Act 3.3 - AVL Tree: Implementing a AVL Tree

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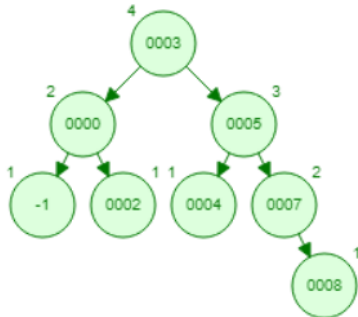
Programming of Data Structures and Fundamental Algorithms

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AVL Test Cases

AVL Inicial

- **Función - insert() - O(2 log(n))**

Núm. de caso	Valor ingresado	Valor esperado	Valor recibido
1	9	3(-1) 0(0) 5(-1) -1(0) 2(0) 4(0) 8(0) 7(0) 9(0)	3(-1) 0(0) 5(-1) -1(0) 2(0) 4(0) 8(0) 7(0) 9(0)
2	15	3(-1) 0(0) 8(0) -1(0) 2(0) 5(0) 9(-1) 4(0) 7(0) 15(0)	3(-1) 0(0) 8(0) -1(0) 2(0) 5(0) 9(-1) 4(0) 7(0) 15(0)
3	12	3(-1) 0(0) 8(0) -1(0) 2(0) 5(0) 12(0) 4(0) 7(0) 9(0) 15(0)	3(-1) 0(0) 8(0) -1(0) 2(0) 5(0) 12(0) 4(0) 7(0) 9(0) 15(0)
4	1	3(0) 0(-1) 8(0) -1(0) 2(1) 5(0) 12(0) 1(0) 4(0) 7(0) 9(0) 15(0)	3(0) 0(-1) 8(0) -1(0) 2(1) 5(0) 12(0) 1(0) 4(0) 7(0) 9(0) 15(0)

- **Función - del() - O(2 log(n))**

Núm. de caso	Valor ingresado	Valor esperado	Valor recibido

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1	8	3(0)
		0(-1) 9(0)
		-1(0) 2(1) 5(0) 12(-1)
		1(0) 4(0) 7(0) 15(0)
			`3(0)`
			`0(-1) 9(0)`
			`-1(0) 2(1) 5(0) 12(-1)`
			`1(0) 4(0) 7(0) 15(0)`

2	2	3(-1)
		0(0) 9(0)
		-1(0) 1(0) 5(0) 12(-1)
		4(0) 7(0) 15(0)
			`3(-1)`
			`0(0) 9(0)`
			`-1(0) 1(0) 5(0) 12(-1)`
			`4(0) 7(0) 15(0)`

3	16	3(-1)
		0(0) 9(0)
		-1(0) 1(0) 5(0) 12(-1)
		4(0) 7(0) 15(0)
			`3(-1)`
			`0(0) 9(0)`
			`-1(0) 1(0) 5(0) 12(-1)`
			`4(0) 7(0) 15(0)`

4	9	3(-1)
		0(0) 12(1)
		-1(0) 1(0) 5(0) 15(0)
		4(0) 7(0)
			`3(-1)`
			`0(0) 12(1)`
			`-1(0) 1(0) 5(0) 15(0)`
			`4(0) 7(0)`

A partir de aquí todas las funciones comparten casos prueba

- **Función - find() - O(log(n))**

Núm. de caso	Valor ingresado	Valor esperado	Valor recibido
1	3	Finding 3... The result is true	`Finding 3...` `The result is true`
2	4	Finding 4... The result is true	`Finding 4...` `The result is true`
3	15	Finding 15... The result is true	`Finding 15...` `The result is true`
4	19	Finding 16... The result is false	`Finding 19...` `The result is false`

- **Función - print() - O(n)**

Núm. de caso	Valor ingresado	Valor esperado	Valor recibido

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Núm. de caso	Valor ingresado	Valor esperado	Valor recibido
1	NONE	NONE: -1 0 1 3 4 5 7 12 15	NONE: -1 0 1 3 4 5 7 12 15
2	insert(11);	insert(11): -1 0 1 3 4 5 7 11 12 15	insert(11): -1 0 1 3 4 5 7 11 12 15
3	push(8);	insert(8): -1 0 1 3 4 5 7 8 11 12 15	insert(8): -1 0 1 3 4 5 7 8 11 12 15
4	insert(16);	insert(16): -1 0 1 3 4 5 7 8 11 12 15 16	insert(16): -1 0 1 3 4 5 7 8 11 12 15 16

- **Función - size() - O(1)**

Núm. de caso	Valor ingresado	Valor esperado	Valor recibido
1	NONE	NONE: 12	NONE: 12
2	insert(19);	insert(19): 13	insert(19): 13
3	insert(17);	insert(17): 14	insert(17): 14
4	insert(10);	insert(10): 15	insert(10): 15