

Assignment -1 : Indices

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Advanced Algorithms

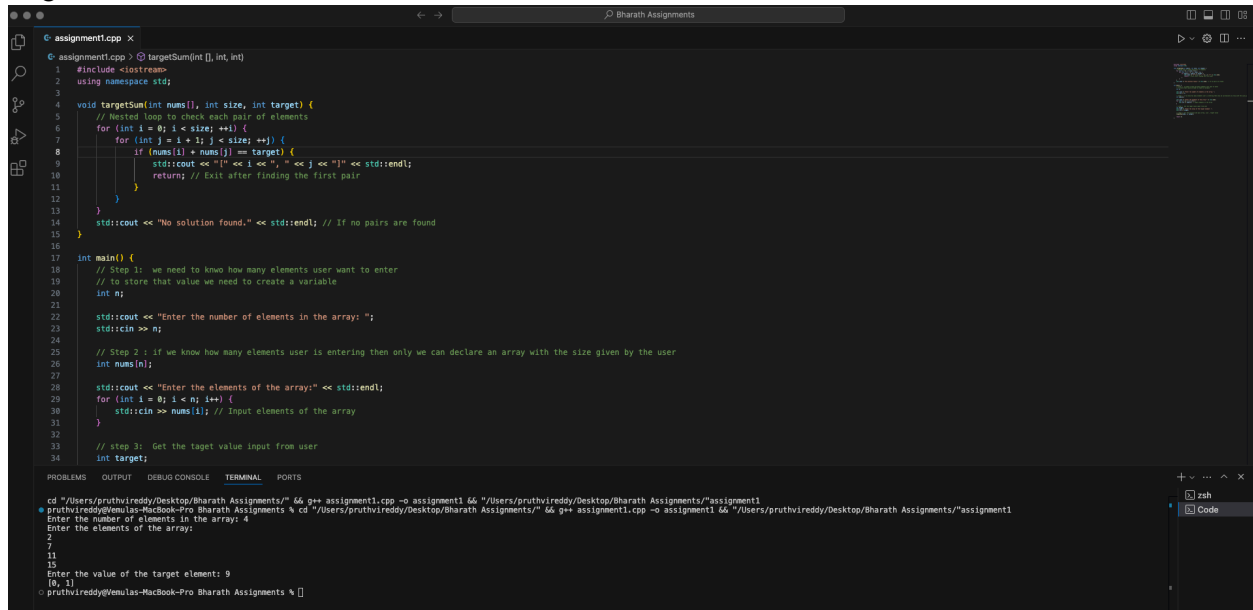
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Assignment 1 : Indices

Example 1:

