

ABC-Center Step-by-Step Detailed Execution

Local variables:
id: unique identifier of the block.
d: vector of distances: $\langle \text{distance to } A^i, \text{distance to } B^i, \text{distance to } C^i \rangle$.
g: after having elected C^i ,
 $g = \langle |\text{distance to } B^i - \text{distance to } C^i|, \max(\text{distance to } B^i, \text{distance to } C^i) \rangle$.
c: boolean, true if the block is still candidate, false otherwise.

id: 2 d: $\langle 0,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 1 d: $\langle 0,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 4 d: $\langle 0,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 3 d: $\langle 0,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true
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1st multi-criteria leader election: $A^1 = \text{electBlock}(c, \min, g, \text{id})$

id: 2 d: $\langle 1,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	A^1 id: 1 d: $\langle 0,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 4 d: $\langle 1,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 3 d: $\langle 2,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true
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2nd election: $B^1 = \text{electBlock}(c, \max, \text{distance to } A^1, \text{id})$

id: 2 d: $\langle 1,3,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	A^1 id: 1 d: $\langle 0,2,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 4 d: $\langle 1,1,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	B^1 id: 3 d: $\langle 2,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true
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3rd election: $C^1 = \text{electBlock}(c, \max, \text{distance to } B^1, \text{id})$

C^1 id: 2 d: $\langle 1,3,0 \rangle$ g: $\langle 3,3 \rangle$ c: true	A^1 id: 1 d: $\langle 0,2,1 \rangle$ g: $\langle 1,2 \rangle$ c: true	id: 4 d: $\langle 1,1,2 \rangle$ g: $\langle 1,2 \rangle$ c: true	B^1 id: 3 d: $\langle 2,0,3 \rangle$ g: $\langle 3,3 \rangle$ c: true
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4th election: $A^2 = \text{electBlock}(c, \min, g, \text{id})$

id: 2 d: $\langle 1,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: false	$A_2 = \text{Elected Center}$ id: 1 d: $\langle 0,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 4 d: $\langle 1,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: true	id: 3 d: $\langle 2,0,0 \rangle$ g: $\langle 0,0 \rangle$ c: false
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Only 2 blocks remain candidate: block with ids 1 and 4. $g_1 = g_4$, but block with id 1 has the minimum-id, thus it is elected as the center.