**COMPETITIVE PROGRAMMING**

**PROBLEM 2:**

FINDING DUPLICATES-O(N) TIME COMPLEXITY,O(1) SPACE COMPLEXITY

AIM:  
Find Duplicate in Array.

Given a read only array of n integers between 1 and n, find one number that repeats.

CODE:

#include <stdio.h>

#include<stdlib.h>

int main() {

int n;

scanf("%d", &n);

int arr[n];

for (int i = 0; i < n; i++)

{

scanf("%d", &arr[i]);

}

for (int i = 0; i < n; i++)

{

int index = abs(arr[i]) - 1;

if (arr[index] < 0)

{

printf("%d ", abs(arr[i]));

} else

{

arr[index] = -arr[index];

}

}

return 0;

}

INPUT AND OUTPUT:

