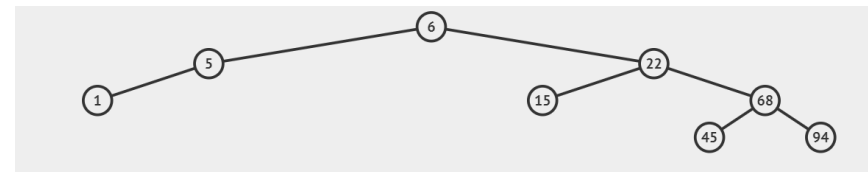
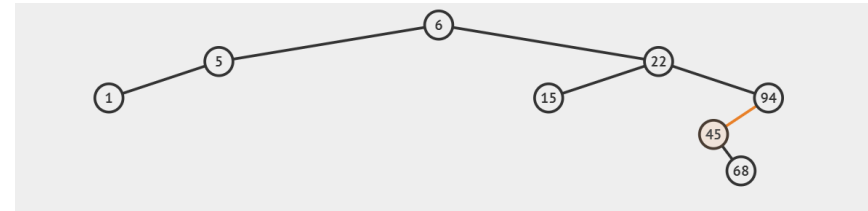
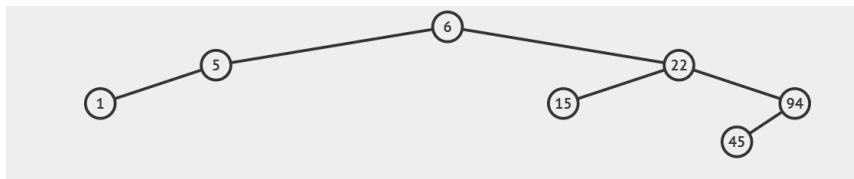
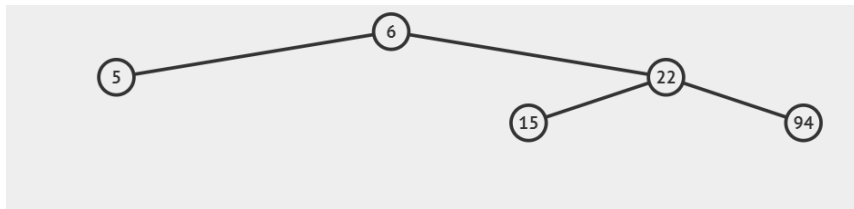
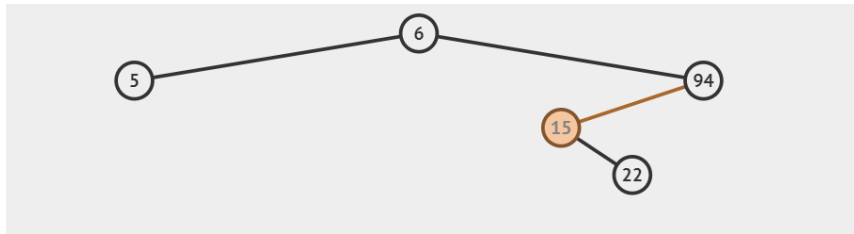
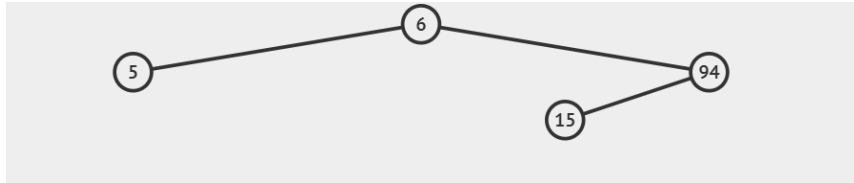
d) [10,50,4,90,20,8, Exclua o 90, Exclua o 50, 12, 9, 35]



