#56000908 | Daniel_Chura's solution for [UVA-10496]

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Accepted	1504	C++11 5.3.0	2024-11-13 21:27:19	☐	☐	29961216

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

using namespace std;

int beepers;
int adj[11][11];
int memo[11][4096];

inline int getShortestPerimeter(int coordinate, int visited)
{
    if(visited == (1 << (beepers + 1)) - 1)
        return adj[coordinate][0];

    int &c = memo[coordinate][visited];
    if(c != -1)
        return c;

    int shortest = 2000000000;

    for(int i = 0; i <= beepers; ++i)
    {
        if(i != coordinate && !(visited & (1 << i)))
            shortest = min(shortest, adj[coordinate][i] + getShortestPerimeter(i, visited | (1 <<
i)));
    }

    return c = shortest;
}

int main(void)
{
    ios_base::sync_with_stdio(0);
    cin.tie(0);

    int testCases;
    pair<int, int> coordinates[11];

    cin >> testCases;
    while(testCases--)
    {
        int width, height;
        cin >> width >> height;
        cin >> coordinates[0].first >> coordinates[0].second;
        cin >> beepers;

        for(int i = 1; i <= beepers; ++i)
            cin >> coordinates[i].first >> coordinates[i].second;

        for(int i = 0; i <= beepers; ++i)
        {
            for(int j = i + 1; j <= beepers; ++j)
            {
                adj[i][j] = abs(coordinates[i].first - coordinates[j].first) +
abs(coordinates[i].second - coordinates[j].second);
                adj[j][i] = adj[i][j];
            }
        }

        memset(memo, -1, sizeof(memo));
```