Developer candidate test

(ver. 1.1)

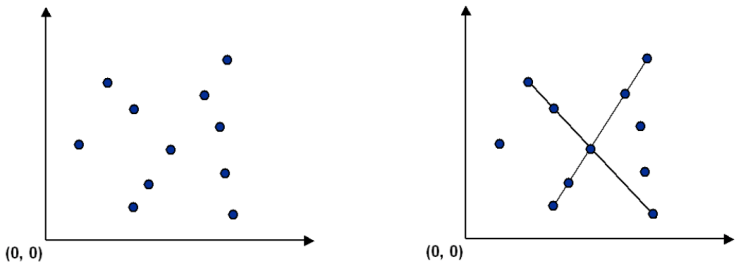
Choose and solve one (and just one) of the problems listed in this document, using the computer language you feel more confident.

Whatever problem you choose, keep in mind the following notes:

- All code should be under version control, on a publicly accessible git repository (Github, GitLab, Bitbucket, etc.).
- No time limit to present the solution.
- In case of doubts about one or more requirements (or even missing requirements), feel free to decide the best strategy to apply to reach the goal.
- Try to apply Object Oriented and/or Functional Programming paradigms heavily.
- When relevant, verify input data and rise an error if they are not as expected.
- Write (and use) unit tests to verify the correctness of the algorithm.
- Take care of cleaning code.
- Take care about computational complexity.
- We guarantee that no resulting code will be use in production by us, however "*Always code as if the guy who ends up maintaining your code will be a violent psychopath who knows where you live. Code for readability.*" (John F. Woods)

Problem #1

Given a set of feature points in the bidimensional plane, determine every line that contains at least N or more collinear points (point coordinate in integer values).



Manage data through this REST API:

`[POST] /point`

add a new point in space

`[GET] /lines/{n}`

get all lines passing through at least N points (a line segment is a set of collinear points)

Problem #2

Write a command line calculator for real number. Should be possible to use the algebraic signs (**+**, **-**, *****, **/**), exponential (**^**), decimal separator (**.**), and round parentheses (nested too). Real time calculation (show result as you type) is appreciated but it is not mandatory.

E.g.: `1.2^2 + ((3-1.0)*2)`

`1.1+1.2*1.3-1.4/1`