1- Teste de inserções e prints

p (print árvore vazia)

vazia

i 30

p (print árvore com 1º elemento inserido)

i 9

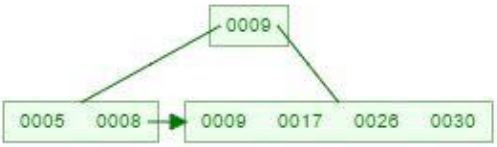
i 5

i 8

i 17

i 26

p (print do primeiro Split na raiz)



i 41

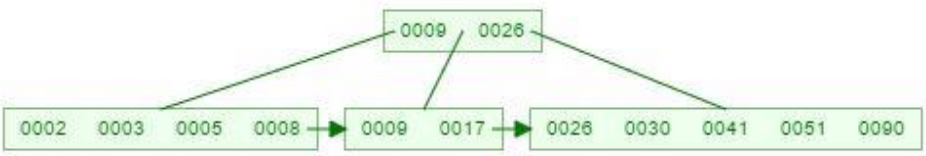
i 2

i 3

i 51

i 90

p



i 4

i 11

i 12

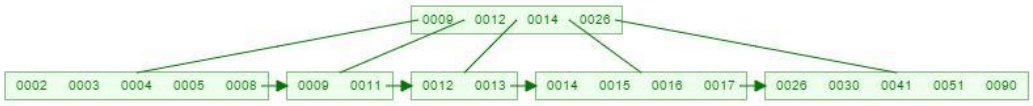
i 13

i 14

i 15

i 16

p



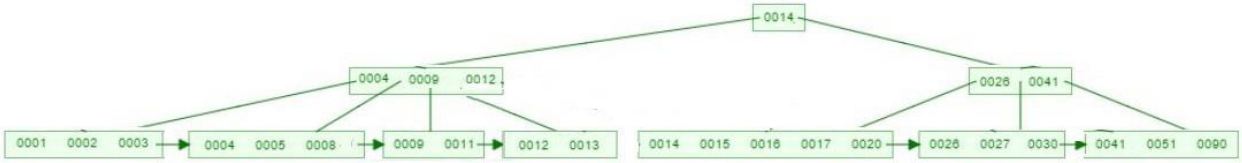
i 20

i 27

p

i 1

p (duplo split)



1.1- Gabarito esperado

Vazia

(30)

((5 8) 9 (9 17 26 30))

((2 3 5 8) 9 (9 17) 26 (26 30 41 51 90))

((2 3 4 5 8) 9 (9 11) 12 (12 13) 14 (14 15 16 17) 26 (26 30 41 51 90))

((2 3 4 5 8) 9 (9 11) 12 (12 13) 14 (14 15 16 17 20) 26 (26 27 30) 41 (41 51 90))

(((1 2 3) 4 (4 5 8) 9 (9 11) 12 (12 13)) 14 ((14 15 16 17 20) 26 (26 27 30) 41 (41 51 90)))

2- Teste de inserções, remoções e print’s

p (print árvore vazia)

vazia

i 30

p (print árvore com 1º elemento inserido)

i 9

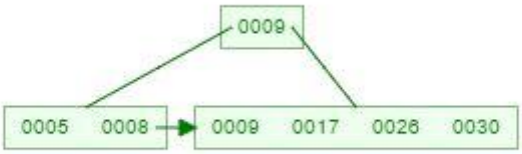
i 5

i 8

i 17

i 26

p (print do primeiro Split na raiz)



i 41

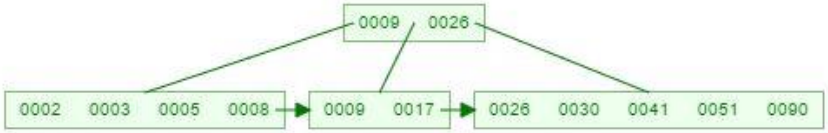
i 2

i 3

i 51

i 90

p



i 4

i 11

i 12

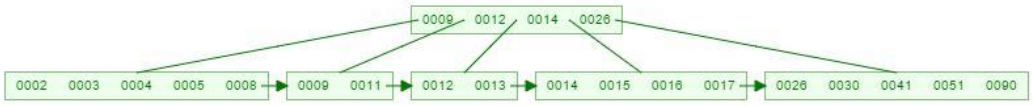
i 13

i 14

i 15

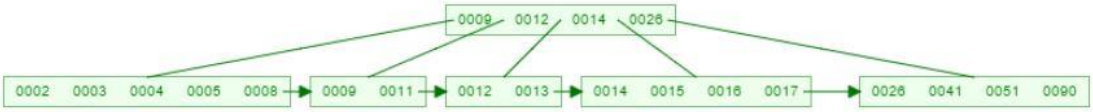
i 16

p



r 30 (remoção simples, caso 1)

