Remove Duplicates In Array

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Platform	GeeksForGeeks
difficulty	Easy
tags	Vector set
language	C++
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link	https://www.geeksforgeeks.org/problems/remove-duplicates-in-small-prime-array/1
Completion	☑

Intuition

To remove duplicates from an array, we need to keep only the first occurrence of each element while ignoring any subsequent occurrences. Using an unordered set allows us to efficiently track which elements have already been seen.

Approach

1. Initialize an unordered set to track unique elements.
2. Iterate over the array:
    - For each element, check if it is in the set.
    - If not, add it to the result vector and insert it into the set.
3. Return the result vector containing only the first occurrences of each unique element in the order they appeared in the original array.

Complexity

Time Complexity:

- **O(N)**, where **N** is the number of elements in the input array. Each element is processed once, and checking and inserting in an unordered set both take average O(1) time.

Space Complexity:

- **O(N)** for storing elements in the set and the answer vector.

Code

```
class Solution {
  public:
    vector<int> removeDuplicate(vector<int>& arr) {
        unordered_set<int> mySet;
        vector<int> answer;
        for(auto elem: arr){
            if(mySet.find(elem) == mySet.end()){
                answer.push_back(elem);
```

```
                mySet.insert(elem);
            }
        }
        return answer;
    }
};
```