

main.py

```
1 def arraysIntersection(arr1, arr2, arr3):  
2     return sorted(set(arr1) & set(arr2) & set(arr3))  
3  
4  
5 arr1 = [1, 2, 3, 4, 5]  
6 arr2 = [1, 2, 5, 7, 9]  
7 arr3 = [1, 3, 4, 5, 8]  
8 result = arraysIntersection(arr1, arr2, arr3)  
9 print(result)
```

[1, 5]

```
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Press ENTER to exit console.
```



main.py

```
1 def maxChunksToSorted(arr):
2     max_val = result = 0
3     for i, val in enumerate(arr):
4         max_val = max(max_val, val)
5         if max_val == i:
6             result += 1
7     return result
8
9 arr = [4, 3, 2, 1, 0]
10 result = maxChunksToSorted(arr)
11 print(result)
12
13
```

```
1
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Press ENTER to exit console.
```

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main.py

```
1 from collections import Counter
2
3 def frequencySort(s):
4     return ''.join(char * freq for char, freq in Counter(s).most_common())
5 s = "tree"
6 result = frequencySort(s)
7 print(result)
8
```

input

eeetr

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Press ENTER to exit console.

main.py

```

1 class ListNode:
2     def __init__(self, val=0, next=None):
3         self.val = val
4         self.next = next
5
6 def insertionSortList(head):
7     dummy = ListNode(0)
8     current = head
9     while current:
10        prev = dummy
11        while prev.next and prev.next.val < current.val:
12            prev = prev.next
13        next_temp = current.next
14        current.next = prev.next
15        prev.next = current
16        current = next_temp
17    return dummy.next
18 head = ListNode(4, ListNode(2, ListNode(1, ListNode(3))))
19 result = insertionSortList(head)
20 while result:
21     print(result.val, end=' -> ')
22     result = result.next
23

```

input

1 -&gt; 2 -&gt; 3 -&gt; 4 -&gt;

```

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Press ENTER to exit console.

```



main.py

```
1 class TreeNode:
2     def __init__(self, val=0, left=None, right=None):
3         self.val = val
4         self.left = left
5         self.right = right
6
7 def sortedArrayToBST(nums):
8     if not nums:
9         return None
10    mid = len(nums) // 2
11    root = TreeNode(nums[mid])
12    root.left = sortedArrayToBST(nums[:mid])
13    root.right = sortedArrayToBST(nums[mid+1:])
14    return root
15
16 nums = [-10, -3, 0, 5, 9]
17 result = sortedArrayToBST(nums)
18
19 def preOrder(node):
20     if node:
21         print(node.val, end=' ')
22         preOrder(node.left)
23         preOrder(node.right)
24
25 preOrder(result)
```



input

0 -3 -10 9 5

```
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```





main.py

```

1 def merge(nums1, m, nums2, n):
2     while m > 0 and n > 0:
3         if nums1[m-1] > nums2[n-1]:
4             nums1[m+n-1] = nums1[m-1]
5             m -= 1
6         else:
7             nums1[m+n-1] = nums2[n-1]
8             n -= 1
9     nums1[:n] = nums2[:n]
10
11 nums1 = [1, 2, 3, 0, 0, 0]
12 m = 3
13 nums2 = [2, 5, 6]
14 n = 3
15 merge(nums1, m, nums2, n)
16 print(nums1)
17
    
```

input

[1, 2, 2, 3, 5, 6]

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Press ENTER to exit console.

main.py

```
1 class ListNode:
2     def __init__(self, val=0, next=None):
3         self.val = val
4         self.next = next
5
6 def deleteDuplicates(head):
7     current = head
8     while current and current.next:
9         if current.val == current.next.val:
10            current.next = current.next.next
11        else:
12            current = current.next
13    return head
14 head = ListNode(1, ListNode(1, ListNode(2)))
15 result = deleteDuplicates(head)
16 while result:
17     print(result.val, end=' -> ')
18     result = result.next
19
```

input

```
1 -> 2 ->
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Press ENTER to exit console.
```

main.py

```
1 def sortColors(nums):
2     lo, hi, i = 0, len(nums) - 1, 0
3     while i <= hi:
4         if nums[i] == 0:
5             nums[i], nums[lo] = nums[lo], nums[i]
6             lo += 1
7         elif nums[i] == 2:
8             nums[i], nums[hi] = nums[hi], nums[i]
9             hi -= 1
10        i += 1
11
12 nums = [2, 0, 2, 1, 1, 0]
13 sortColors(nums)
14 print(nums)
15
```

input

```
[0, 0, 1, 1, 2, 2]
```

```
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Press ENTER to exit console.
```





main.py

