TITLE – KDTree vs QUADTree Analysis

Experiment 1 –
Height of Trees in each experiment has been included in the screenshots of other experiments and not done individually.
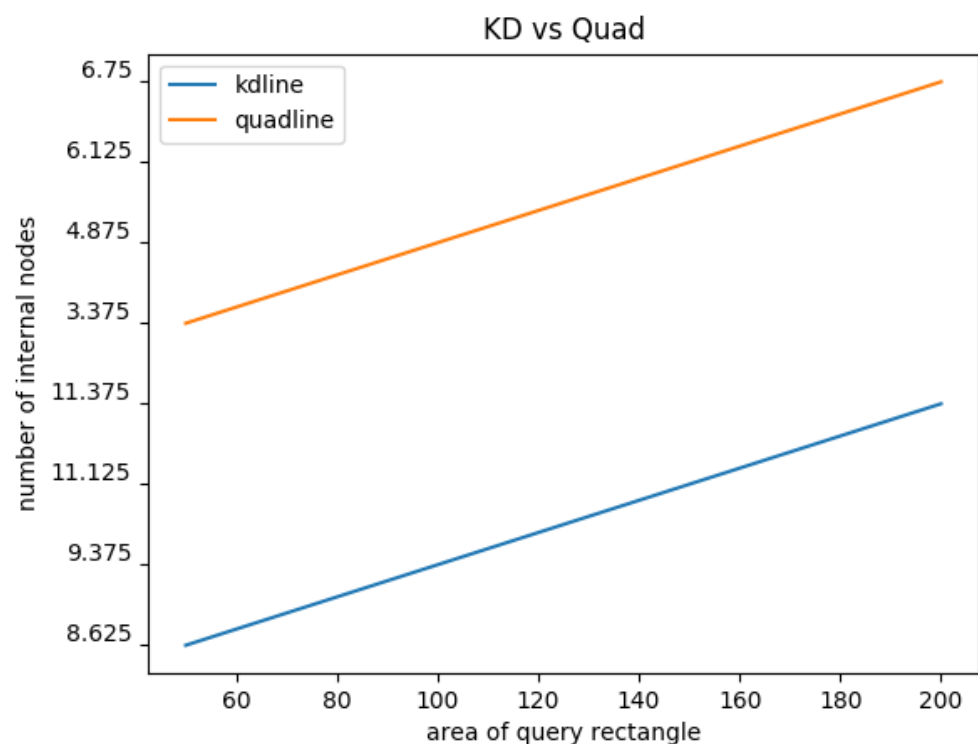
1. Parameters –
   a. Alpha = 50
   b. Dataset = A
   c. Algorithms used – Kdtree and Quadtree

1.1 KD Tree height and running time

1.2 Quad Tree Height and running time

2. Parameters –
   a. Alpha = 50
   b. Dataset = B
   c. Algorithms used – Kdtree and Quadtree

```
Height is  7
for 50 0.030305415391921997
for 100 0.07488995790481567
for 150 0.08270391821861267
for 200 0.11897468566894531
[50, 100, 150, 200] [12.375, 11.625, 15.875, 13.75]

 >                          miniproject phase b : bash
```
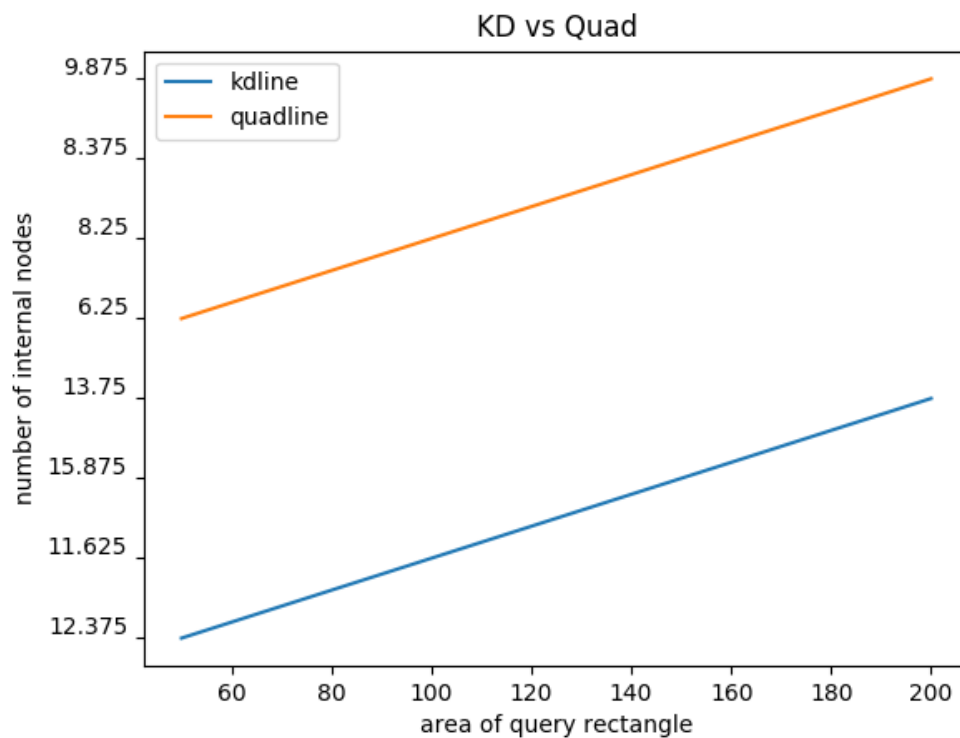
2.1 KD Tree height and running time

```
Height is  4
for 50 0.08357089757919312
for 100 0.11305469274520874
for 150 0.13446864485740662
for 200 0.15486738085746765
[50, 100, 150, 200] [6.25, 8.25, 8.375, 9.875]

 >                          miniproject phase b : bash
```

