Adult Mortality Rates

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World Health Organization

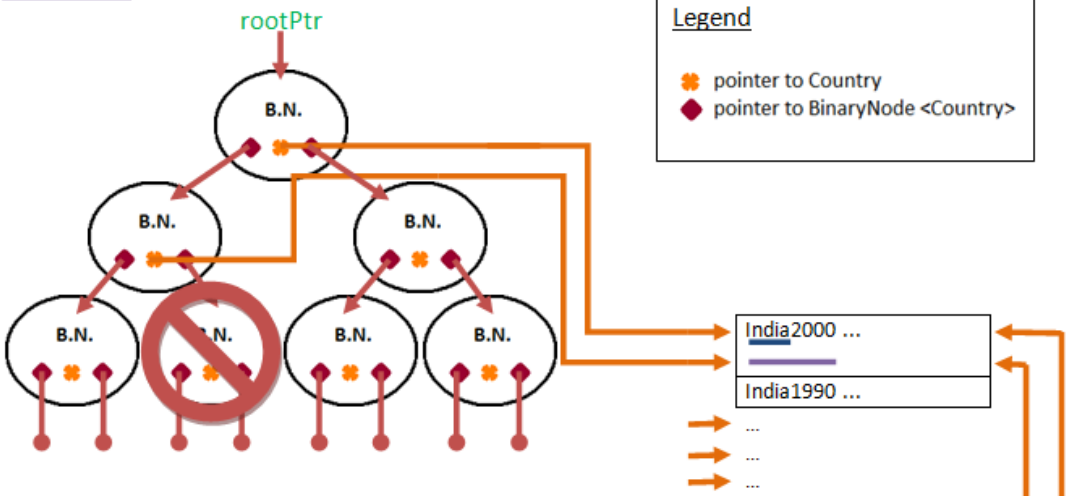
Data: Adult Mortality Data by Country (Global Health Repository)

link to data set: http://www.who.int/gho/database/en/

Data Structures

- One Hash Table
  - Collision Resolution: Buckets
- Two Binary Search Trees
  - Primary: Unique Key
  - Secondary: Secondary Key

