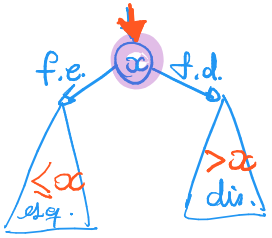
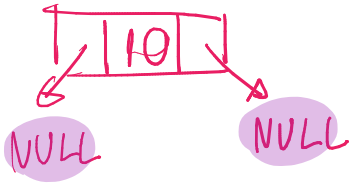
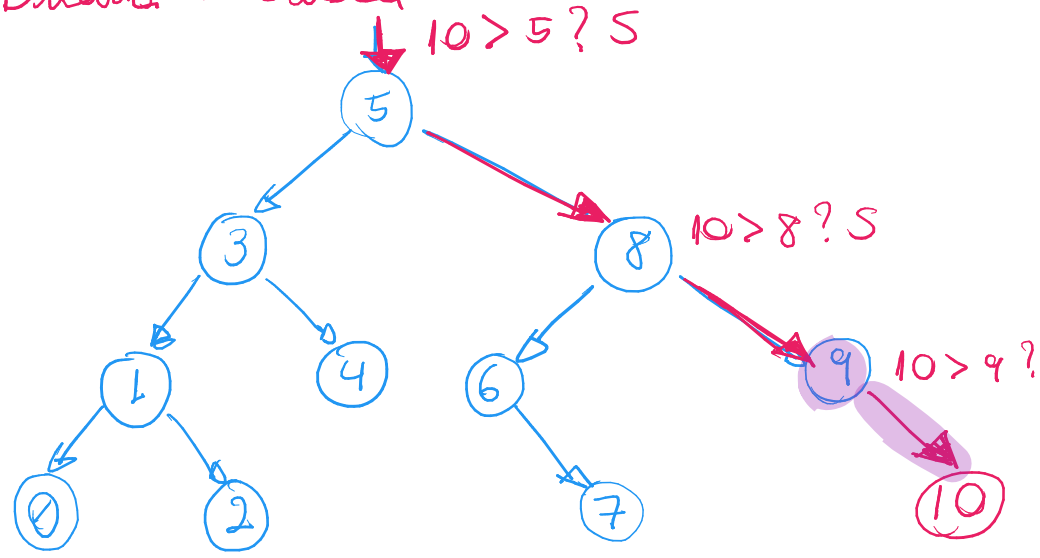
Inserção em Árvore Binária de Busca

