

Lab 6 : Trie Data Structure - Part II

Compressed Tries (Radix Tree)

E/13/056

2. Measure time to generate suggested word list for word “the” in both scenarios.

Scenario 1 – Regular Trie

Time = 0.002638

Scenario 2 – Radix Trie

Time = 0.004986

The image shows two terminal windows side-by-side, both titled '3:tesla.ce.pdn.ac.lk - default - SSH Secure Shell' and '4:tesla.ce.pdn.ac.lk - default - SSH Secure Shell'. Both windows display a list of words starting with 'the' and the time taken to generate the list.

Left window (Scenario 1 - Regular Trie):

```
theurgically
theurgies
theurgist
theurgy
thevetin
thew
thewed
thewier
thewiest
thewiness
thewless
thewlike
thewness
thews
thewy
they
theyaou
theyd
theyll
theyre
theyve
=====
Time = 0.004986
Enter keyword: 
```

Right window (Scenario 2 - Radix Trie):

```
theurgically
theurgies
theurgist
theurgy
thevetin
thew
thewed
thewier
thewiest
thewiness
thewless
thewlike
thewness
thews
thewy
they
theyaou
theyd
theyll
theyre
theyve
=====
Time = 0.002638
Enter keyword: 
```

3. Memory consumptions of a regular trie and a Radix Tree.

Memory Consumption of a Regular trie is higher than Radix tree. Because one node require to a one character in regular trie. But in Radix tree more than one character can be put. So no of nodes needed for radix tree is less than Regular tire.

Time Consumption of radix tree is higher than regular trie, because insert of radix tree is more complex, it will take more time, but search in radix tree is less than regular trie.

In my radix tree code I insert as a regular tree and after that compressed it to a radix tree, so it will take more time to insert.