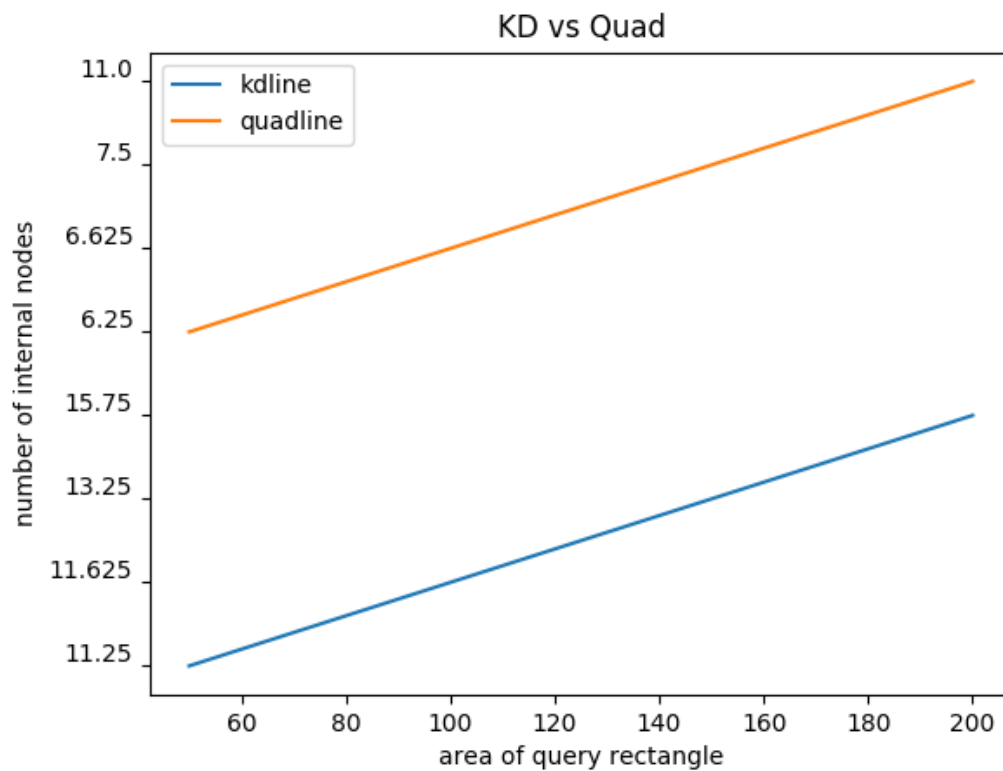2.2 Quad Tree height and running time

2.3 KD tree vs Quad Tree comparison

3. Parameters –
   a. Alpha = 50
   b. Dataset = C
   c. Algorithms used – Kdtree and Quadtree

3.1 KD Tree height and running time

3.2 Quad Tree height and running time

3.3 KD Tree height vs Quad Tree comparison

EXPERIMENT 2 –

1. Parameters –
   a. Alpha = 150
   b. Dataset = A
   c. Algorithms used – Kdtree and Quadtree

