**Assignment 1**

**PROGRAM to understanding of Arrays in C++:**

#include <unordered\_map>

#include <vector>

class Solution {

public:

std::vector<int> twoSum(std::vector<int>& nums, int target) {

std::unordered\_map<int, int> table;

for (int i = 0; i < nums.size(); ++i) {

int complement = target - nums[i];

if (table.count(complement)) {

return {table[complement], i};

}

table[nums[i]] = i;

}

return {};

}

};

Example 1:

std::vector<int> nums{2, 7, 11, 15};

int target = 9;

Solution sol;

std::vector<int> result = sol.twoSum(nums, target);

// result should be {0, 1}

Example 2:

std::vector<int> nums{3, 2, 4};

int target = 6;

Solution sol;

std::vector<int> result = sol.twoSum(nums, target);

// result should be {1, 2}

Example 3:

std::vector<int> nums{3, 3};

int target = 6;

Solution sol;

std::vector<int> result = sol.twoSum(nums, target);

// result should be {0, 1}