BinarySearchTree

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1 Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

2 File Index

2.1 File List

Here is a list of all files with brief descriptions:

3 Class Documentation

3.1 BST Class Reference

`#include <BST.h>`

Classes

- struct **node**

Public Member Functions

- **BST** ()
- void **addLeaf** (char key)
- void **printPreOrder** ()
- void **searchKey** (int key)
- void **removeNode** (int key)
- int **findsmallest** ()
- int **count** ()
- void **find** (char keyToFind)

Private Member Functions

- void **addLeafPrivate** (int key, **node** ∗Ptr)
- void **printPreOrderPrivate** (**node** ∗Ptr)
- void **searchKeyPrivate** (char key, **node** ∗Ptr)
- void **removeNodePrivate** (int key, **node** ∗parent)
- void **removeRootMatch** ()
- int **findsmallestPrivate** (**node** ∗Ptr)
- void **removeMatch** (**node** ∗parent, **node** ∗match, bool left)
- int **countPrivate** (**node** ∗Ptr, int & **count**)
- **node** ∗ **createLeaf** (char key)
- void **findPrivate** (**node** ∗Ptr, char key)

Private Attributes

- **node** ∗ **root**

3.1.1 Constructor & Destructor Documentation

3.1.1.1 BST() `BST::BST ( )`

3.1.2 Member Function Documentation

3.1.2.1 addLeaf()

```
void BST::addLeaf (
        char key )
```

3.1.2.2 addLeafPrivate()

```
void BST::addLeafPrivate (
        int key,
        node * Ptr )  [private]
```

3.1.2.3 count()

```
int BST::count ( )
```

3.1.2.4 countPrivate()

```
int BST::countPrivate (
        node * Ptr,
        int & count )  [private]
```

3.1.2.5 createLeaf()

```
BST::node * BST::createLeaf (
        char key )  [private]
```

3.1.2.6 find()

```
void BST::find (
        char keyToFind )
```

3.1.2.7 findPrivate()

```
void BST::findPrivate (
        node * Ptr,
        char key )  [private]
```

3.1.2.8 findsmallest()

```
int BST::findsmallest ( )
```

3.1.2.9 findsmallestPrivate()

```
int BST::findsmallestPrivate (
        node * Ptr )  [private]
```

3.1.2.10 printPreOrder() void BST::printPreOrder ( )

3.1.2.11 printPreOrderPrivate() void BST::printPreOrderPrivate (node * Ptr) [private]

3.1.2.12 removeMatch() void BST::removeMatch (node * parent, node * match, bool left) [private]

3.1.2.13 removeNode() void BST::removeNode (int key)

3.1.2.14 removeNodePrivate() void BST::removeNodePrivate (int key, node * parent) [private]

3.1.2.15 removeRootMatch() void BST::removeRootMatch ( ) [private]

3.1.2.16 searchKey() void BST::searchKey (int key)

3.1.2.17 searchKeyPrivate() void BST::searchKeyPrivate (char key, node * Ptr) [private]

3.1.3 Member Data Documentation

3.1.3.1 root `node* BST::root [private]`

The documentation for this class was generated from the following files:

- **BST.h**
- **BST.cpp**

3.2 BST::node Struct Reference

Public Attributes

- char **key**
- **node** * **left** = NULL
- **node** * **right** = NULL

3.2.1 Member Data Documentation

3.2.1.1 key `char BST::node::key`

3.2.1.2 left `node* BST::node::left = NULL`

3.2.1.3 right `node* BST::node::right = NULL`

The documentation for this struct was generated from the following file:

- **BST.h**

4 File Documentation

4.1 BST.cpp File Reference

```
#include <iostream>
#include <cstdlib>
#include "BST.h"
```

4.2 BST.h File Reference

Classes

- class **BST**
- struct **BST::node**

4.3 driver.cpp File Reference

```
#include <iostream>
#include <cstdlib>
#include "BST.h"
```

Functions

- int **menu** ()
- void **clearScreen** ()
- void **pauseScreen** ()
- int **main** ()

4.3.1 Function Documentation

4.3.1.1 clearScreen() `void clearScreen ( )`

4.3.1.2 main() `int main ( )`

4.3.1.3 menu() `int menu ( )`

4.3.1.4 pauseScreen() `void pauseScreen ( )`

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