1.1 KD Tree height and running time

1.2 Quad Tree height and running time
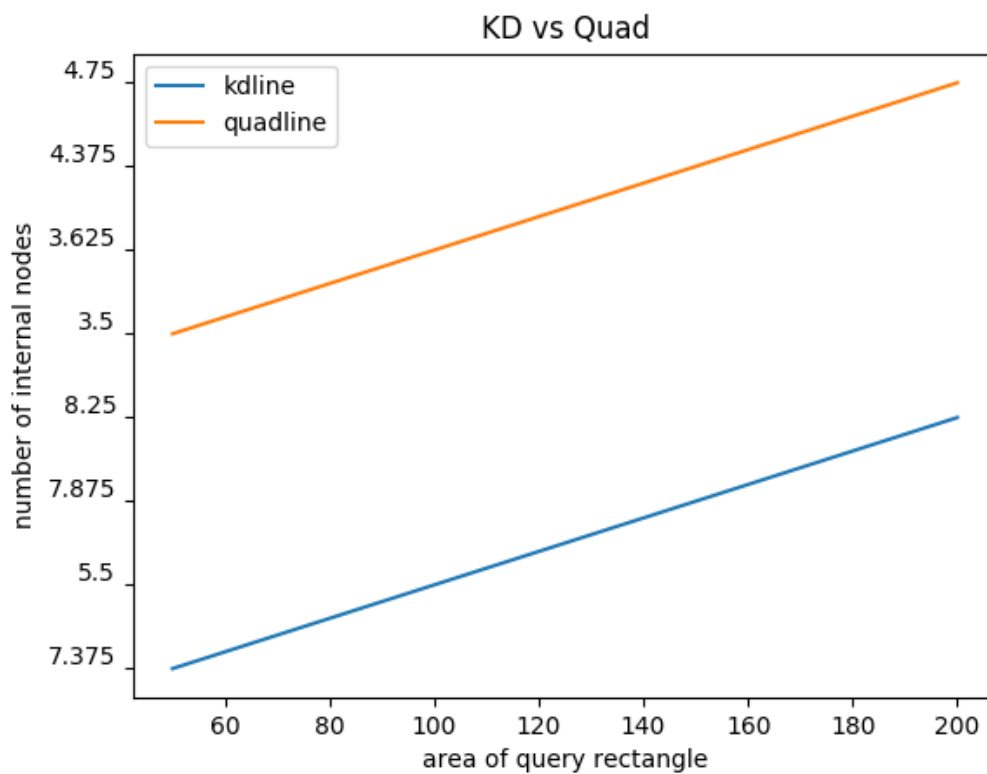
1.3 KD Tree height vs Quad Tree Comparison
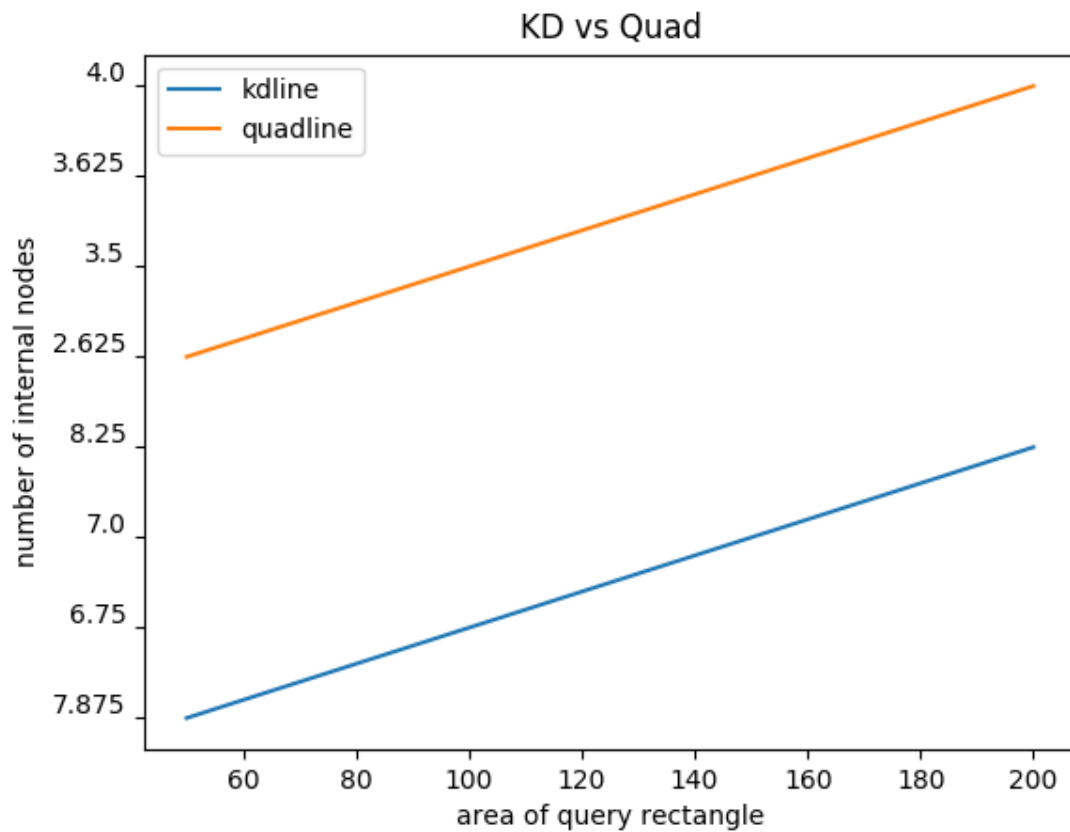
2. Parameters –
   a. Alpha = 150
   b. Dataset = B
   c. Algorithms used – Kdtree and Quadtree

```
Height is  5
for 50 0.06146442890167236
for 100 0.07843843102455139
for 150 0.11397069692611694
for 200 0.09581133723258972
[50, 100, 150, 200] [7.875, 6.75, 7.0, 8.25]
```

