C++ code kata: Week #4

Hello 👋

The wave (known as a **Mexican wave** in the English-speaking world outside North America) is an example of metachronal rhythm achieved in a packed stadium when successive groups of spectators briefly stand, yell, and raise their arms. Immediately upon stretching to full height, the spectator returns to the usual seated position.

Fig. 1 People performing Mexican Wave on the big day out, 2013 in Sydney, Australia

Ground Exercise

In today's exercise, you have to write a function `mexican_wave()` that will take a **single word string** as an argument and returns an array of strings, where each individual string is one wave.

Ground Exercise Rules

1. You have to pass a single word.
2. All the characters should be lowercase only.
3. You have to return a sequential container. e.g. array or vector.
4. You cannot use any library other than the C/ C++ standard library.

The example below shows how we use the `mexican_wave`. e.g. 👇

```
auto wave = mexican_wave("abcde")
# wave will contain
# {"Abcde", "aBcde", "abCde", "abcDe", "abcdE"}
```

Surface #1

If you have completed **Ground Statement**, then for **surface # 1** exercise your `mexican_wave` should accept whitespace characters also i.e. it should work with multi-word arguments. e.g. 👇

```
auto wave = mexican_wave("abcde fg")
# wave will contain
# {"Abcde fg", "aBcde fg", "abCde fg", "abcDe fg", "abcdE fg", "abcde Fg", "abcde
fG"}
```

Tools

To write solutions you can download tools from:

Tool	Usage	Download Location
Visual Studio Code	Lightweight program editor.	Download
GCC (Linux)	C / C++ Compiler.	Download
MingGW (Windows)	C / C++ Compiler.	Download
XCode toolkit (MacOS)	IDE with multi language support.	Download
Catch2	C++ Test framework	Download

Test Script

Test Script for this week's problem can be downloaded from **here**.

All the best 🤞

In case you have any difficulty using the tools or some questions related to this exercise. Reach us at

1. 💬 **programmingdays (Skype)**