IZU project 4 - #45

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Iteration 1

		A = [1,-3,-4]	B = [-3,-1,-3]	C = [0,-1,-2]	
1	[0,-1,-2]	3	3,16	0	C
2	[-3,-1,-3]	4,58	0	3,16	B
3	[1,-3, 2]	6	6,71	4,58	C
4	[-2,-2, 2]	6,78	5,2	4,58	C
5	[1, 2,-4]	5	5,1	3,74	C
6	[0,-4, 3]	7,14	7,35	5,83	C
7	[1, 0,-3]	3,16	4,12	1,73	C
8	[-3, 0, 0]	6,4	3,16	3,74	B
9	[-2, 2,-4]	5,83	3,32	4,12	B
10	[-2, 4, 3]	10,34	7,87	7,35	C
11	[3,-2, 4]	8,31	9,27	6,78	C
12	[2,-5,-4]	2,24	6,48	4,89	A

$A1 : \sqrt{(1-0)^2+(-3-(-1))^2+(-4-(-2))^2} = \sqrt{1+4+4} = 3$
$A2 : \sqrt{(1-(-3))^2+(-3-(-1))^2+(-4-(-3))^2} = \sqrt{16+4+1} = 4,58$
$A3 : \sqrt{(1-1)^2+(-3-(-3))^2+(-4-2)^2} = \sqrt{0+0+36} = 6$
$A4 : \sqrt{(1-(-2))^2+(-3-(-2))^2+(-4-2)^2} = \sqrt{9+1+36} = 6,78$
$A5 : \sqrt{(1-1)^2+(-3-2)^2+(-4-(-4))^2} = \sqrt{0+25+0} = 5$
$A6 : \sqrt{(1-0)^2+(-3-(-4))^2+(-4-3)^2} = \sqrt{1+1+49} = 7,14$
$A7 : \sqrt{(1-1)^2+(-3-0)^2+(-4-(-3))^2} = \sqrt{0+9+1} = 3,16$
$A8 : \sqrt{(1-(-3))^2+(-3-0)^2+(-4-0)^2} = \sqrt{16+9+16} = 6,4$
$A9 : \sqrt{(1-(-2))^2+(-3-2)^2+(-4-(-4))^2} = \sqrt{9+25+0} = 5,83$
$A10 : \sqrt{(1-(-2))^2+(-3-4)^2+(-4-3)^2} = \sqrt{9+49+49} = 10,34$
$A11 : \sqrt{(1-3)^2+(-3-(-2))^2+(-4-4)^2} = \sqrt{4+1+64} = 8,31$
$A12 : \sqrt{(1-2)^2+(-3-(-5))^2+(-4-(-4))^2} = \sqrt{1+4+0} = 2,24$

$B1 : \sqrt{(-3-0)^2+(-1-(-1))^2+(-3-(-2))^2} = \sqrt{9+0+1} = 3,16$
$B2 : \sqrt{(-3-(-3))^2+(-1-(-1))^2+(-3-(-3))^2} = \sqrt{0+0+0} = 0$
$B3 : \sqrt{(-3-1)^2+(-1-(-3))^2+(-3-2)^2} = \sqrt{16+4+25} = 6,71$

$B4 : \sqrt{(-3-(-2))^2+(-1-(-2))^2+(-3-2)^2} = \sqrt{1+1+25} = 5,2$
$B5 : \sqrt{(-3-1)^2+(-1-2)^2+(-3-(-4))^2} = \sqrt{16+9+1} = 5,1$
$B6 : \sqrt{(-3-0)^2+(-1-(-4))^2+(-3-3)^2} = \sqrt{9+9+36} = 7,35$
$B7 : \sqrt{(-3-1)^2+(-1-0)^2+(-3-(-3))^2} = \sqrt{16+1+0} = 4,12$
$B8 : \sqrt{(-3-(-3))^2+(-1-0)^2+(-3-0)^2} = \sqrt{0+1+9} = 3,16$
$B9 : \sqrt{(-3-(-2))^2+(-1-2)^2+(-3-(-4))^2} = \sqrt{1+9+1} = 3,32$
$B10 : \sqrt{(-3-(-2))^2+(-1-4)^2+(-3-3)^2} = \sqrt{1+25+36} = 7,87$
$B11 : \sqrt{(-3-3)^2+(-1-(-2))^2+(-3-4)^2} = \sqrt{36+1+49} = 9,27$
$B12 : \sqrt{(-3-2)^2+(-1-(-5))^2+(-3-(-4))^2} = \sqrt{25+16+1} = 6,48$

$C1 : \sqrt{(0-0)^2+(-1-(-1))^2+(-2-(-2))^2} = \sqrt{0+0+0} = 0$
$C2 : \sqrt{(0-(-3))^2+(-1-(-1))^2+(-2-(-3))^2} = \sqrt{9+0+1} = 3,16$
$C3 : \sqrt{(0-1)^2+(-1-(-3))^2+(-2-2)^2} = \sqrt{1+4+16} = 4,58$
$C4 : \sqrt{(0-(-2))^2+(-1-(-2))^2+(-2-2)^2} = \sqrt{4+1+16} = 4,58$
$C5 : \sqrt{(0-1)^2+(-1-2)^2+(-2-(-4))^2} = \sqrt{1+9+4} = 3,74$
$C6 : \sqrt{(0-0)^2+(-1-(-4))^2+(-2-3)^2} = \sqrt{0+9+25} = 5,83$
$C7 : \sqrt{(0-1)^2+(-1-0)^2+(-2-(-3))^2} = \sqrt{1+1+1} = 1,73$
$C8 : \sqrt{(0-(-3))^2+(-1-0)^2+(-2-0)^2} = \sqrt{9+1+4} = 3,74$
$C9 : \sqrt{(0-(-2))^2+(-1-2)^2+(-2-(-4))^2} = \sqrt{4+9+4} = 4,12$
$C10 : \sqrt{(0-(-2))^2+(-1-4)^2+(-2-3)^2} = \sqrt{4+25+25} = 7,35$
$C11 : \sqrt{(0-3)^2+(-1-(-2))^2+(-2-4)^2} = \sqrt{9+1+36} = 6,78$
$C12 : \sqrt{(0-2)^2+(-1-(-5))^2+(-2-(-4))^2} = \sqrt{4+16+4} = 4,89$

