

7-10-2020

MANU.N.Y
IRM18CS053

Island program

```
countIslands(int a[R][C]);  
d = Disjoint Set (n*m);  
for i=0 to i=R  
    for j=0 to j=C  
        if (a[i][j] == 1)  
            if (a[i+1][j] == 1)  
                d.union(i, j, i, j+1)  
            if (a[i][j+1] == 1)  
                d.union(i, j, i+1, j)  
            //  
            repeat similar for 8 possible neighbours  
    }  
  
count = 0, c[R*C] = {0}  
for i=0 to R  
    for j=0 to C  
        if (a[i][j] == 1)  
            x = d.find(i, j)  
            if (c[x] == 0)  
                count++  
                c[x]++  
            else  
                c[x]++  
  
return count
```

