

We learned that mankowski distance is choosing between euclidean or manhattan, this code uses euclidean but doesnt square root it

Testing the database																			
Originals	1a	1b	1c	1d					Sqrt	1a	1b	1c	1d						Median error
1a	0.0	11015699.0	2157038.5	1579920.9					1a	0.0	3319.0	1468.7	1256.9						1362.8
1b	11015699.0	0.0	9522247.0	9443874.0					1b	3319.0	0.0	3085.8	3073.1						
1c	2157038.5	9522247.0	0.0	512466.8					1c	1468.7	3085.8	0.0	715.9						
1d	1579920.9	9443874.0	512466.8	0.0					1d	1256.9	3073.1	715.9	0.0						
Originals	7.0	7a	7b	7c					Sqrt	7.0	7a	7b	7c						
7.0	0.0	1924284.4	1690227.2	308155.7					7.0	0.0	1387.2	1300.1	555.1						1110.2
7a	1924284.4	0.0	2803713.8	1507675.2					7a	1387.2	0.0	1674.4	1227.9						
7b	1690227.2	2803713.8	0.0	985290.4					7b	1300.1	1674.4	0.0	992.6						
7c	308155.7	1507675.2	985290.4	0.0					7c	555.1	1227.9	992.6	0.0						
Originals	13.0	13a	13b	13c					Sqrt	13.0	13a	13b	13c						
13.0	0.0	5136141.5	2798532.5	3048751.8					13.0	0.0	2266.3	1672.9	1746.1						1254.1
13a	5136141.5	0.0	1525738.2	1620338.5					13a	2266.3	0.0	1235.2	1272.9						
13b	2798532.5	1525738.2	0.0	250477.1					13b	1672.9	1235.2	0.0	500.5						
13c	3048751.8	1620338.5	250477.1	0.0					13c	1746.1	1272.9	500.4	0.0						
Originals	20.0	20a	20b	20c	20d				Sqrt	20.0	20a	20b	20c	20d					
20.0	0.0	9132789.0	2309959.0	11626191.0	2617738.8				20.0	0.0	3022.1	1519.9	3409.7	1617.9					1933.7
20a	9132789.0	0.0	4322687.5	3739315.2	5758932.5				20a	3022.1	0.0	2079.1	1933.7	2399.8					
20b	2309959.0	4322687.5	0.0	8168091.5	957729.2				20b	1519.9	2079.1	0.0	2858.0	978.6					
20c	11626191.0	3739315.2	8168091.5	0.0	9323388.0				20c	3409.7	1933.7	2858.0	0.0	3053.4					
20d	2617738.8	5758932.5	957729.2	9323388.0	0.0				20d	1617.9	2399.8	978.6	3053.4	0.0					
Originals	9_1_1	9_1_2	9_1_3	9_2_1	9_2_3	9_2_4			Sqrt	9_1_1	9_1_2	9_1_3	9_2_1	9_2_3	9_2_4				
9_1_1	0.0	3355893.5	4903518.0	4154658.2	5816737.0	12214313.0			9_1_1	0.0	1831.9	2214.4	2038.3	2411.8	3494.9				2013.2
9_1_2	3355893.5	0.0	3952320.2	1448471.4	2241950.0	9995339.0			9_1_2	1831.9	0.0	1988.0	1203.5	1497.3	3161.5				
9_1_3	4903518.0	3952320.2	0.0	5495194.5	1496225.2	7735746.0			9_1_3	2214.4	1988.0	0.0	2344.2	1223.2	2781.3				
9_2_1	4154658.2	1448471.4	5495194.5	0.0	3135475.0	10451212.0			9_2_1	2038.3	1203.5	2344.2	0.0	1770.7	3232.8				
9_2_3	5816737.0	2241952.0	1496225.2	3135475.0	0.0	9130466.0			9_2_3	2411.8	1497.3	1223.2	1770.7	0.0	3021.7				
9_2_4	12214313.0	9995339.0	7735746.0	10451212.0	9130466.0	0.0			9_2_4	3494.9	3161.5	2781.3	3232.8	3021.7	0.0				

