**Max distance between same elements**

Submissions: [1616](https://practice.geeksforgeeks.org/problem_submissions.php?pid=700402)  Accuracy:

55.72%

   Difficulty: [Easy](https://practice.geeksforgeeks.org/Easy/1/0/)   Marks: 2

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Given an array with repeated elements, the task is to find the maximum distance between two occurrences of an element.

**Input:**

The first line of input will contain no of test cases T . Then T test cases follow . Each test case contains 2 lines. The first line of each test case contains an integer N denoting the number of elements in the array, the next line contains N space separated integer's.

**Output:**

For each test case in new line print the Maximum distance between two occurrences of an element

**Constraints:**

1<=T<=100

1<=N<=1000

**Example:**

**Input**

2  
6  
1 1 2 2 2 1  
12  
3 2 1 2 1 4 5 8 6 7 4 2

**Output**

5  
10

**Explanation**

Test case 1:   
arr[] = {1, 1, 2, 2, 2, 1}  
Max Distance: 5  
Distance for 1 is: 5-0 = 5  
Distance for 2 is : 4-2 = 2  
Max Distance 5

Test case 2:  
arr[] = {3, 2, 1, 2, 1, 4, 5, 8, 6, 7, 4, 2}  
Max Distance 10  
maximum distance for 2 is 11-1 = 10  
maximum distance for 1 is 4-2 = 2  
maximum distance for 4 is 10-5 = 5

**Note:**The **Input/Ouput** format and **Example**given are used for system's internal purpose, and should be used by a user for **Expected Output** only. As it is a function problem, hence a user should not read any input from stdin/console. The task is to complete the function specified, and not to write the full code.

\*\* For More Input/Output Examples Use ['Expected Output'](https://practice.geeksforgeeks.org/problems/max-distance-between-same-elements/1#ExpectOP) option \*\*

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#include <stdio.h>

#include <iostream>

#include <map>

using namespace std;

int maxDistance(int arr[], int n)

{

    //Code here

    std::map<int,int> mapa;

    int maxim = 0;

    for(int i =0; i < n; i++) {

        if(mapa.find(arr[i]) != mapa.end())

        {

            maxim = max(maxim,  i - mapa[arr[i]]);

        }

        else

        {

            mapa[arr[i]] = i;

        }

    }

    return maxim;

}

int main() {

    int arr[] = {13, 2, 1, 2, 1, 4, 15, 8 ,9 ,7 ,4 ,2 ,3 ,6 ,2};

    int n = sizeof(int)/sizeof(arr);

    cout << maxDistance(arr, n) << endl;

   return 0;

}