Exercise

You need to design a library that will help determine if rockets can land on a platform. Whenever rocket is getting back from the orbit, it needs to check every now and then if it's on a correct trajectory to safely land on a platform. Whole landing area (area that contains landing platform and surroundings) consists of multiple squares that set a perimeter/dimensions that can be described with coordinates (say x and y). Assuming that landing area has size of square 100x100 and landing platform has a size of a square 10x10 and it's top left corner starts at a position 5,5 (please assume that position 0,0 is located at the top left corner of landing area and all positions are relative to it), library should work as follows:

- if rocket asks for position 5,5 it replies `ok for landing`
- if rocket asks for position 16,15, it replies `out of platform`
- if the rocket asks for a position that has previously been checked by another rocket (only last check counts), it replies with `clash`
- if the rocket asks for a position that is located next to a position that has previously been checked by another rocket (say, previous rocket asked for position 7,7 and the rocket asks for 7,8 or 6,7 or 6,6), it replies with `clash`.Given the above.

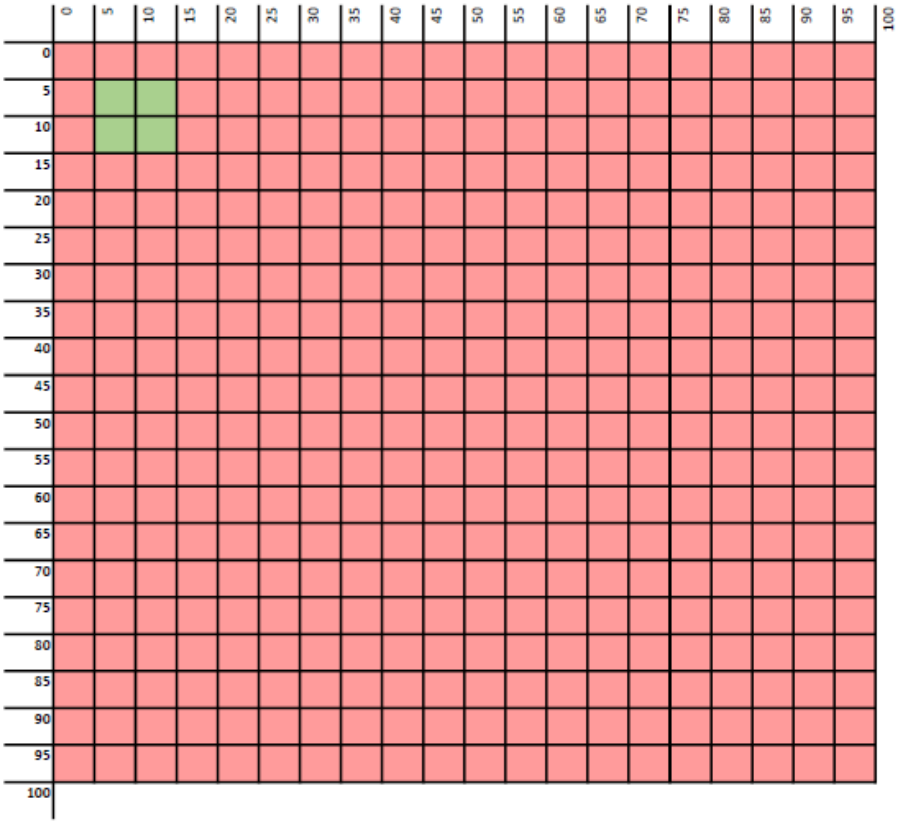
Please create a library (just library, it doesn't need to be used on any cli/gui) that will support following features:

- rocket can query it to see if it's on a good trajectory to land at any moment
- library can return one of the following values: 'out of platform', 'clash', 'ok for landing'
- more than one rocket can land on the same platform at the same time and rockets need to have at least one unit separation between their landing positions
- platform size can vary and should be configurable

Please, write automated tests for the library

Note: This exercise is prepared to be done in around 1 hour, however you can use as much time as you need.

Landing Area



Landing Platform