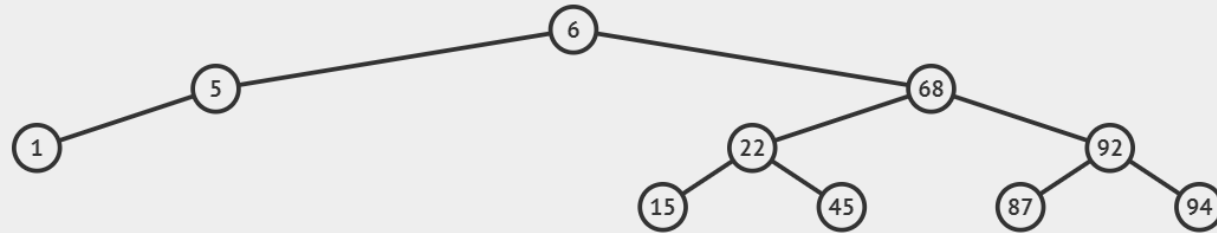
e) [79,25,3,7,28, Exclua o 7,80, 91, Exclua o 25, 82]



a)[06, 05, 94,15,22,01,45,68,87,92,15]



a)[06, 05, 94,15,22,01,45,68,87,92,15]



Insert 92

The tree is now balanced.

```
insert v
check balance factor of this and its children
case1: this.rotateRight
case2: this.left.rotateLeft, this.rotateRight
case3: this.rotateLeft
case4: this.right.rotateRight, this.rotateLeft
this is balanced
```



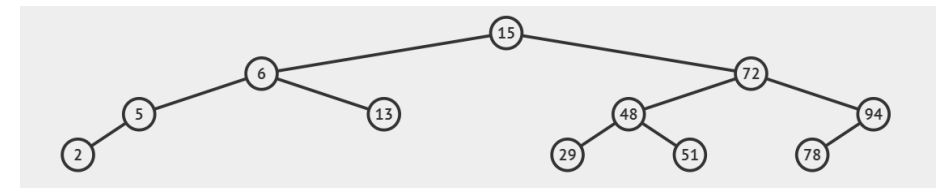
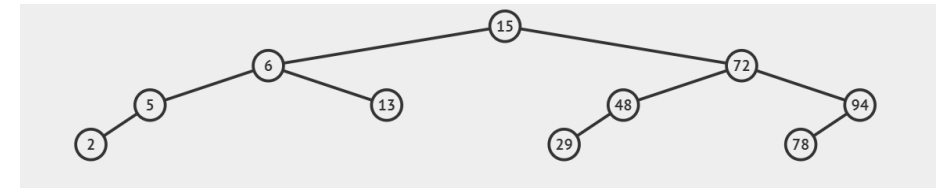
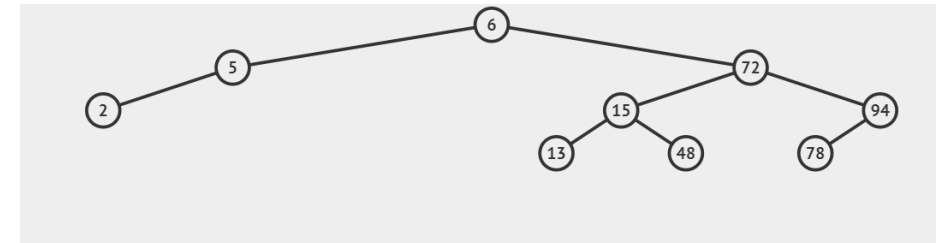
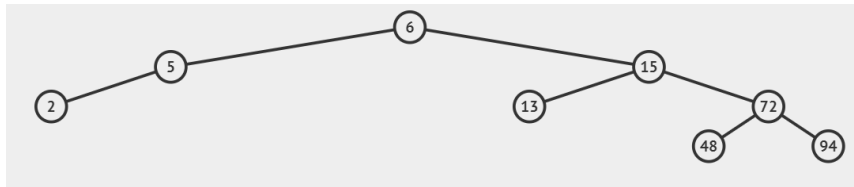
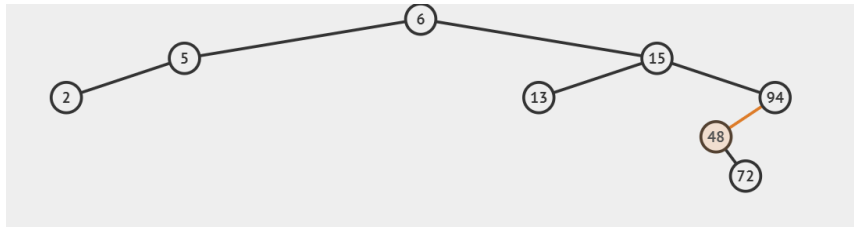
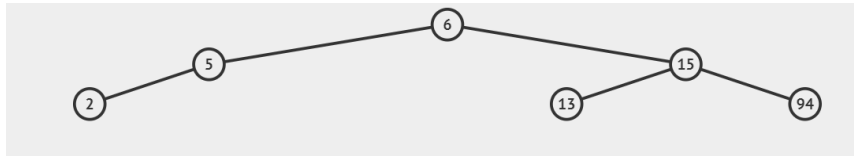
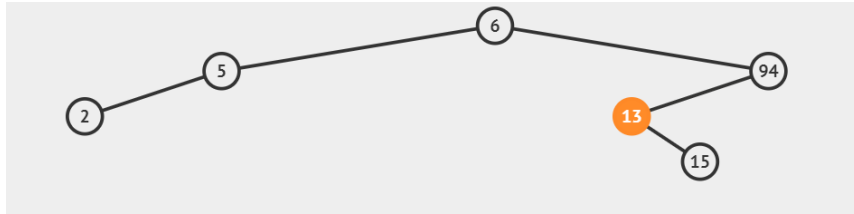
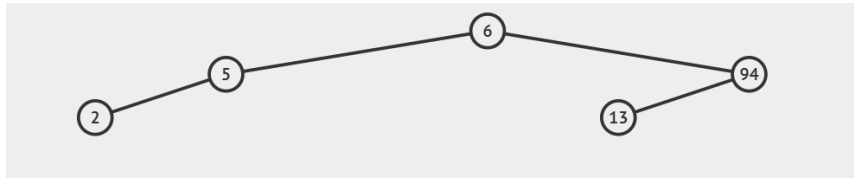
Create
Search
Insert
Remove
Predec-/Succ-essor
Tree Traversal

