

DATA STRUCTURES ASSIGNMENT - VII

Compulsory assignments

1. Write a function to splay a given node at the root of the corresponding binary search tree.
2. Write a function to insert a node in a splay-tree.
3. Write a function to delete a node from a splay-tree.
4. Write a function to search for a key in a splay-tree.
5. Given a tree T with a key k , write a function to construct a tree with all the keys present in T that are smaller than k . Use splaying for this.
6. Given a tree T with a key k , write a function to construct a tree with all the keys present in T that are larger than k . Use splaying for this.
7. Write a function to insert a key-value pair in a skip list using a randomized approach.
8. Write a function to search a given key in a skip list.
9. Given a key, write a function to delete a key-value pair from a skip list.
10. Write a function to insert a new key (string) in a trie data structure.
11. Write a function to check if a given key is present in a trie.
12. Write a function to print all the keys present with a given prefix in a trie data structure.

Additional assignments

1. Write a function to print the auto-correct options for a given string corresponding to a set of strings using the trie data structure.
2. Write a function to delete a key from a trie data structure.