15. 3Sum

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Given an array nums of n integers, are there elements a, b, c in nums such that a + b + c = 0? Find all unique triplets in the array which gives the sum of zero.

Note:

The solution set must not contain duplicate triplets.

Example:

Given array nums = [-1, 0, 1, 2, -1, -4],

A solution set is: [[-1, 0, 1], [-1, -1, 2]]

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In [30]: nums=[-1,0,1,2,-1,-4]

         class Solution():
             def threeSum(self,nums):
                 nums.sort()
                 res=[]
                 for i in range(len(nums)):
                     if i>0 and nums[i]==nums[i-1]:
                         continue
                     target=nums[i]*-1
                     s=i+1
                     e=len(nums)-1
                     while s<e:
                         if nums[s]+nums[e]==target:
                             res.append([nums[s],nums[e],nums[i]])
                             s=s+1
                             while s<e and nums[s]==nums[s-1]:
                                 s=s+1
                         elif nums[s]+nums[e]<target:
                             s=s+1
                         elif nums[s]+nums[e]>target:
                             e=e-1
                 return res


         mysol=Solution()
         print(mysol.threeSum(nums))
```

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