## Algorithm Assessment

**Knight Sequences** – Given the following picture below of a keypad:

A group of cubes with letters and numbers

Description automatically generated

Write a python program to find all 10-key sequences that can be keyed into the keypad  
in the following manner:

* The initial keypress can be any of the keys.
* Each subsequent keypress must be a knight move from the previous keypress.
* There can be at most 2 vowels in the sequence.

A knight move is made in one of the following ways:

1. Move two steps horizontally and one step vertically
2. Move two steps vertically and one step horizontally

There is no wrapping allowed on a knight move.

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| **Your program should write the number of valid 10-key sequences on a single line to standard out.**  **Both top-down and bottom-up solutions are possible, so please rationalise your choice.** |

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Below are some examples of knight moves:A screenshot of a computer game

Description automatically generated