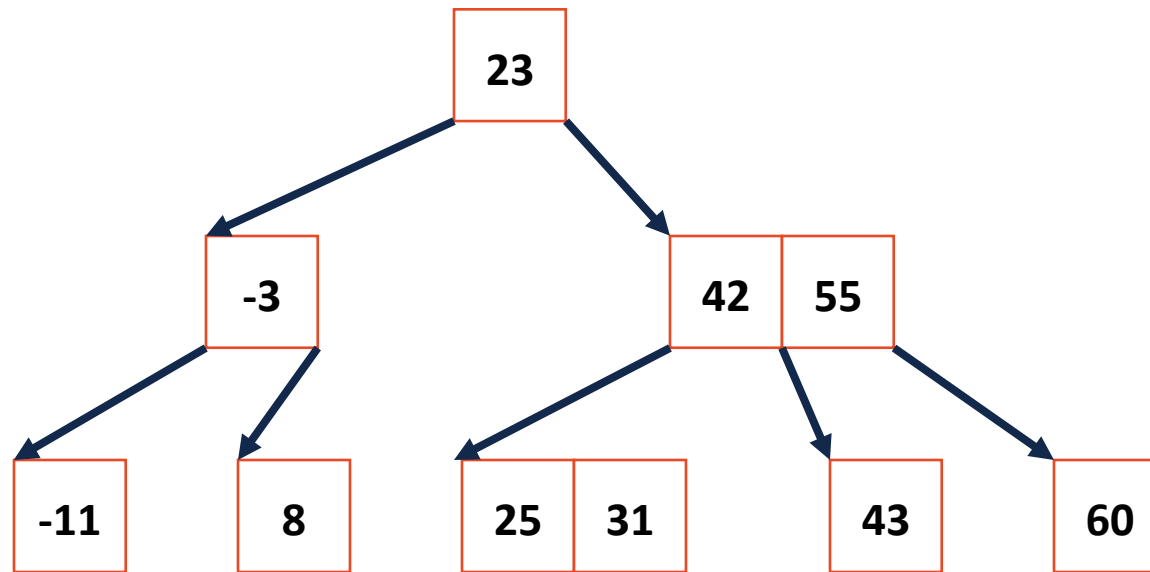# CS 400

B-Tree Search

ID: 08-03

BTree Search

BTree Search

```
1  bool Btree::_exists(BTreeNode & node, const K & key) {
2
3    unsigned i;
4    for ( i = 0; i < node.keys_ct_ && key < node.keys_[i]; i++) { }
5
6    if ( i < node.keys_ct_ && key == node.keys_[i] ) {
7      return true;
8    }
9
10   if ( node.isLeaf() ) {
11     return false;
12   } else {
13     BTreeNode nextChild = node._fetchChild(i);
14     return _exists(nextChild, key);
15   }
16 }
```

search in cloud or disk or internet

23

-3

42 | 55

-11

8

25 | 31

43

60
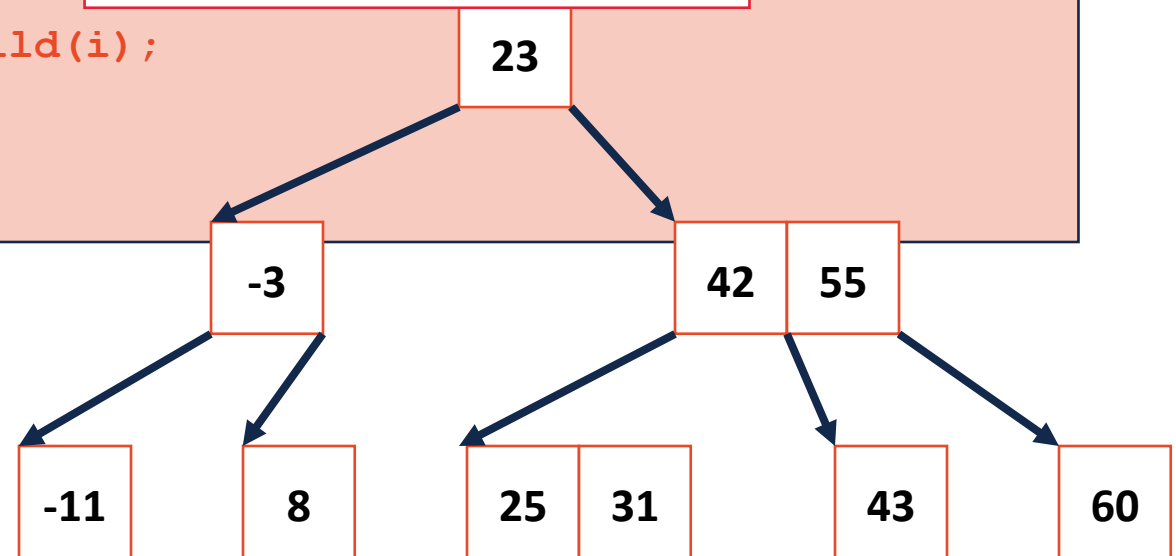
BTree Analysis

The height of the BTree determines maximum number of ___seeks_____ possible in search data.

…and the height of the structure is: ___$\log_m(n)$_____.

Therefore: The number of seeks is no more than ___$\log_m(n)$_____.