

PA1

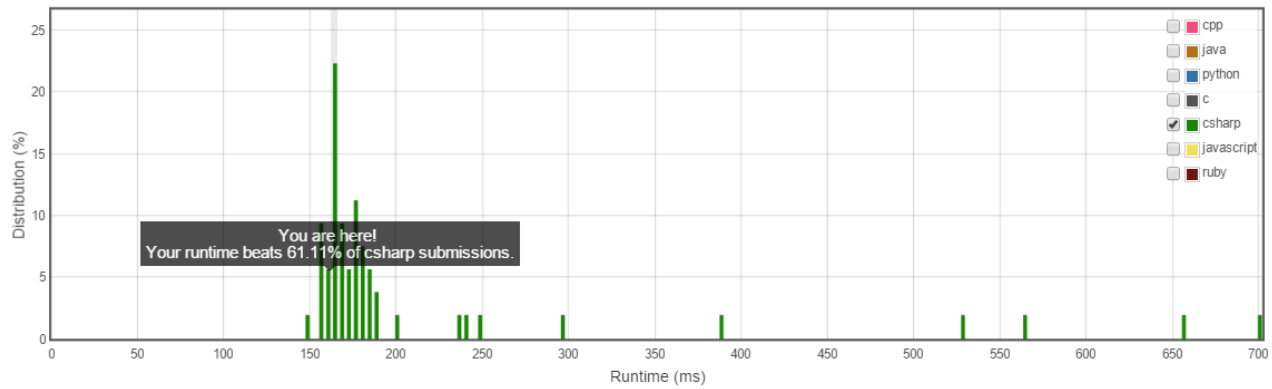
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[Number of Islands](#)

Submission Details

45 / 45 test cases passed. Status: **Accepted**
Runtime: 164 ms Submitted: 1 day, 19 hours ago

Accepted Solutions Runtime Distribution



My Submissions for [Number of Islands](#)

Submit Time	Status	Run Time	Language
1 day, 19 hours ago	Accepted	164 ms	csharp

← Newer

Older →

Code(CSharp):

```
using System;  
using System.Linq;
```

```
public class Solution {
    private int[] id;

    private int find(int _id) {
        var node = _id;
        while (node != id[node]) {
            node = id[node];
        }
        var root = node;
        node = _id;
        while (node != id[node]) {
            _id = id[node];
            id[node] = root;
            node = _id;
        }
        return root;
    }

    private void union(int _node1, int _node2) {
        var father1 = find(_node1);
        var father2 = find(_node2);
        id[father1] = father2;
        return;
    }

    public int NumIslands(char[,] grid) {
        id = new int[grid.GetLength(0) * grid.GetLength(1)];
    }
}
```

```

for (var i = 0; i < id.Length; i++) {
    id[i] = i;
}
var width = grid.GetLength(1);
for (var i = 0; i <= grid.GetUpperBound(0); i++) {
    for (var j = 0; j <= grid.GetUpperBound(1); j++) {
        if (grid[i, j] == '1') {
            if (i > 0 && grid[i - 1, j] == '1') {
                union(i * width + j, (i - 1) * width + j);
            }
            if (j > 0 && grid[i, j - 1] == '1') {
                union(i * width + j, i * width + j - 1);
            }
        }
        else {
            id[i * width + j] = -1;
        }
    }
}

return (from father in id where father >= 0 select
find(father)).Distinct().Count();
}
}

```