

Assignment 5

@Lei Liu

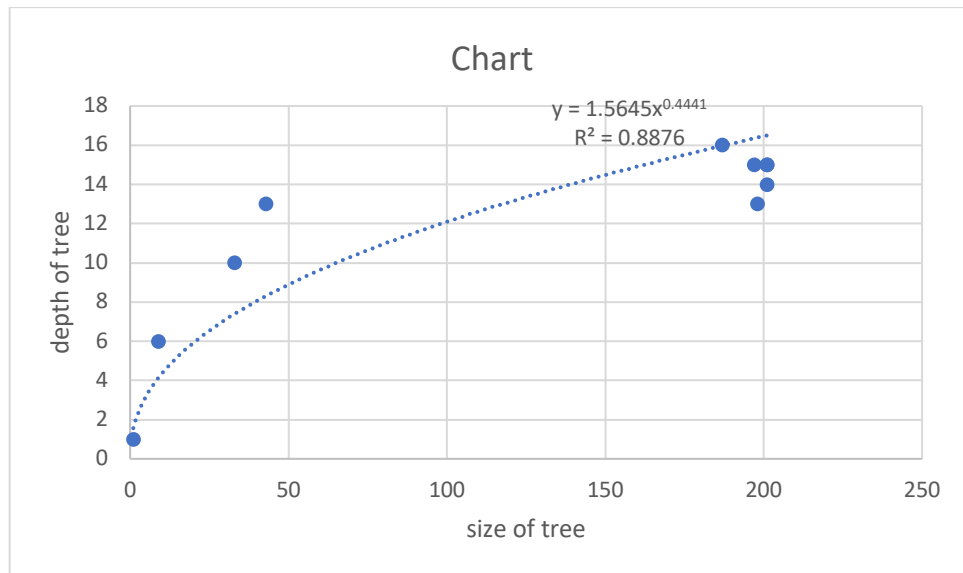
1. Settings

- Array of size of the tree: 100. Run 10 times.
- Range of keys: [0, 200].
- Number of deletions and insertions: 200,000.
- Using depth of tree (aka. the maximum height).
- Assuming deleting a non-existing node is a deletion and inserting an existing node is an insertion.

2. Results

size	187	197	9	201	201	1	33	198	43	201
depth	16	15	6	15	14	1	10	13	13	15

Plot depth – size:



$$h = 1.5645x^{0.4441}$$

The trend close to power after 200,000 deletions and insertions.

*While if always delete an existing node and insert a non-existing node, the trend is always logarithmic.

For example:

