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online compiler and debugger for c/c++

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Learn Python with
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main.py

```
1 def two_sum(nums, target):
2     index_map = {}
3     for i, num in enumerate(nums):
4         complement = target - num
5         if complement in index_map:
6             return [index_map[complement], i]
7         index_map[num] = i
8
9     nums = [2, 7, 11, 15]
10    target = 9
11    print(two_sum(nums, target))
12
```



input

[0, 1]

...Program finished with exit code 0

Press ENTER to exit console.

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main.py

```
1 def add_two_numbers(l1, l2):
2     dummy_head = ListNode()
3     current = dummy_head
4     carry = 0
5     while l1 is not None or l2 is not None or carry:
6         val1 = l1.val if l1 else 0
7         val2 = l2.val if l2 else 0
8         total_sum = val1 + val2 + carry
9         carry = total_sum // 10
10        new_digit = total_sum % 10
11        current.next = ListNode(new_digit)
12        current = current.next
13        if l1:
14            l1 = l1.next
15        if l2:
16            l2 = l2.next
17    return dummy_head.next
18 def list_to_linked_list(lst):
19     if not lst:
20         return None
21     head = ListNode(lst[0])
22     current = head
23     for value in lst[1:]:
24         current.next = ListNode(value)
25         current = current.next
26    return head
27 def linked_list_to_list(node):
28     result = []
29     while node:
30         result.append(node.val)
31         node = node.next
32    return result
33 l1 = list_to_linked_list([2, 4, 3])
34 l2 = list_to_linked_list([5, 6, 4])
```



input

[0, 1]

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main.py

```
1 def findMedianSortedArrays(nums1, nums2):
2     nums = sorted(nums1 + nums2)
3     n = len(nums)
4     if n % 2 == 0:
5         return (nums[n // 2 - 1] + nums[n // 2]) / 2
6     else:
7         return nums[n // 2]
8
9 nums1 = [1, 3]
10 nums2 = [2]
11 print(findMedianSortedArrays(nums1, nums2))
12
```



input

2
...Program finished with exit code 0
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main.py

```
1 def length_of_longest_substring(s):
2     char_index_map = {}
3     left = 0
4     max_length = 0
5     for right in range(len(s)):
6         if s[right] in char_index_map and char_index_map[s[right]] >= left:
7             left = char_index_map[s[right]] + 1
8             char_index_map[s[right]] = right
9             max_length = max(max_length, right - left + 1)
10        return max_length
11 s = "abcabcbb"
12 print(length_of_longest_substring(s))
```



input

```
1
...Program finished with exit code 0
Press ENTER to exit console.
```



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main.py

```
1 def convert(s, numRows):
2     if numRows == 1 or numRows >= len(s):
3         return s
4
5     rows = [''] * numRows
6     index, step = 0, 1
7
8     for char in s:
9         rows[index] += char
10        if index == 0:
11            step = 1
12        elif index == numRows - 1:
13            step = -1
14        index += step
15
16    return ''.join(rows)
17
18 input_string = "PAYPALISHIRING"
19 num_rows = 3
20 output = convert(input_string, num_rows)
21 print(output)
22
```

PAHNAPLSIIGYIR

input

...Program finished with exit code 0
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main.py

```
1 class Solution:
2     def longestPalindrome(self, s: str) -> str:
3         def expandAroundCenter(left, right):
4             while left >= 0 and right < len(s) and s[left] == s[right]:
5                 left -= 1
6                 right += 1
7             return s[left + 1:right]
8         if len(s) < 1:
9             return ""
10        longest = ""
11        for i in range(len(s)):
12            palindrome1 = expandAroundCenter(i, i)
13            palindrome2 = expandAroundCenter(i, i + 1)
14            longest = max(longest, palindrome1, palindrome2, key=len)
15        return longest
16 s = "babad"
17 solution = Solution()
18 print(solution.longestPalindrome(s))
```



input

bab

```
...Program finished with exit code 0
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```



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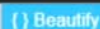
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main.py

```
1 class Solution:
2     def reverse(self, x: int) -> int:
3         if x < 0:
4             sign = -1
5         else:
6             sign = 1
7         x = abs(x)
8         reverse_x = int(str(x)[::-1]) * sign
9         if reverse_x < -2**31 or reverse_x > 2**31 - 1:
10             return 0
11         return reverse_x
12
13 x = 123
14 solution = Solution()
15 output = solution.reverse(x)
16 print(output)
17
```



input

321

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main.py Run Debug Stop Share Save Beautify

```
1 def myAtoi(string):
2     res = 0
3     for i in range(len(string)):
4         res = res * 10 + (ord(string[i]) - ord('0'))
5
6     return res
7
8 string = "89789"
9
10 print (myAtoi(string))
```



input

89789

...Program finished with exit code 0
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main.py

```
1 def isMatch(s, p):
2     if not p:
3         return not s
4     first_match = bool(s) and p[0] in {s[0], '.'}
5     if len(p) >= 2 and p[1] == '*':
6         return (isMatch(s, p[2:]) or
7                 first_match and isMatch(s[1:], p))
8     else:
9         return first_match and isMatch(s[1:], p[1:])
10 s = "aa"
11 p = "a"
12 print(isMatch(s, p))
13
```

⌵ 🔍 ⚙ 🗑

input

False

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main.py

```
1 def max_area(height):
2     max_area = 0
3     left = 0
4     right = len(height) - 1
5
6     while left < right:
7         width = right - left
8         h = min(height[left], height[right])
9         max_area = max(max_area, width * h)
10
11         if height[left] < height[right]:
12             left += 1
13         else:
14             right -= 1
15
16
17 height = [1, 8, 6, 2, 5, 4, 8, 3, 7]
18 print(max_area(height))
19
20
```



input

None

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



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main.py

```
1 def is_palindrome(x):
2     str_x = str(x)
3     return str_x == str_x[::-1]
4 x = 121
5 print(is_palindrome(x))
6 x = -121
7 print(is_palindrome(x))
8 x = 10
9 print(is_palindrome(x))
10
```

input

89789

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main.py

```
1 def romanToInt(s):
2     roman_dict = {'I': 1, 'V': 5, 'X': 10, 'L': 50, 'C': 100, 'D': 500, 'M': 1000}
3     result = 0
4     prev_value = 0
5
6     for char in s:
7         value = roman_dict[char]
8         if value > prev_value:
9             result += value - 2 * prev_value
10        else:
11            result += value
12        prev_value = value
13
14    return result
15 input_roman = "III"
16 output_integer = romanToInt(input_roman)
17 print(output_integer)
18
19
```



input

```
3
...Program finished with exit code 0
Press ENTER to exit console.
```



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main.py

```
1 def int_to_roman(num):
2     val = [
3         1000, 900, 500, 400,
4         100, 90, 50, 40,
5         10, 9, 5, 4,
6         1
7     ]
8     syms = [
9         "M", "CM", "D", "CD",
10        "C", "XC", "L", "XL",
11        "X", "IX", "V", "IV",
12        "I"
13    ]
14    roman_num = ''
15    i = 0
16    while num > 0:
17        for _ in range(num // val[i]):
18            roman_num += syms[i]
19            num -= val[i]
20        i += 1
21    return roman_num
22
23 num = 3
24 print(f"Input: num = {num}")
25 print(f"Output: \"{int_to_roman(num)}\"")
```



input

Input: num = 3

Output: "III"

...Program finished with exit code 0

Press ENTER to exit console.



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main.py

```
1 def longestCommonPrefix(strs):
2     if not strs:
3         return ""
4
5     strs.sort()
6     prefix = ""
7
8     for i in range(len(strs[0])):
9         if strs[0][i] == strs[-1][i]:
10            prefix += strs[0][i]
11        else:
12            break
13
14    return prefix
15
16 strs = ["flower", "flow", "flight"]
17 output = longestCommonPrefix(strs)
18 print(output)
19
```



input

fl

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main.py

```
1 def threeSumClosest(nums, target):
2     nums.sort()
3     closest_sum = float('inf')
4
5     for i in range(len(nums) - 2):
6         left, right = i + 1, len(nums) - 1
7
8         while left < right:
9             current_sum = nums[i] + nums[left] + nums[right]
10
11             if abs(target - current_sum) < abs(target - closest_sum):
12                 closest_sum = current_sum
13
14             if current_sum < target:
15                 left += 1
16             else:
17                 right -= 1
18
19     return closest_sum
20
21 nums = [-1, 2, 1, -4]
22 target = 1
23 print(threeSumClosest(nums, target))
24
25
```

input

2

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


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main.py

F9

