# Technical Test: .NET Developer

An old-style mobile phone has 12 keys for input, (‘1’, ‘2’, ‘3’, ‘4’, ‘5’, ‘6’, ‘7’, ‘8’, ‘9’, ‘0’, ‘\*’ and ‘#’).

|  |  |  |
| --- | --- | --- |
| **1** | **2**  **abc** | **3 def** |
| **4 ghi** | **5 jkl** | **6 mno** |
| **7 pqrs** | **8 tuv** | **9 wxyz** |
| **\*** | **0 SPACE** | **#** |

In this text input mode each key can be used to input the letters of the alphabet and the space character. For example, to access the letter ‘b’ the user would press the ‘2’ key twice.

It takes a user a minimum of 100 ms to press a key. If a user has to use the same key to input consecutive characters there must be at least a 0.5 second pause for the phone to accept that the next key press represents a new character.

Please write a C# application which accepts any string that can be entered using the key assignments in the grid.

The application should accept input from a user and calculate the minimum time required for the user to input that string using the key pad and the sequence of keys that would be required.

Please place your source code on GitHub and give the link to the agent. The application should be a Visual Studio solution and a document in commonly accepted format (i.e. Word, PDF, Plain-Text etc.) with answers to the following questions:

* What is the minimum time to enter the string ‘global aerospace’ and what key sequence would be required?
* How would you design the application to allow the characters assigned to each key to be easily reconfigured?