ASSIGNMENT 2
k-NN Search in R-Tree

- Sarthak Chakraborty (16CS30044)
- Omar Eqbal (16CS30043)
- Nikhil Nayan Jha (16CS30022)

K = 1

Srl. No.	Number of Dimensions (n)	Average Time Taken (msec) (T)	Average no. of nodes/pages accessed (V)	Total no. of nodes (T_v)	No. of data points (N)	M, m	Linear Search number of pages accessed N/4096 (L)	L/V
1	2	2.662	14	1934	500,000	455, 227	122	8.714
2	5	23.093	235	4006	500,000	195, 97	122	0.519
3	10	260.187	4571	7749	500,000	99, 49	122	0.027
4	50	1084.88	44706	44706	500,000	20, 10	122	0.003
5	100	2595.92	105881	105881	500,000	10, 5	122	0.001

K = 5

Srl. No.	Number of Dimensions (n)	Average Time Taken (msec) (T)	Average no. of nodes/pages accessed (V)	Total no. of nodes (T_v)	No. of data points (N)	M, m	Linear Search number of pages accessed N/4096 (L)	L/V
1	2	2.787	15	1934	500,000	455, 227	122	8.133
2	5	29.882	348	4006	500,000	195, 97	122	0.351
3	10	285.566	5548	7749	500,000	99, 49	122	0.022
4	50	1038.80	44706	44706	500,000	20, 10	122	0.003
5	100	2591.61	105881	105881	500,000	10, 5	122	0.001

K = 20

Srl. No.	Number of Dimensions (n)	Average Time Taken (msec) (T)	Average no. of nodes/pages accessed (V)	Total no. of nodes (T$_v$)	No. of data points (N)	M, m	Linear Search number of pages accessed N/4096 (L)	L/V
1	2	2.643	14	1934	500,000	455, 227	122	8.714
2	5	40.778	494	4006	500,000	195, 97	122	0.247
3	10	304.787	6057	7749	500,000	99, 49	122	0.020
4	50	1028.22	44706	44706	500,000	20, 10	122	0.003
5	100	2641.73	105881	105881	500,000	10, 5	122	0.001