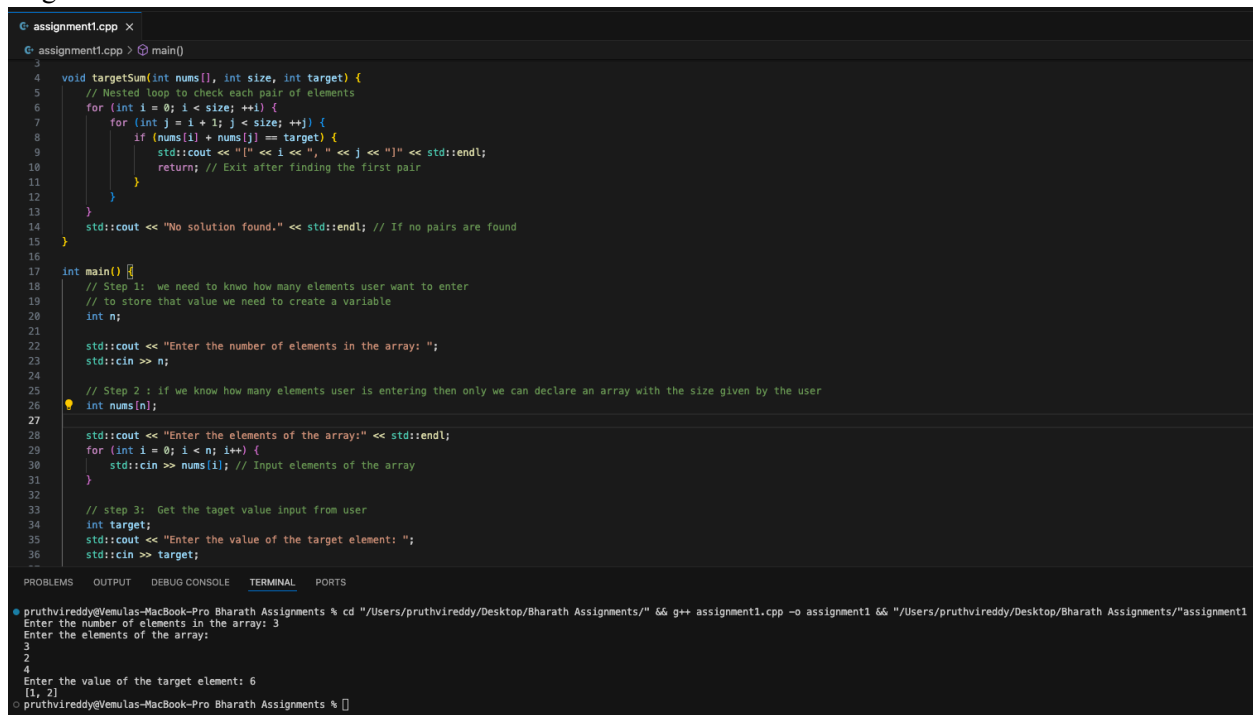
Input - [2,7,11,15]
Target : 9



```
1 #include <iostream>
2 using namespace std;
3
4 void targetSum(int nums[], int size, int target) {
5     // Nested loop to check each pair of elements
6     for (int i = 0; i < size; ++i) {
7         for (int j = i + 1; j < size; ++j) {
8             if (nums[i] + nums[j] == target) {
9                 std::cout << "i" << i << ", " << j << " " << std::endl;
10                return; // Exit after finding the first pair
11            }
12        }
13    }
14    std::cout << "No solution found." << std::endl; // If no pairs are found
15 }
16
17 int main() {
18     // Step 1: we need to know how many elements user want to enter
19     // to store that value we need to create a variable
20     int n;
21
22     std::cout << "Enter the number of elements in the array: ";
23     std::cin >> n;
24
25     // Step 2 : If we know how many elements user is entering then only we can declare an array with the size given by the user
26     int nums[n];
27
28     std::cout << "Enter the elements of the array:" << std::endl;
29     for (int i = 0; i < n; i++) {
30         std::cin >> nums[i]; // Input elements of the array
31     }
32
33     // step 3: Get the target value input from user
34     int target;
35
36     cd "/Users/pruthivireddy/Desktop/Bharath Assignments/" && g++ assignment1.cpp -o assignment1 && "/Users/pruthivireddy/Desktop/Bharath Assignments/"assignment1
37     pruthivireddy@Vemulas-MacBook-Pro Bharath Assignments % cd "/Users/pruthivireddy/Desktop/Bharath Assignments/" && g++ assignment1.cpp -o assignment1 && "/Users/pruthivireddy/Desktop/Bharath Assignments/"assignment1
38     Enter the number of elements in the array: 4
39     Enter the elements of the array:
40     2
41     7
42     11
43     15
44     Enter the value of the target element: 9
45     [0, 1]
46     pruthivireddy@Vemulas-MacBook-Pro Bharath Assignments %
```

Example 2:

