Solution Review: Check If List Is Sorted

This lesson will explain how to check if a list is sorted.

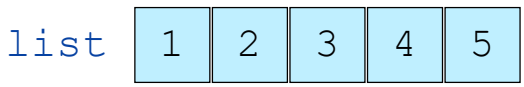
WE'LL COVER THE FOLLOWING

Solution: Use a Loop

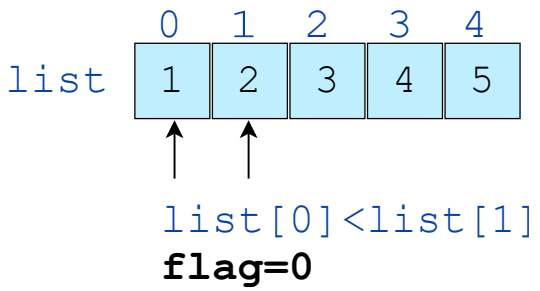
Use a while loop that iterates over the length of the list and checks if the previous element in the list is less than the next element. If so, a variable flag is set to true. If the flag is false, a list is sorted and vice versa.

The following illustrations explain the concept of sorting a list.

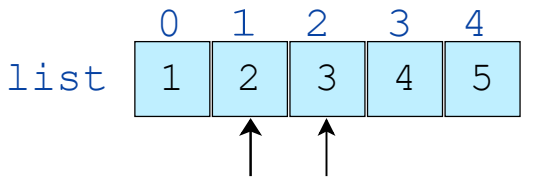
Case 1: If the list is sorted



1 of 6



2 of 6



list[1]<list[2]

flag=0

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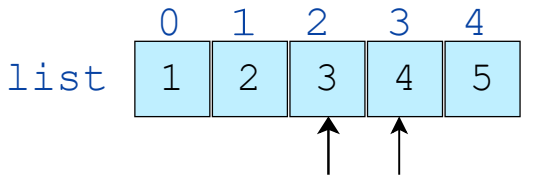
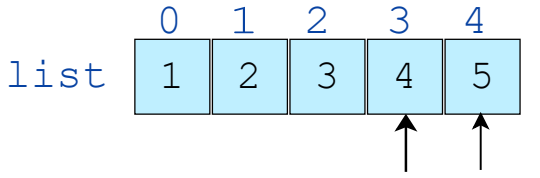


list[2]<list[3]

flag=0

4 of 6



list[3]<list[4]

flag=0

5 of 6

flag=0

List is Sorted

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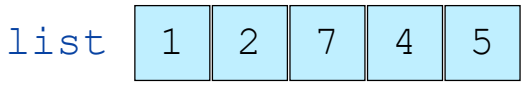
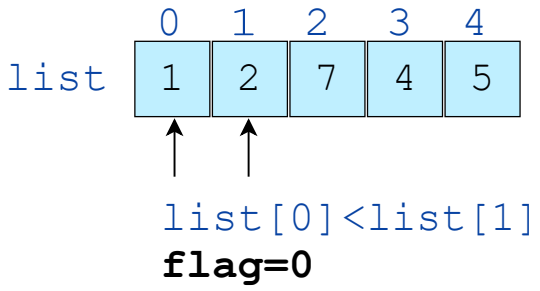
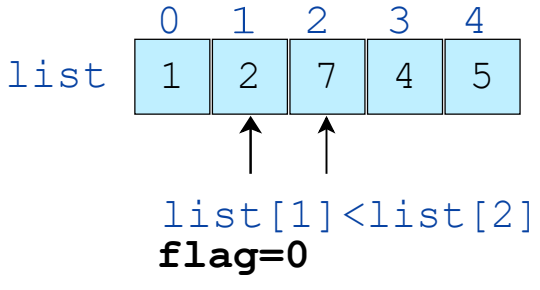
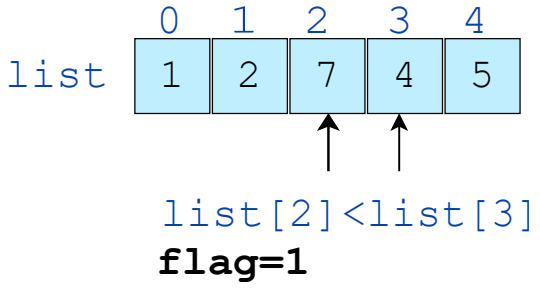
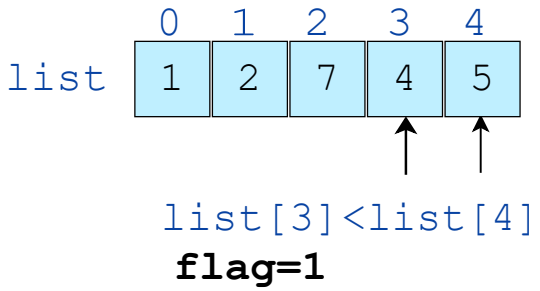
Case 2: If the list is not sorted


list
1
2
7
4
5


0 1 2 3 4
list
1
2
7
4
5
list[0]<list[1]
flag=0


0 1 2 3 4
list
1
2
7
4
5
list[1]<list[2]
flag=0


0 1 2 3 4
list
1
2
7
4
5
list[2]<list[3]
flag=1


0 1 2 3 4
list
1
2
7
4
5
list[3]<list[4]
flag=1

```
flag=1
List is UnSorted
```


The following python code demonstates how to check if the list is sorted.

```
def isSorted(list):
  flag = 0
  i = 1
  while i < len(list):
      if(list[i] < list[i - 1]): # compare with the previous element
          flag = 1
      i += 1

  if (not flag) :
      return True
  else :
      return False
print(isSorted([1,2,3,4,5]))
print(isSorted([1,2,5,4,2]))
```

Now, let's move on to the next problem.