v = 15

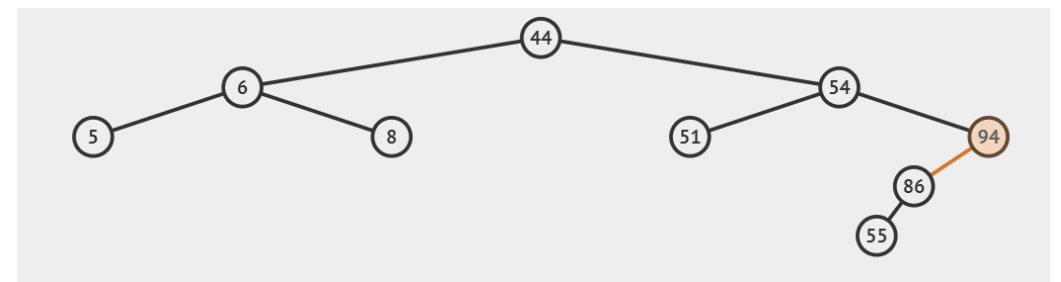
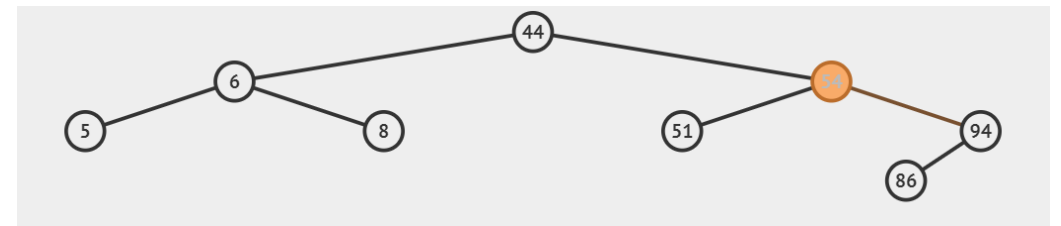
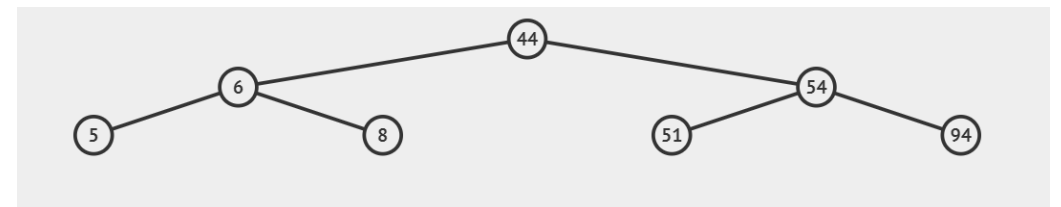
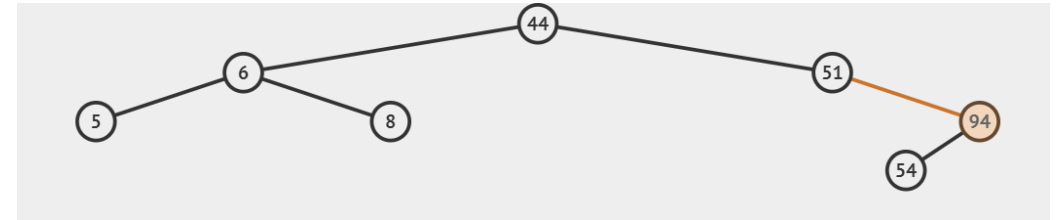
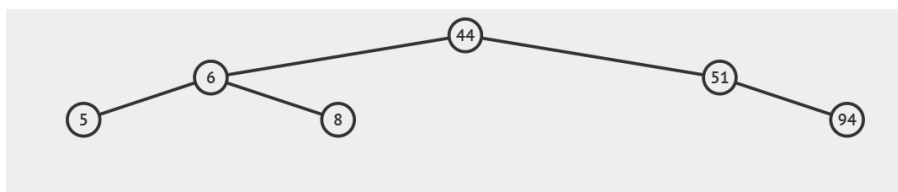
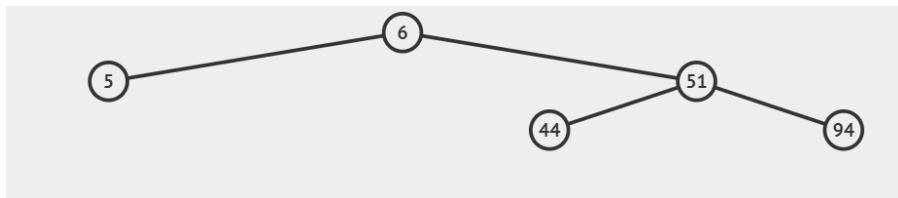
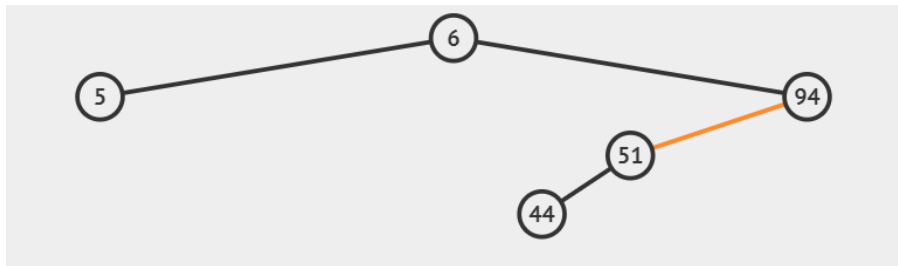
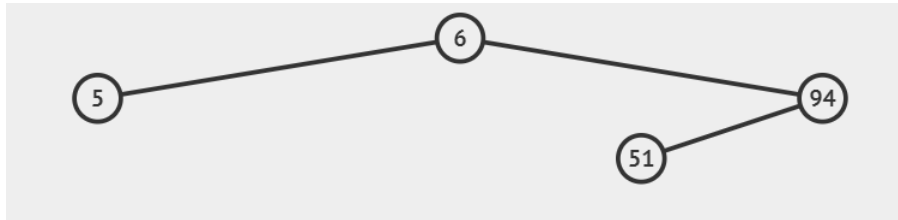
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b)[06, 05, 94,02,13,15,48,72,78,29,51]



c) [06, 05, 94, 51, 44, 08, 54, 86, 55, 38, 92]



c) [06, 05, 94, 51, 44, 08, 54, 86, 55, 38, 92]