```
1 from itertools import product
2
3 def letterCombinations(digits):
4     if not digits:
5         return []
6
7     phone = {'2': ['a', 'b', 'c'],
8             '3': ['d', 'e', 'f'],
9             '4': ['g', 'h', 'i'],
10            '5': ['j', 'k', 'l'],
11            '6': ['m', 'n', 'o'],
12            '7': ['p', 'q', 'r', 's'],
13            '8': ['t', 'u', 'v'],
14            '9': ['w', 'x', 'y', 'z']}
15
16     return [''.join(p) for p in product(*(phone[d] for d in digits))]
17
18 # Test the function with the example input
19 digits = "23"
20 print(letterCombinations(digits))
21
22
23
```



input

['ad', 'ae', 'af', 'bd', 'be', 'bf', 'cd', 'ce', 'cf']

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main.py

```
1 def threeSum(nums):
2     nums.sort()
3     res = []
4     for i in range(len(nums)-2):
5         if i > 0 and nums[i] == nums[i-1]:
6             continue
7         l, r = i+1, len(nums)-1
8         while l < r:
9             total = nums[i] + nums[l] + nums[r]
10            if total < 0:
11                l += 1
12            elif total > 0:
13                r -= 1
14            else:
15                res.append([nums[i], nums[l], nums[r]])
16                while l < r and nums[l] == nums[l+1]:
17                    l += 1
18                while l < r and nums[r] == nums[r-1]:
19                    r -= 1
20                l += 1
21                r -= 1
22        return res
23 nums = [-1, 0, 1, 2, -1, -4]
24 print(threeSum(nums))
25
```

input

[[-1, -1, 2], [-1, 0, 1]]

...Program finished with exit code 0

Press ENTER to exit console.



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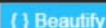
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main.py

```
1 def remove_nth_from_end(head, n):
2     dummy = ListNode(0, head)
3     first = dummy
4     second = dummy
5     for _ in range(n + 1):
6         first = first.next
7     while first:
8         first = first.next
9         second = second.next
10    second.next = second.next.next
11    return dummy.next
12 def list_to_linked_list(lst):
13     if not lst:
14         return None
15     head = ListNode(lst[0])
16     current = head
17     for value in lst[1:]:
18         current.next = ListNode(value)
19         current = current.next
20     return head
21
22 def linked_list_to_list(node):
23     result = []
24     while node:
25         result.append(node.val)
26         node = node.next
27     return result
28 head = list_to_linked_list([1, 2, 3, 4, 5])
29 n = 2
30 result = remove_nth_from_end(head, n)
31 print(linked_list_to_list(result))
32
```



input

['ad', 'ae', 'af', 'bd', 'be', 'bf', 'cd', 'ce', 'cf']

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



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main.py

```
1 def fourSum(nums, target):
2     nums.sort()
3     results = []
4     n = len(nums)
5     for i in range(n - 3):
6         if i > 0 and nums[i] == nums[i - 1]:
7             continue
8         for j in range(i + 1, n - 2):
9             if j > i + 1 and nums[j] == nums[j - 1]:
10                continue
11            left = j + 1
12            right = n - 1
13            while left < right:
14                total = nums[i] + nums[j] + nums[left] + nums[right]
15                if total == target:
16                    results.append([nums[i], nums[j], nums[left], nums[right]])
17                    while left < right and nums[left] == nums[left + 1]:
18                        left += 1
19                    while left < right and nums[right] == nums[right - 1]:
20                        right -= 1
21                left += 1
22                right -= 1
23            elif total < target:
24                left += 1
25            else:
26                right -= 1
27    return results
28 nums = [1, 0, -1, 0, -2, 2]
29 target = 0
30 print(fourSum(nums, target))
31
32
```

input

[[-1, -1, 2], [-1, 0, 1]]

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```
1 class ListNode:
2     def __init__(self, val=0, next=None):
3         self.val = val
4         self.next = next
5
6     def removeNthFromEnd(head, n):
7         dummy = ListNode(0)
8         dummy.next = head
9         length = 0
10        first = head
11        while first:
12            length += 1
13            first = first.next
14        length -= n
15        first = dummy
16        while length > 0:
17            length -= 1
18            first = first.next
19        first.next = first.next.next
20        return dummy.next
21
22
```

input

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