Input [3,2,4]
Target : 6



```
3
4 void targetSum(int nums[], int size, int target) {
5     // Nested loop to check each pair of elements
6     for (int i = 0; i < size; ++i) {
7         for (int j = i + 1; j < size; ++j) {
8             if (nums[i] + nums[j] == target) {
9                 std::cout << "i" << i << ", " << j << " " << std::endl;
10                return; // Exit after finding the first pair
11            }
12        }
13    }
14    std::cout << "No solution found." << std::endl; // If no pairs are found
15 }
16
17 int main() {
18     // Step 1: we need to know how many elements user want to enter
19     // to store that value we need to create a variable
20     int n;
21
22     std::cout << "Enter the number of elements in the array: ";
23     std::cin >> n;
24
25     // Step 2 : If we know how many elements user is entering then only we can declare an array with the size given by the user
26     int nums[n];
27
28     std::cout << "Enter the elements of the array:" << std::endl;
29     for (int i = 0; i < n; i++) {
30         std::cin >> nums[i]; // Input elements of the array
31     }
32
33     // step 3: Get the target value input from user
34     int target;
35     std::cout << "Enter the value of the target element: ";
36     std::cin >> target;
37
38     cd "/Users/pruthivireddy/Desktop/Bharath Assignments/" && g++ assignment1.cpp -o assignment1 && "/Users/pruthivireddy/Desktop/Bharath Assignments/"assignment1
39     pruthivireddy@Vemulas-MacBook-Pro Bharath Assignments % cd "/Users/pruthivireddy/Desktop/Bharath Assignments/" && g++ assignment1.cpp -o assignment1 && "/Users/pruthivireddy/Desktop/Bharath Assignments/"assignment1
40     Enter the number of elements in the array: 3
41     Enter the elements of the array:
42     3
43     2
44     4
45     Enter the value of the target element: 6
46     [1, 2]
47     pruthivireddy@Vemulas-MacBook-Pro Bharath Assignments %
```

Example 3:

Input [3,3]

Target : 6

```
assignment1.cpp x
assignment1.cpp > main()
4 void targetSum(int nums[], int size, int target) {
5     // Nested loop to check each pair of elements
6     for (int i = 0; i < size; ++i) {
7         for (int j = i + 1; j < size; ++j) {
8             if (nums[i] + nums[j] == target) {
9                 std::cout << "[" << i << ", " << j << "]" << std::endl;
10                return; // Exit after finding the first pair
11            }
12        }
13    }
14    std::cout << "No solution found." << std::endl; // If no pairs are found
15 }
16
17 int main() {
18     // Step 1: we need to know how many elements user want to enter
19     // to store that value we need to create a variable
20     int n;
21
22     std::cout << "Enter the number of elements in the array: ";
23     std::cin >> n;
24
25     // Step 2 : if we know how many elements user is entering then only we can declare an array with the size given by the user
26     int nums[n];
27
28     std::cout << "Enter the elements of the array:" << std::endl;
29     for (int i = 0; i < n; ++i) {
30         std::cin >> nums[i]; // Input elements of the array
31     }
32
33     // step 3: Get the target value input from user
34     int target;
35     std::cout << "Enter the value of the target element: ";
36     std::cin >> target;
37
38 PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
● pruthvireddy@Vemulas-MacBook-Pro Bharath Assignments % cd "/Users/pruthvireddy/Desktop/Bharath Assignments/" && g++ assignment1.cpp -o assignm
Enter the number of elements in the array: 2
Enter the elements of the array:
3
3
Enter the value of the target element: 6
[0, 1]
○ pruthvireddy@Vemulas-MacBook-Pro Bharath Assignments %
```

1) How long did you spend on this assignment ?

I spent approximately 2-3 hours working on this assignment, including time for researching, coding, testing, and debugging.

2) Based on your effort, What letter grade would you say you earned ?

I believe I earned grade A, as I put consistent effort to implement the solution and tested thoroughly.

3) Based on your solution, what letter grade would you say you earned ?

The solution is working as per the requirement so I grade it as “A” , but might me some areas where we can optimize it to perform better.

4) Provide a summary of what doesn't work in your solution, along with an explanation of how you attempted to solve the problem and where you feel you struggled ?

My solution is working as per the requirements, but u faced minor struggle with identifying why my output was slightly off for certain inputs. I reviewed the logic a couple of times but overlooked the loop boundaries. To solve this I added print statements to trace the loop execution. After correcting my loop the solution started working as expected.