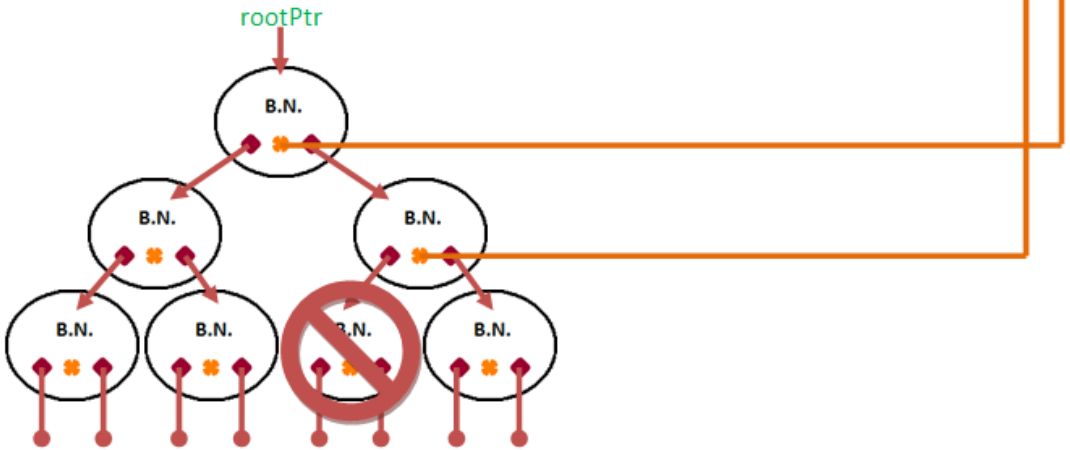
Unique BST



Legend

- pointer to Country
- pointer to BinaryNode <Country>

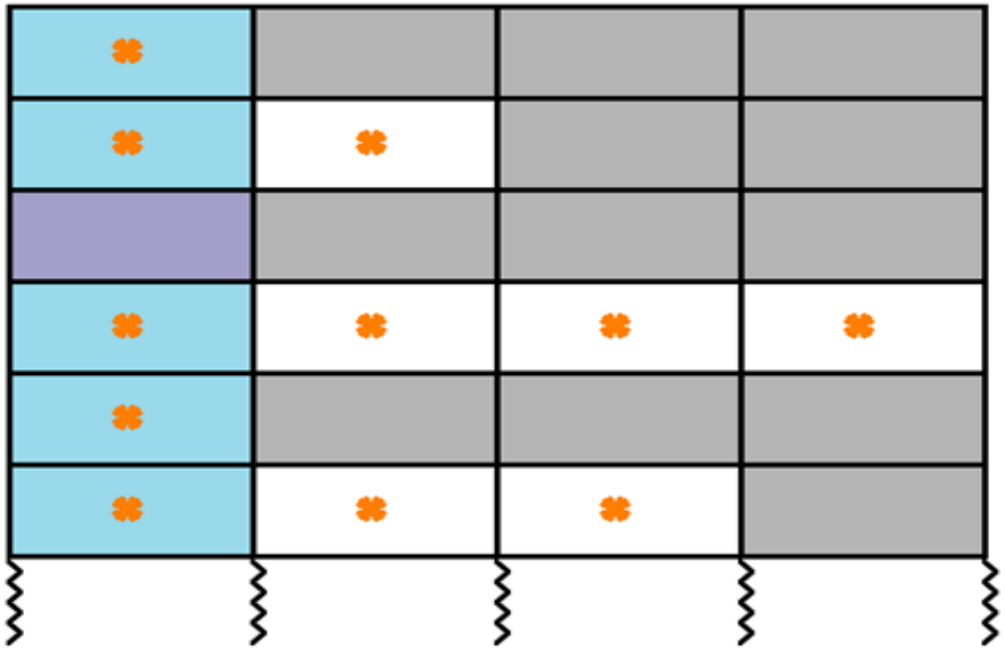
Secondary BST



Country
id : String name : String year : int maleMortality : int femaleMortality : int combinedMortality : int
Country(); Country(string, int, int, int, int) ~Country() setName(string) : void getName() : string const setYear(int) : void getYear() : int const setID(string) : void getID() : string const setMaleMortality(int) : void getMaleMortality() : int const setFemaleMortality(int) : void getFemaleMortality() : int const setCombinedMortality(int) : void getCombinedMortality() : int const

Hash Table

BUCKET_SIZE = 4
HASH_TABLE_SIZE = 776

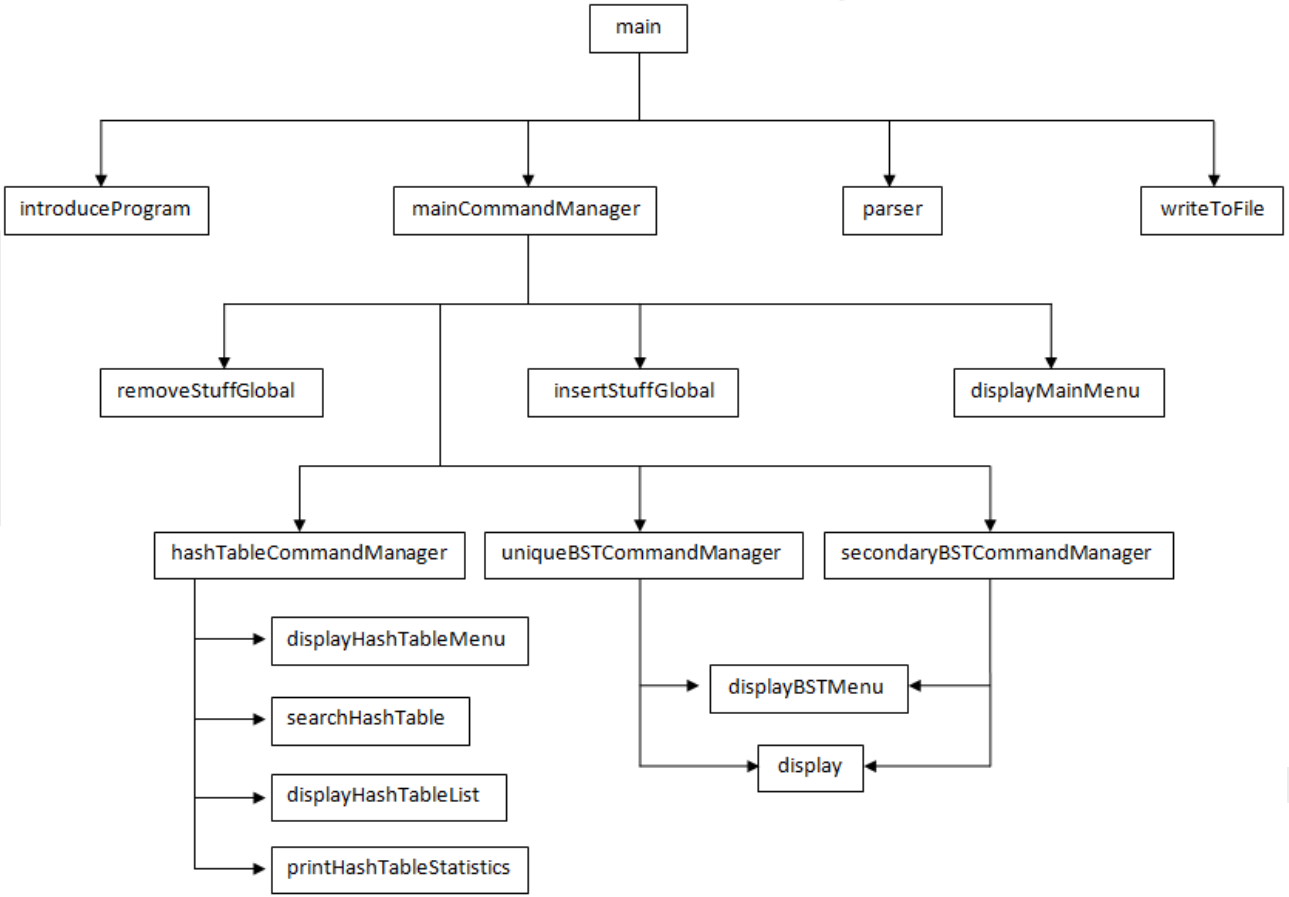


Overflow

Hash Function

```
int getHash(string key)
{
    int sum = 0;
    // Sum up the cubes of the ASCII values
    // of each character of the string given
    for (int i = 0; i < key.length(); i++)
    {
        sum += (key[i] * key[i] * key[i]);
    }
     // Perform modulo division on the
     // generated key and return it
    return (sum % HASH_TABLE_SIZE);
}
```

Structure Diagram



Team Member Contribution

Vihan : Coordination, Output, main.cpp, and documentation.

Jaison : Created the Unique Binary Search Tree data structure and global insert and delete functions.

Jason : Created the Hash Table structure and hash function.

Victor : Created the Secondary Binary Search Tree.