miniproject phase b : bash

2.1 KD Tree height and running time

```
Height is  3
for 50 0.0721864402294159
for 100 0.12269189953804016
for 150 0.17302948236465454
for 200 0.20112615823745728
[50, 100, 150, 200] [2.625, 3.5, 3.625, 4.0]
simar@simar-Inspiron-3537 /media/simar/52D45E15D45DFC23/Users/harsi/Desktop/PGLAB/miniproject phase b $
```

miniproject phase b : bash

2.2 Quad Tree height and running time

2.3 KD Tree and Quad Tree comparison

3. Parameters –
   a. Alpha = 150
   b. Dataset = C
   c. Algorithms used – Kdtree and Quadtree
   d.

```
Height is  6
for 50 0.09337809681892395
for 100 0.15272033214569092
for 150 0.08317461609840393
for 200 0.2221452295780182
[50, 100, 150, 200] [9.0, 9.375, 8.625, 10.75]

>                                          miniproject phase b : bash
```
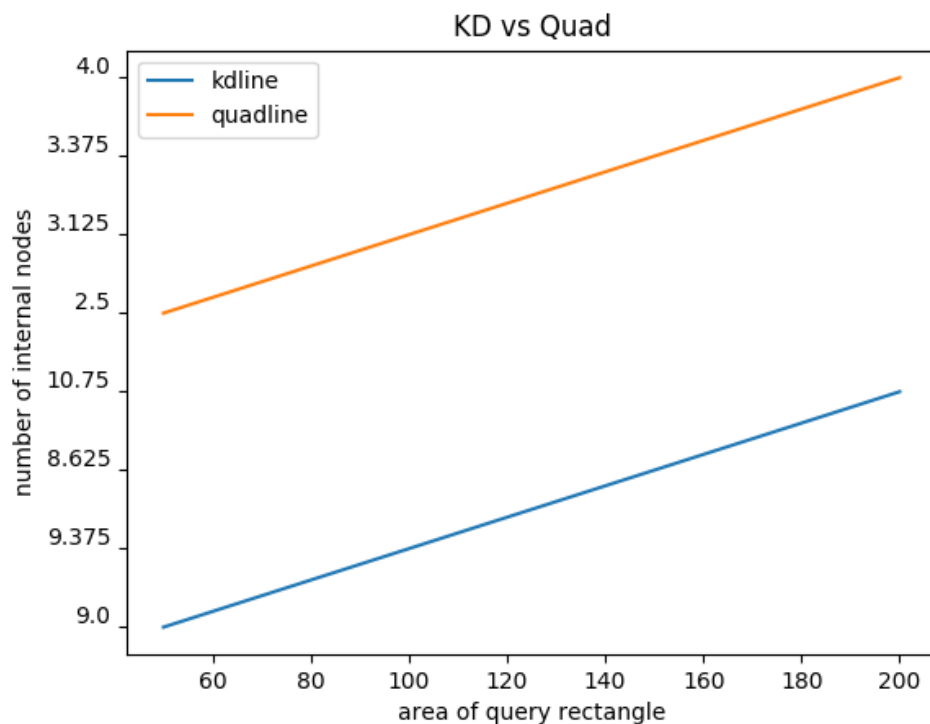
3.1 KD Tree height and running time

```
Height is  3
for 50 0.11415848135948181
for 100 0.2407645583152771
for 150 0.282932698872665405
for 200 0.37047240138053894
[50, 100, 150, 200] [2.5, 3.125, 3.375, 4.0]

>                                          miniproject phase b : bash
```

3.2 Quad Tree height and running time

3.3 KD Tree And Quad Tree Comparison

SUBMITTED BY –
Harsimar Singh
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