**Background**

My TV remote control has arrow buttons and an OK button.

I can use these to move a "cursor" on a logical screen keyboard to type words...

The screen "keyboard" layout looks like this

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a | b | c | d | e | 1 | 2 | 3 |
| f | g | h | i | j | 4 | 5 | 6 |
| k | l | m | n | o | 7 | 8 | 9 |
| p | q | r | s | t | . | @ | 0 |
| u | v | w | x | y | z | \_ | / |

**Kata task**

How many button presses on my remote are required to type a given word?

Notes

* The cursor always starts on the letter a (top left)
* Remember to also press OK to "accept" each letter.
* Take a direct route from one letter to the next
* The cursor does not wrap (e.g. you cannot leave one edge and reappear on the opposite edge)

**Example**

word = codewars

* c => a-b-c-OK = 3
* o => c-d-e-j-o-OK = 5
* d => o-j-e-d-OK = 4
* e => d-e-OK = 2
* w => e-j-o-t-y-x-w-OK = 7
* a => w-r-m-h-c-b-a-OK = 7
* r => a-f-k-p-q-r-OK = 6
* s => r-s-OK = 2

Answer = 3 + 5 + 4 + 2 + 7 + 7 + 6 + 2 = 36

*Good Luck!  
DM.*

Series

* TV Remote
* [TV Remote (shift and space)](https://www.codewars.com/kata/tv-remote-shift-and-space)
* [TV Remote (wrap)](https://www.codewars.com/kata/tv-remote-wrap)
* [TV Remote (symbols)](https://www.codewars.com/kata/tv-remote-symbols)

<https://www.codewars.com/kata/tv-remote/cpp>

#include <stdio.h>

#include <iostream>

#include <map>

#include <vector>

#include <math.h>

using namespace std;

int tvRemote(string word)

{

    char control[5][8] =

    {

        'a','b','c','d','e','1','2','3',

        'f','g','h','i','j','4','5','6',

        'k','l','m','n','o','7','8','9',

        'p','q','r','s','t','.','@','0',

        'u','v','w','x','y','z','\_','/'

    };

    //Dictionary<char, int[]> diccio =

    //    new Dictionary<char, int[]>();

    map<char, vector<int> > m;

    for (int i = 0; i < 5; i++)

    {

        for (int j = 0; j < 8; j++)

        {

            vector<int> aux;

            aux.push\_back(i+1);

            aux.push\_back(j+1);

            m[control[i][j]] = aux;

        }

    }

    int sum = 0;

    char anterior = 'a';

    for (int i = 0; i < word.length(); i++)

    {

        sum += abs(m[word[i]][0] - m[anterior][0]) +

               abs(m[word[i]][1] - m[anterior][1]) + 1;

        anterior = word[i];

    }

    // Your code here

    return sum;

}

int main() {

   cout <<  tvRemote("codewars") << endl;

    return 0;

}