```

1 def searchRange(nums, target):
2     def find(nums, target):
3         lo, hi = 0, len(nums) - 1
4         while lo <= hi:
5             mid = (lo + hi) // 2
6             if nums[mid] < target:
7                 lo = mid + 1
8             else:
9                 hi = mid - 1
10        return lo
11
12    start = find(nums, target)
13    end = find(nums, target + 1) - 1
14    return (start, end) if start <= end else [-1, -1]
15
16 nums = [5, 7, 7, 8, 8, 10]
17 target = 8
18 result = searchRange(nums, target)
19 print(result)
20

```






 input

(3, 4)

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main.py

```

1 def search(nums, target):
2     lo, hi = 0, len(nums) - 1
3     while lo <= hi:
4         mid = (lo + hi) // 2
5         if nums[mid] == target:
6             return mid
7         if nums[lo] <= nums[mid]:
8             if nums[lo] <= target < nums[mid]:
9                 hi = mid - 1
10            else:
11                lo = mid + 1
12        else:
13            if nums[mid] < target <= nums[hi]:
14                lo = mid + 1
15            else:
16                hi = mid - 1
17    return -1
18
19 nums = [4, 5, 6, 7, 0, 1, 2]
20 target = 0
21 index = search(nums, target)
22 print(index)
23

```

4

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main.py

```
1 def removeDuplicates(nums):
2     if not nums:
3         return 0
4     j = 0
5     for i in range(1, len(nums)):
6         if nums[i] != nums[j]:
7             j += 1
8             nums[j] = nums[i]
9     return j + 1
10
11 nums = [1, 1, 2]
12 new_length = removeDuplicates(nums)
13 print(nums[:new_length])
14
```

input

[1, 2]

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Press ENTER to exit console.

main.py

1

class ListNode:

2

def \_\_init\_\_(self, val=0, next=None):

3

self.val = val

4

self.next = next

5

6

def mergeTwoLists(l1, l2):

7

dummy = ListNode(0)

8

tail = dummy

9

while l1 and l2:

10

if l1.val < l2.val:

11

tail.next, l1 = l1, l1.next

12

else:

13

tail.next, l2 = l2, l2.next

14

tail = tail.next

15

tail.next = l1 if l1 else l2

16

return dummy.next

17

l1 = ListNode(1, ListNode(2, ListNode(4)))

18

l2 = ListNode(1, ListNode(3, ListNode(4)))

19

result = mergeTwoLists(l1, l2)

20

while result:

21

print(result.val, end=' -> ')

22

result = result.next

23

input

1 -> 1 -> 2 -> 3 -> 4 -> 4 ->

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Press ENTER to exit console.





main.py

```

1 def merge(nums1, m, nums2, n):
2     while m > 0 and n > 0:
3         if nums1[m-1] > nums2[n-1]:
4             nums1[m+n-1] = nums1[m-1]
5             m -= 1
6         else:
7             nums1[m+n-1] = nums2[n-1]
8             n -= 1
9     nums1[:n] = nums2[:n]
10
11 nums1 = [1, 2, 3, 0, 0, 0]
12 m = 3
13 nums2 = [2, 5, 6]
14 n = 3
15 merge(nums1, m, nums2, n)
16 print(nums1)
17
    
```

input

```

[1, 2, 2, 3, 5, 6]
    
```

```

...Program finished with exit code 0
Press ENTER to exit console.
    
```





main.py

```

1 import heapq
2 class ListNode:
3     def __init__(self, val=0, next=None):
4         self.val = val
5         self.next = next
6
7 def mergeKLists(lists):
8     heap = [(lst.val, idx, lst) for idx, lst in enumerate(lists) if lst]
9     heapq.heapify(heap)
10    dummy = ListNode(0)
11    tail = dummy
12    while heap:
13        val, idx, node = heapq.heappop(heap)
14        tail.next = node
15        tail = tail.next
16        if node.next:
17            heapq.heappush(heap, (node.next.val, idx, node.next))
18    return dummy.next
19 l1 = ListNode(1, ListNode(4, ListNode(5)))
20 l2 = ListNode(1, ListNode(3, ListNode(4)))
21 l3 = ListNode(2, ListNode(6))
22 lists = [l1, l2, l3]
23 result = mergeKLists(lists)
24 while result:
25     print(result.val, end=' -> ')
26     result = result.next
27

```



input

1 -&gt; 1 -&gt; 2 -&gt; 3 -&gt; 4 -&gt; 4 -&gt;

```

...Program finished with exit code 0
Press ENTER to exit console.

```

File Explorer

