

CS417 Assignment 2 - UML

Cards used: dale:33, hailey:29, clayton:12, izzy:11. Delete tested on dale:33.

Class Diagram

Class	Attributes	Methods
tree<T>	- root : node*	+ tree() + tree(x: T) + tree(other: T)
node	- v : T - l : node* - r : node*	+ node(x: T)
card	- id : int - keyword : string	

Object Diagram (Before Delete)

tree root → n_dale
n_dale: node (v = dale:33, l → n_clayton, r → n_hailey)
n_clayton: node (v = clayton:12, l → null, r → null)
n_hailey: node (v = hailey:29, l → null, r → n_izzy)
n_izzy: node (v = izzy:11, l → null, r → null)

Object Diagram (After Delete of dale:33)

tree root → n_hailey
n_hailey: node (v = hailey:29, l → n_clayton, r → n_izzy)
n_clayton: node (v = clayton:12, l → null, r → null)
n_izzy: node (v = izzy:11, l → null, r → null)

Sequence Diagram (insert 'dale:33')

main → tree : insert({dale,33})
tree → insert_rec(root, key)
insert_rec → (root == null) : create new node
insert_rec → return tree → return