

Find the number of islands

Revanth.NM

IBM18CS081

```
int reachable(int arr[][n], int i, int j, bool visited[][n])
{
    return (i >= 0) && (i < m) &&
           (j >= 0) && (j < n) &&
           (arr[i][j] && !visited[i][j]);
}
```

```
void adjislands(int arr[][n], int i, int j, bool visited[][n])
{
    int rowchange[] = { -1, -1, -1, 0, 0, 1, 1, 1 };
    int colchange[] = { -1, 0, 1, -1, 1, -1, 0, -1 };
    visited[i][j] = true;

    for (int k = 0; k < 8; k++)
        if (reachable(arr, rowchange[k] + i, colchange[k] + j, visited))
            adjislands(arr, rowchange[k] + i, colchange[k] + j, visited);
}
```

```
int islands(int arr[][n])
{
    bool visited[m][n];
    memset(visited, 0, sizeof(visited));
    int count = 0;
    for (int i = 0; i < m; i++)
        for (int j = 0; j < n; j++)
            if (arr[i][j] && !visited[i][j]) {
                adjislands(arr, i, j, visited);
                count++;
            }
}
```