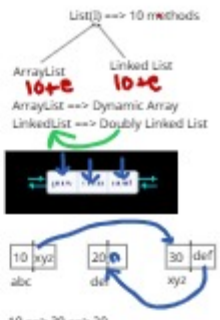
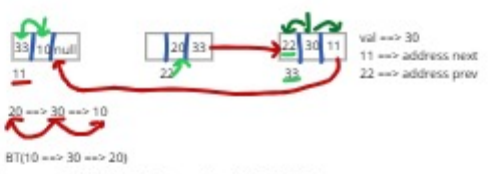
Singly Linked List



10 ==> 30 ==> 20



20 ==> 30 ==> 10

BT(10 ==> 30 ==> 20)

Java uses Doubly Linked List over Singly Linked List!

Advantage of DLL over SLL?

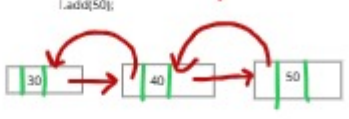
10 ==> 30 ==> 20 (Forward Traversal) ✓

Backward Traversal

20 ==> 30 ==> 10 ✗

Programmer ==> Forward + Backward

```
LinkedList l = new LinkedList();
    l.add(30);
    l.add(40);
    l.add(50);
```



List(I) ==> 10+ methods ==> add()

AL LL

ensureCapacity() ==> belongs to only ArrayList class

A reference variable can be of the type class OR it can also be of the type interface which is implementung that class

Set Interface(methods)

HashSet

==> It implements Set interface
==> Insertion order is not maintained
==> Output gets displayed based on the bucket order
==> HashSet uses Hash Table datastructure

ArrayList ==> stores data inside a dynamic array
LinkedList ==> stores data inside a DLL
HashSet ==> stores data inside a Hash Table

```
hs.add(10);
hs.add(23);
hs.add(45);
```

bucketNo ==> element && (bucketLength - 1)

bukcetNo = 10 && (16 - 1)
bukcetNo = 10 && 15

10 && 15
1010 && 1111
1010 ==> 10

23 && 15

10111 && 01111
00111 ==> 7

45 && 15
101101 && 001111
001101 ==> 13

HashSet ==> HashTable
LinkedHashSet ==> HashTable + Doubly Linked List

" ([{}]) "

balanced

If a string is balanced ==> return true
else
return false(string is not balanced)

" [](){} "

" [(){}] "

"][(){}] "

First opening bracket should be closed first
OR
Last opened brack should be closed first

Last information i want first, and first information i want last ==> STACK

4 methods

"[({})]"

```
if(i == '['){ s.push(']')
if(i == '('){ s.push(')')
if(i == '{'){ s.push('}')

else
{
   i => )
}
```

s.pop()

([{}])

temperatures = [73,74,75,71,69,72,76,73]
output = [1,1, 4,2,1,1,0,0]

temp = [73, 74, 75, 71, 69, 72, 76, 73]
int[] answer = new int[temp.length];
answer = [0, 0, 0, 0, 0, 0, 0, 0]

[73, 74, 75, 71, 69, 72, 76, 73]

74 > 73 ==> we got to know the warmer temperate for index 0

1 - 0 ==> 1

[1, 1, 4, 2, 1, 1, 0, 0]

stack basically stores the index no of the day until we get a higher temperature

75 > 74 ==>

2 - 1 ==> 1

71 > 75 ==> we did not find any warmer day for 75