

Q

Number of Islands Program

the count islands (neighbours)

count islands (int a[] (10))

{ for (int j = 0; j < n; j++)

{ for (int k = 0; k < m; k++)

{ if (a[j][k] == 0)

~~if~~ continue;

if (j+1 < n && a[j+1][k] == 1)

des → union (j * (m) + k, (j+1) * m + k);

if (j-1 >= 0 && a[j-1][k] == 1)

des → union (j * (m) + k,
(j-1) * m + k);

if (k+1 < m && a[j][k+1] == 1)

des → union (j * (m) + k,
(j) * (m) + k+1);

if (j+1 < n && k+1 < m && a[j+1][k+1] == 1)

des → union (j * (m) + k,
(j+1) * (m) + k+1);

if (j+1 < n && k-1 >= 0 && a[j+1][k-1] == 1)

des → union (j * m + k,
(j+1) * m + k-1);

if (j-1 >= 0 && k-1 >= 0 && a[j-1][k-1] == 1)

des → union (j * m + k, (j-1) * m + k-1);

num of island = 0

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

for (int k = 0; k < m; k++)

if (0 <= 111(k) <= 0)

if (int x = dfs -> find(j * m + k),

if (C[k] == 0)

if (num of Islands++)

C[k]++;

}

else

C[x]++;

}

return num of Islands

}