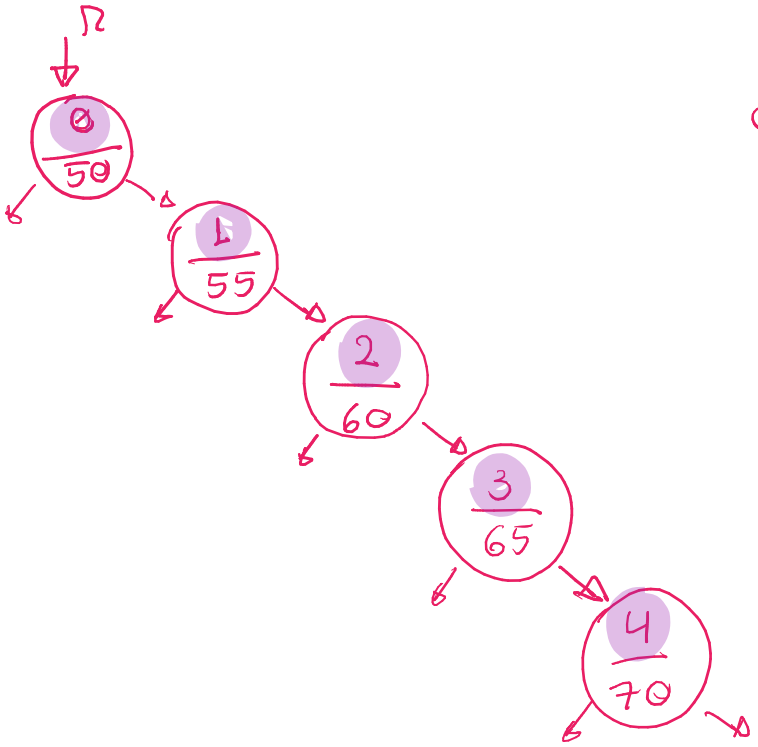
inserir o 10



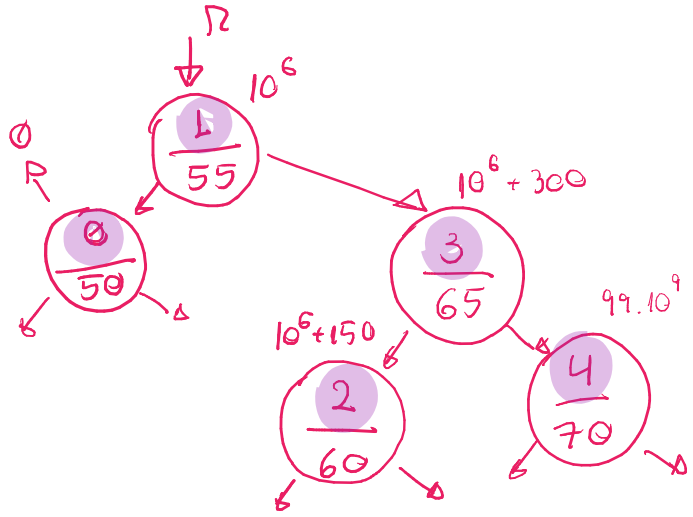




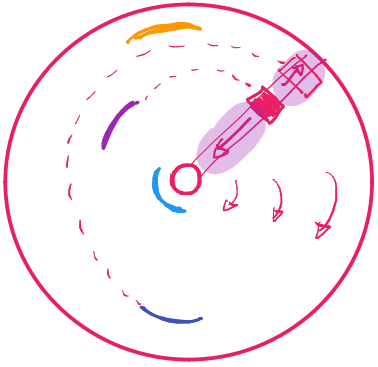
Árvore Binária Básica



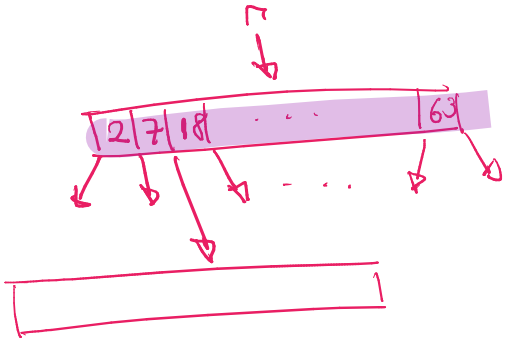
Árvore AVL



Disco Magnetico



Árvore B



buscaLargDist $(G=(V,E), s)$:

p/ todo $v \in V$: dist[v] = $+\infty$

dist[s] = 0 pred[s] = NULL

coloque s na fila Q

enquanto $Q \neq \emptyset$:

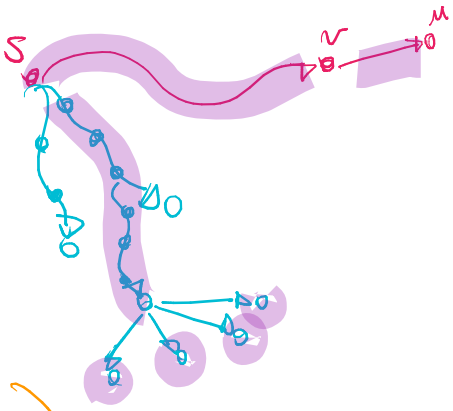
$v = Q.pop$

para cada u vizinho de v:

se dist[u] = $+\infty$:

dist[u] = dist[v] + 1 ⇒ pred[u] = v

coloque u em Q



⊛ adiciona vetor p/ guardar o predecessor de cada vértice no caminho

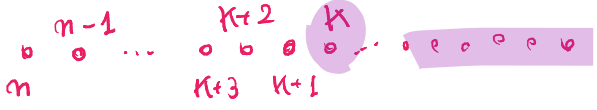
cam[u] = [u, v, k, j, s]

pred	j	v	k	s
	k	u	v	j

Alg. p/ Amostragem

h	g	f	e	d	c	b	a
0	0	0	0	0	0	0	0
1/8	1/7	1/6	1/5	1/4	1/3	1/2	1
					?		

Substitui pelo k-ésimo c/ prob. $1/k$



$$1 - \frac{1}{\square} = \frac{\square}{\square} - \frac{1}{\square} = \frac{\square - 1}{\square}$$

Prob do k-ésimo chegar no final $= \frac{1}{k} \cdot \left(1 - \frac{1}{k+1}\right)\left(1 - \frac{1}{k+2}\right)\left(1 - \frac{1}{k+3}\right) \cdots \left(1 - \frac{1}{n}\right)$

$\frac{1}{k}$: prob. de ser pego

$\left(1 - \frac{1}{k+1}\right)\left(1 - \frac{1}{k+2}\right)\left(1 - \frac{1}{k+3}\right) \cdots \left(1 - \frac{1}{n}\right)$: prob. de n ser substituído

$$= \frac{1}{k} \cdot \left(\frac{k+1-1}{k+1}\right)\left(\frac{k+2-1}{k+2}\right)\left(\frac{k+3-1}{k+3}\right) \cdots \left(\frac{n-1-1}{n-1}\right) \cdot \left(\frac{n-1}{n}\right)$$

$$= \frac{1}{k} \cdot \frac{k}{k+1} \cdot \frac{k+1}{k+2} \cdot \frac{k+2}{k+3} \cdots \frac{n-2}{n-1} \cdot \frac{n-1}{n} = \frac{1}{n}$$