A = {[2,-5,-4]}
B = {[-3,-1,-3], [-3, 0, 0], [-2, 2,-4]}
C = {[0,-1,-2],[1,-3, 2],[-2,-2, 2],[1, 2,-4],[0,-4, 3], [1, 0,-3],[-2, 4, 3],[3,-2, 4]}

new A = [2,-5,-4]
new B = $[\frac{-3-3-2}{3}, \frac{-1+0+2}{3}, \frac{-3+0-4}{3}]$ = [-2,66; 0,66; -2,33]
new C = $[\frac{0+1-2+1+0+1-2+3}{8}, \frac{-1-3-2+2-4+0+4-2}{8}, \frac{-2+2+2-4+3-3+3+4}{8}]$ = [0,25; -0,75; 0,675]

Iteration 2

		A = [2,-5,-4]	B = [-2,66; 0,66; -2,33]	C = [0,25; -0,75; 0,675]	
1	[0,-1,-2]	4,9	3	2,64	C
2	[-3,-1,-3]	6,48	1,52	4,87	B
3	[1,-3, 2]	6,4	6,58	2,74	C
4	[-2,-2, 2]	7,81	4,96	2,91	C
5	[1, 2,-4]	7,07	4,35	5,43	B
6	[0,-4, 3]	7,34	7,37	4,03	C
7	[1, 0,-3]	5,2	3,74	3,77	B
8	[-3, 0, 0]	8,12	2,38	3,39	B
9	[-2, 2,-4]	8,06	2,45	5,83	B
10	[-2, 4, 3]	12,08	6,5	5,77	C
11	[3,-2, 4]	8,6	8,81	4,53	C
12	[2,-5,-4]	0	7,28	6,52	A

A = {[2,-5,-4]}
B = {[-3, -1, -3],[1, 2, -4], [1, 0, -3], [-3, 0, 0], [-2, 2, -4]}
C = {[0, -1, -2], [1, -3, 2], [-2, -2, 2], [0, -4, 3], [-2, 4, 3],[3, -2, 4]}

new A = [2,-5,-4]
new B = [-1.2, 0.6, -2.8]
new C = [0.0, -1.33, 2.0]

Iteration 3

		A = [2,-5,-4]	B = [-1.2, 0.6, -2.8]	C = [0.0, -1.33, 2.0]	
1	[0,-1,-2]	4,9	2,15	4,01	B
2	[-3,-1,-3]	6,48	2,42	5,84	B
3	[1,-3, 2]	6,4	6,39	1,94	C
4	[-2,-2, 2]	7,81	5,52	2,11	C
5	[1, 2,-4]	7,07	2,87	6,93	B
6	[0,-4, 3]	7,34	7,5	2,84	C
7	[1, 0,-3]	5,2	2,29	5,27	B
8	[-3, 0, 0]	8,12	3,38	3,84	B
9	[-2, 2,-4]	8,06	2,01	7,15	B
10	[-2, 4, 3]	12,08	6,77	5,78	C
11	[3,-2, 4]	8,6	8,41	3,66	C
12	[2,-5,-4]	0	6,56	7,31	A

A = {[2,-5,-4]}
B = {[0, -1, -2], [-3, -1, -3],[1, 2, -4], [1, 0, -3], [-3, 0, 0], [-2, 2, -4]}
C = {[1, -3, 2], [-2, -2, 2], [0, -4, 3], [-2, 4, 3],[3, -2, 4]}

new A = [2,-5,-4]
new B = [-1, 0.33, -2.66]
new C = [0.0, -1.4, 2.8]

Iteration 4

		A = [2,-5,-4]	B = [-1, 0.33, -2.66]	C = [0.0, -1.4, 2.8]	
1	[0,-1,-2]	4,9	1,8	4,82	B
2	[-3,-1,-3]	6,48	2,43	6,54	B
3	[1,-3, 2]	6,4	6,07	2,04	C
4	[-2,-2, 2]	7,81	5,31	2,23	C
5	[1, 2,-4]	7,07	2,93	7,67	B
6	[0,-4, 3]	7,34	7,2	2,61	C
7	[1, 0,-3]	5,2	2,05	6,04	B
8	[-3, 0, 0]	8,12	3,35	4,34	B
9	[-2, 2,-4]	8,06	2,36	7,86	B
10	[-2, 4, 3]	12,08	6,82	5,76	C
11	[3,-2, 4]	8,6	8,12	3,29	C
12	[2,-5,-4]	0	6,26	7,95	A

A = {[2,-5,-4]}
B = {[0, -1, -2], [-3, -1, -3],[1, 2, -4], [1, 0, -3], [-3, 0, 0], [-2, 2, -4]}
C = {[1, -3, 2], [-2, -2, 2], [0, -4, 3], [-2, 4, 3],[3, -2, 4]}

new A = [2,-5,-4]
new B = [-1, 0.33, -2.66]
new C = [0.0, -1.4, 2.8]

Middle points are the same as in the previous iteration. Here the algorithm stops.