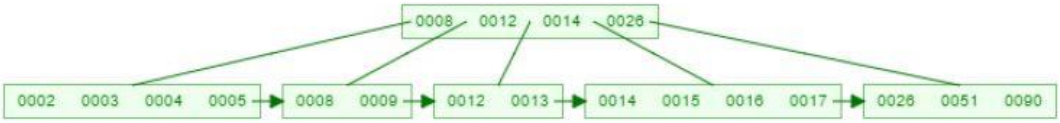
p



r 41

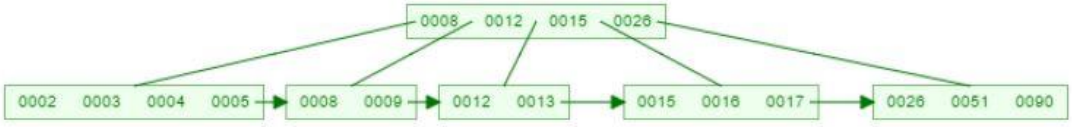
r 11 (remoção caso 3a)

p



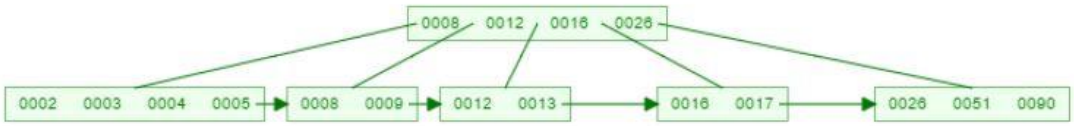
r 14 (remoção caso 2b - sucessor)

p



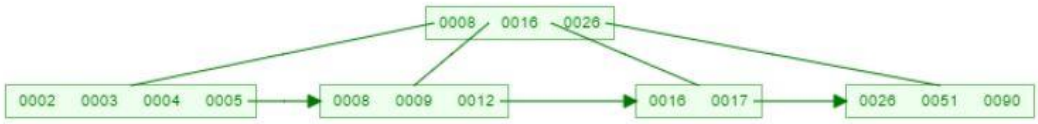
r 15 (remoção caso 2b - sucessor)

p



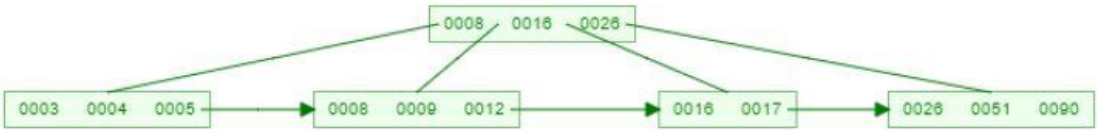
r 13 (remoção caso 3b)

p



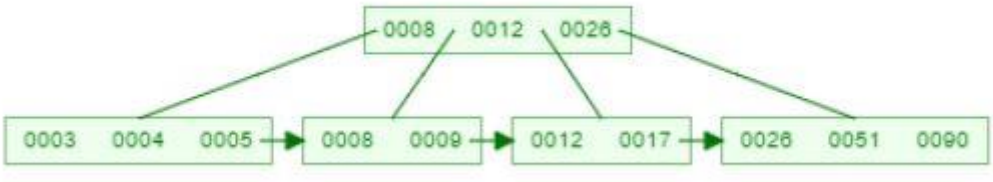
r 2

p



r 16 (remoção caso 2a)

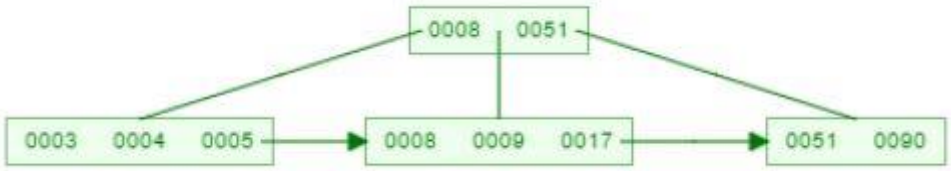
p



r 26 (remoção caso 2b)

r 12 (remoção caso 2c)

p



2.1- Gabarito esperado

Vazia

(30)

((5 8) 9 (9 17 26 30))

((2 3 5 8) 9 (9 17) 26 (26 30 41 51 90))

((2 3 4 5 8) 9 (9 11) 12 (12 13) 14 (14 15 16 17) 26 (26 30 41 51 90))

((2 3 4 5 8) 9 (9 11) 12 (12 13) 14 (14 15 16 17) 26 (26 41 51 90))

((2 3 4 5) 8 (8 9) 12 (12 13) 14 (14 15 16 17) 26 (26 51 90))

((2 3 4 5) 8 (8 9) 12 (12 13) 15 (15 16 17) 26 (26 51 90))

((2 3 4 5) 8 (8 9) 12 (12 13) 16 (16 17) 26 (26 51 90))

((2 3 4 5) 8 (8 9 12) 16 (16 17) 26 (26 51 90))

((3 4 5) 8 (8 9 12) 16 (16 17) 26 (26 51 90))

((3 4 5) 8 (8 9) 12 (12 17) 26 (26 51 90))

((3 4 5) 8 (8 9 17) 51 (51 90))

Obs.: Os gabaritos são formados a partir do comando “p”. Assim, a ordem de execuções do comando p, refere-se respectivamente a saída apresentada no gabarito.