

## Dijkstra:

MY task is to find the minimum cost value to go from the topleft corner to the bottom-right corner of a given 2D - number maze of size  $N \times M$  where  $1 \leq N, M \leq 999$ .

CODE:

```
#include<bits/stdc++.h>

using namespace std;

#define ll long long

ll edge[1005][1005],cost[1005][1005];

#define inf 0x3f3f3f3f

long long dis[1005][1005];

int fx[]={+1,-1,+0,+0};

int fy[]={+0,+0,+1,-1};

ll row,col;

class node
{
public:
    long long x,y,costt;

    bool operator < (const node & b)const
    {
        return costt > b.costt;
    }
};

long long dijkstra(ll srcx,ll srcy,ll desx,ll desy)
{
    memset(cost,inf,sizeof(cost));

    priority_queue<node>pq;

    node u,v;

    u.x = srcx;

    u.y = srcy;

    u.costt = dis[srcx][srcy];

    pq.push(u);

    cost[srcx][srcy] = dis[srcx][srcy];

    while(!pq.empty())
    {
        u = pq.top();

        pq.pop();
```

```
        long long xx = u.x;

        long long yy = u.y;

        long long cst = cost[xx][yy];

        for(long long i=0; i<4; i++)
        {
            /// v.city = edge[ct][i];

            /// v.costt= cost[ct][i] + cst;

            v.x = xx + fx[i];

            v.y = yy + fy[i];

            if(v.x>=0 && v.x<row && v.y>=0 && v.y<col){

                v.costt = dis[v.x][v.y] + cst;

                if(v.costt<cost[v.x][v.y])
                {
                    cost[v.x][v.y] = v.costt;

                    pq.push(v);
                }
            }
        }

        return cost[desx][desy];
    }

    int main()
    {
        freopen("output.txt","wt",stdout);

        long long t;

        scanf("%lld",&t);

        while(t--)
        {
            scanf("%lld %lld",&row,&col);

            for(ll i=0; i<row; i++)

                for(ll j=0; j<col; j++)

                    scanf("%lld",&dis[i][j]);

            ll val = dijkstra(0,0,row-1,col-1);

            cout<<val<<endl;
        }

        return 0;
    }
```