

Our Solution(s)

Run Code

Your Solutions

Run Code

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System.Collections.Generic;
4
5 // Average: O(n^2) time | O(n^2) space
6 // Worst: O(n^3) time | O(n^2) space
7 public class Program {
8     public static List<int[]> FourNumberSum(int[] array, int targetSum)
9     {
10         Dictionary<int, List<int[]>> allPairSums = new Dictionary<int, List<int[]>>();
11         List<int[]> quadruplets = new List<int[]>();
12         for (int i = 1; i < array.Length - 1; i++) {
13             for (int j = i + 1; j < array.Length; j++) {
14                 int currentSum = array[i] + array[j];
15                 int difference = targetSum - currentSum;
16                 if (allPairSums.ContainsKey(difference)) {
17                     foreach (int[] pair in allPairSums[difference]) {
18                         int[] newQuadruplet =
19                             {pair[0], pair[1], array[i], array[j]};
20                         quadruplets.Add(newQuadruplet);
21                     }
22                 }
23             }
24             for (int k = 0; k < i; k++) {
25                 int currentSum = array[i] + array[k];
26                 int[] pair = {array[k], array[i]};
27                 if (!allPairSums.ContainsKey(currentSum)) {
28                     List<int[]> pairGroup = new List<int[]>();
29                     pairGroup.Add(pair);
30                     allPairSums.Add(currentSum, pairGroup);
31                 } else {
32                     allPairSums[currentSum].Add(pair);
33                 }
34             }
35         }
36         return quadruplets;
37     }
38 }
```

Solution 1 Solution 2 Solution 3

```
1 using System.Collections.Generic;
2
3 public class Program {
4     public static List<int[]> FourNumberSum(int[] array, int targetSum)
5     {
6         // Write your code here.
7         return null;
8     }
9 }
```

Our Tests

Custom Output

Submit Code

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System.Collections.Generic;
4
5 // Average: O(n^2) time | O(n^2) space
6 // Worst: O(n^3) time | O(n^2) space
7 public class Program {
8     public static List<int[]> FourNumberSum(int[] array, int targetSum)
9     {
10         Dictionary<int, List<int[]>> allPairSums = new Dictionary<int, List<int[]>>();
11         List<int[]> quadruplets = new List<int[]>();
12         for (int i = 1; i < array.Length - 1; i++) {
13             for (int j = i + 1; j < array.Length; j++) {
14                 int currentSum = array[i] + array[j];
15                 int difference = targetSum - currentSum;
16                 if (allPairSums.ContainsKey(difference)) {
17                     foreach (int[] pair in allPairSums[difference]) {
18                         int[] newQuadruplet =
19                             {pair[0], pair[1], array[i], array[j]};
20                         quadruplets.Add(newQuadruplet);
21                     }
22                 }
23             }
24             for (int k = 0; k < i; k++) {
25                 int currentSum = array[i] + array[k];
26                 int[] pair = {array[k], array[i]};
27                 if (!allPairSums.ContainsKey(currentSum)) {
28                     List<int[]> pairGroup = new List<int[]>();
29                     pairGroup.Add(pair);
30                     allPairSums.Add(currentSum, pairGroup);
31                 } else {
32                     allPairSums[currentSum].Add(pair);
33                 }
34             }
35         }
36         return quadruplets;
37     }
38 }
```

```

18         return self.__getitem__(i)
19     def __getitem__(self, i):
20         return self.__getitem__(i)
21     def __getitem__(self, i):
22         return self.__getitem__(i)
23     def __getitem__(self, i):
24         return self.__getitem__(i)
25     def __getitem__(self, i):
26         return self.__getitem__(i)
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93     def __getitem__(self, i):
94         return self.__getitem__(i)
95     def __getitem__(self, i):
96         return self.__getitem__(i)
97     def __getitem__(self, i):
98         return self.__getitem__(i)
99     def __getitem__(self, i):
100        return self.__getitem__(i)

```

Run or submit code when you're ready.