

MUSLA

- UniversityArray[0...*]
: University*
- University Count:
unsigned int
- Student Count:
unsigned int
- University HTable[0...*]
: university*
- Iname HTable[0...*]
: Student*
- id HTable[0...*]
: Student*

University

- name : string
- address : string
- email : string
- phone : string
- StudentTree[0...*]
: Student
- Student Count:
unsigned int

Student

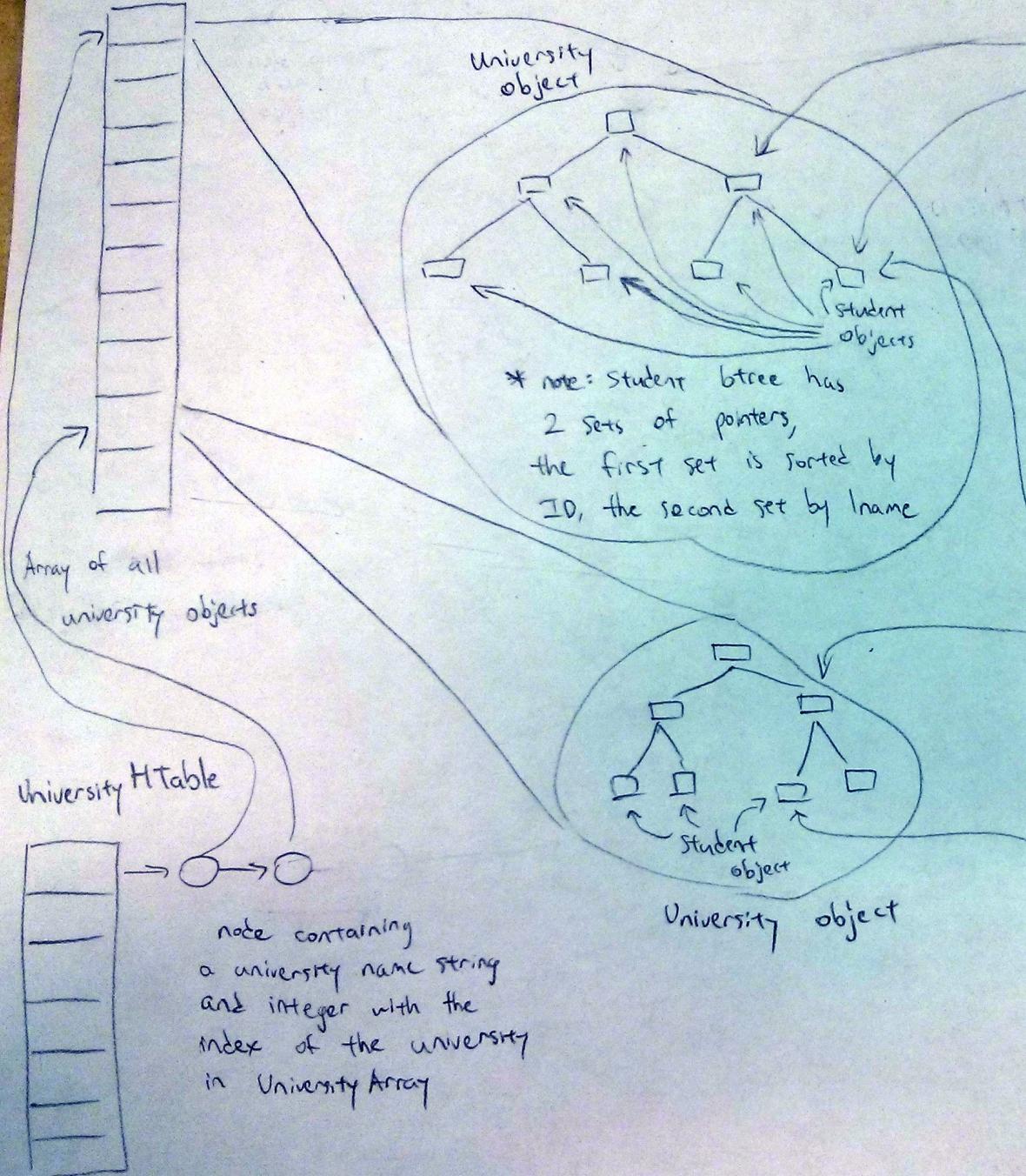
- ID: unsigned int
- lastname : string
- firstname: string
- address : string
- email : string
- enrolled [0...*]: string
- enrolledCount : unsigned int
- faculty : string

Notes:
- Lookup & display of university is done in O(1)
due to UniversityHTable

- Lookup of student ID and Iname
is O(1) due to IDHTable
and InameHTable

- Display of students in ascending
order is done using the BST in O(n) time.
ID in-order traversal is by using
pointer set 1, and Iname traversal
is done using the second set of
pointers

University Array

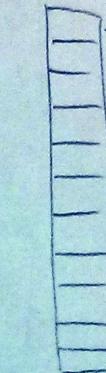


note containing
a university name string
and integer with the
index of the university
in University Array

Array of node
pointers to lookup
all universities by name

In each HTable, chains of nodes are iterated over based on the Hash Index generated by the hashing function.

