

BinarySearchTree

1

Generated by Doxygen 1.8.18

1 Class Index	1
1 Class Index	1
1.1 Class List	1
2 File Index	1
2.1 File List	1
3 Class Documentation	2
3.1 BST Class Reference	2
3.1.1 Constructor & Destructor Documentation	2
3.1.2 Member Function Documentation	2
3.1.3 Member Data Documentation	4
3.2 BST::node Struct Reference	5
3.2.1 Member Data Documentation	5
4 File Documentation	5
4.1 BST.cpp File Reference	5
4.2 BST.h File Reference	6
4.3 driver.cpp File Reference	6
4.3.1 Function Documentation	6
Index	7

1 Class Index

1.1 Class List

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

BST	2
BST::node	5

2 File Index

2.1 File List

Here is a list of all files with brief descriptions:

BST.cpp	5
BST.h	6
driver.cpp	6

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 ()`

Index

- addLeaf
 - BST, 2
- addLeafPrivate
 - BST, 3
- BST, 2
 - addLeaf, 2
 - addLeafPrivate, 3
 - BST, 2
 - count, 3
 - countPrivate, 3
 - createLeaf, 3
 - find, 3
 - findPrivate, 3
 - findsmallest, 3
 - findsmallestPrivate, 3
 - printPreOrder, 3
 - printPreOrderPrivate, 4
 - removeMatch, 4
 - removeNode, 4
 - removeNodePrivate, 4
 - removeRootMatch, 4
 - root, 4
 - searchKey, 4
 - searchKeyPrivate, 4
- BST.cpp, 5
- BST.h, 6
- BST::node, 5
 - key, 5
 - left, 5
 - right, 5
- clearScreen
 - driver.cpp, 6
- count
 - BST, 3
- countPrivate
 - BST, 3
- createLeaf
 - BST, 3
- driver.cpp, 6
 - clearScreen, 6
 - main, 6
 - menu, 6
 - pauseScreen, 6
- find
 - BST, 3
- findPrivate
 - BST, 3
- findsmallest
 - BST, 3
- findsmallestPrivate
 - BST, 3
- key
 - BST::node, 5
- left
 - BST::node, 5
- main
 - driver.cpp, 6
- menu
 - driver.cpp, 6
- pauseScreen
 - driver.cpp, 6
- printPreOrder
 - BST, 3
- printPreOrderPrivate
 - BST, 4
- removeMatch
 - BST, 4
- removeNode
 - BST, 4
- removeNodePrivate
 - BST, 4
- removeRootMatch
 - BST, 4
- right
 - BST::node, 5
- root
 - BST, 4
- searchKey
 - BST, 4
- searchKeyPrivate
 - BST, 4