

Extra Features for A3



Deadline

During **lab 7**: present extra functions (defined in lab 7)



Requirements

Solve 3 extra features in the 2nd iteration.

Use your registration number (n_{reg}) to define which exercises you have to solve:

$n_{reg} \bmod 10 + 11$ is the number of the first exercise, then increase it by 3 till you get 3 numbers.

e.g. my registration number is 1491 means that $1491 \bmod 10 + 11 = 1 + 11 = 12$

⇒ I have to solve exercises: **12, 15, 18**



Problem specification

A math teacher needs a program that helps students perform simple operations with points in two-dimensional space.

2nd Iteration

The program manages several points (class ***PointRepository***).

Extra features (the first 10 are available in A3):

11. Get all points that are inside a given circle (center of circle, radius given)
12. Get all points that are inside a given rectangle (up-left corner, length and width given)
13. Get the maximum distance between two points
14. Get the number of points of a given color
15. Update the color of a point given its coordinates
16. Shift all points on the x axis
17. Shift all points on the y axis
18. Delete a point by coordinates
19. Delete all points that are inside a given circle
20. Delete all points within a certain distance from a given point