Osaba1c attack	1a	1b	1c	1d				Osaba1c attack sqrt	1a	1b	1c	1d				Median
print	3.27E+07	1.91E+07	2.96E+07	3.16E+07				print	5719.181235	4372.03957	5436.96533	5621.768939				1362.8
horizontal flip	5252221	1.11E+07	6838921	6752675				horizontal flip	2291.772458	3332.207376	2615.133075	2598.590964				
vertical flip	1.40E+07	1.75E+07	1.16E+07	1.33E+07				vertical flip	3747.176804	4185.689907	3404.408906	3652.574435				
horizontal and vertical	8.65E+06	1.96E+07	1.06E+07	1.14E+07				horizontal and vertical	2940.463399	4425.72028	3251.030606	3370.103856				
Osaba7c attack	7.0	7a	7b	7c				Osaba7c attack sqrt	7.0	7a	7b	7c			Median	
print	3142455.8	5922851	4404999.5	3245530				print	1772.697323	2433.690818	2098.809067	1801.535456		1110.2		
horizontal flip	1319995.6	2255824.8	2202526.2	1268103.6				horizontal flip	1148.910614	1501.940345	1484.091035	1126.101061				
vertical flip	6027033.5	5715271.5	3224570.5	5086463				vertical flip	2455.001731	2390.663402	1795.708913	2255.318824				
horizontal and vertical	8240194	6836369	5552264	7018470.5				horizontal and vertical	2870.57381	2614.6451	2356.324256	2649.239608				
Osaba13a attack	13.0	13a	13b	13c				Osaba13a attack sqrt	13	13a	13b	13c			Median	
print	8.96E+05	3728043.2	2640105.5	2589291				print	946.4588211	1930.814129	1624.840146	1609.127403		1254.1		
horizontal flip	7116161	5650943	6110989.5	6713115				horizontal flip	2667.613353	2377.171218	2472.041565	2590.967966				
vertical flip	1.96E+07	3.55E+07	2.91E+07	3.03E+07				vertical flip	4432.324447	5958.62568	5390.732789	5507.63107				
horizontal and vertical	2.04E+07	3.58E+07	2.97E+07	3.11E+07				horizontal and vertical	4519.756631	5985.315363	5451.97212	5579.426494				
Osaba20a attack	20.0	20a	20b	20c	20d			Osaba20a attack sqrt	20	20a	20b	20c	20d			Median
print	4.73E+07	2.23E+07	3.79E+07	2.76E+07	3.97E+07			print	6874.559477	4723.745759	6160.098376	5250.304753	6300.595527			1933.7
horizontal flip	6908551.5	3033124.8	4483437	7918479	6265020.5			horizontal flip	2628.412353	1741.586863	2117.412808	2813.979211	2503.002297			
vertical flip	3.42E+07	2.56E+07	3.33E+07	2.54E+07	2.93E+07			vertical flip	5849.385267	5064.323054	5768.843732	5044.279334	5412.549861			
horizontal and vertical	3.27E+07	2.84E+07	3.35E+07	2.97E+07	2.96E+07			horizontal and vertical	5719.377763	5327.184622	5788.057187	5452.555181	5434.043798			
9_1_3 attack	9_1_1	9_1_2	9_1_3	9_2_1	9_2_3	9_2_4		9_1_3 attack sqrt	9_1_1	9_1_2	9_1_3	9_2_1	9_2_3	9_2_4		Median
print	1.10E+08	1.02E+08	9.32E+08	1.07E+08	9.39E+07	9.08E+07		print	10472.40526	10076.66373	30528.13391	10365.08601	9690.536414	9526.642221		2013.2
horizontal flip	9.72E+06	1.01E+07	3425659.2	1.12E+07	6324823	8347674		horizontal flip	3117.301397	3180.756199	1850.853641	3344.035586	2514.920078	2889.234155		
vertical flip	1.16E+07	4504178.5	7.01E+06	5744641	3658178	1.72E+07		vertical flip	3401.912697	2122.304997	2647.832321	2396.798072	1912.6364	4143.515416		
horizontal and vertical	9.52E+06	3.87E+06	5.24E+06	5.13E+06	2.60E+06	1.59E+07		horizontal and vertical	3085.19027	1966.671935	2289.850541	2264.65207	1613.427098	3987.5421		