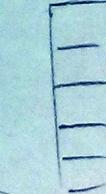
ID HTable



Node containing a ID and
student pointer pair.
If the ID matches,
then the student can
be dereferenced with
the pointer

Array of node
pointers to lookup all
students based on ID

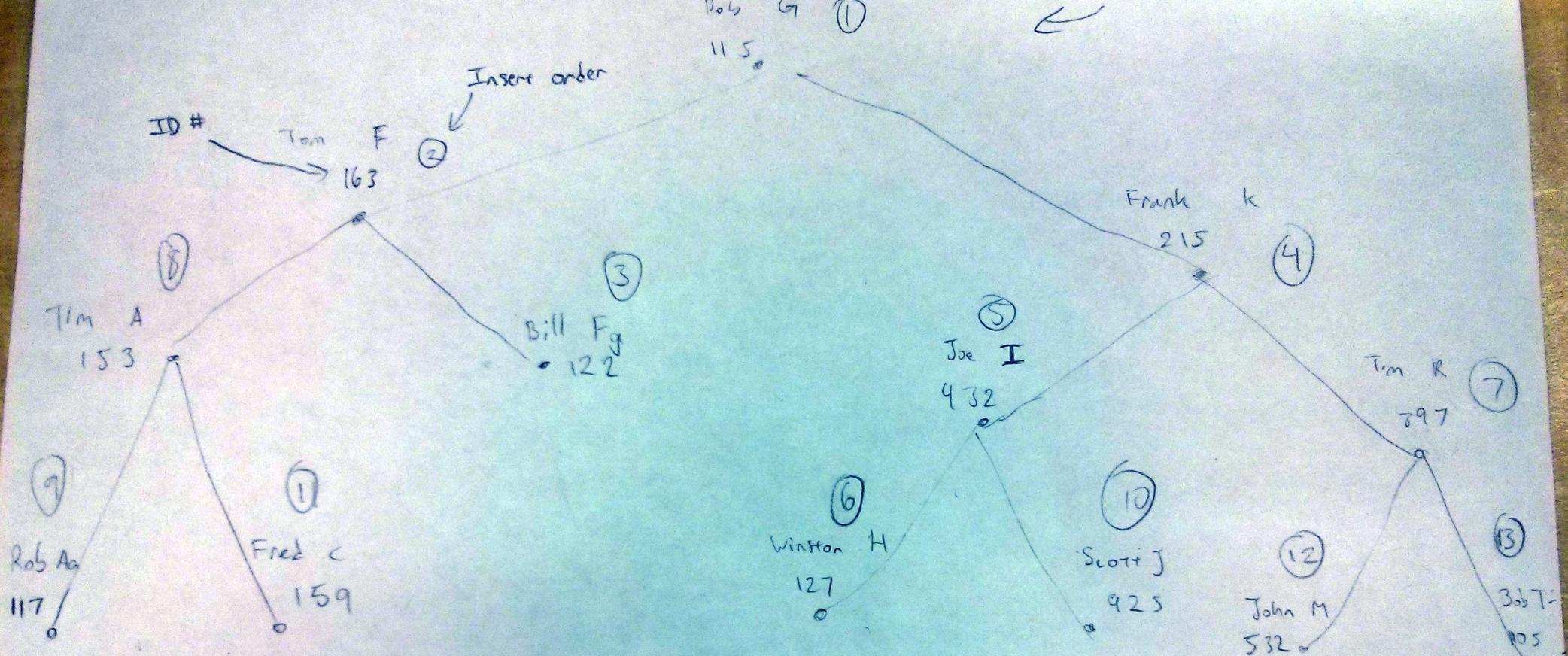
LNameHTable



note containing a LName string
and student pointer pair.
If the string matches,
then the student can
be dereferenced with the
pointer

Array of node
pointers for
finding students
based on Lname

Based on L Name



Based on ID

