Extra features for A4

Deadline

During **lab 9**: present extra features (defined in lab 9)

Requirements

Solve 3 extra features in the 2nd iteration.
Use your registration number (n_{reg}) to define which exercises you have to solve:
$$n_{reg} \bmod 8 + 9,\ n_{reg} \bmod 4 +\ 17,\ n_{reg} \bmod 3 + 21$$
e.g. my registration number is 1491 means that
$1491 \bmod 8 + 9 =\ 3 + 9 = 12$
$1491 \bmod 4 + 17 = 3 + 17 = 20$
$1491 \bmod 3 + 21 = 0 + 21 = 21$
$\Rightarrow$ I have to solve exercises: **12, 20, 21**

Problem specification

A math teacher needs a program that helps students perform different vector operations.

2nd Iteration
The program manages several vectors (class $VectorRepository$). Extra features:

9. Get the sum of elements in all vectors.

10. Get the vector which represents the sum of all vectors.

11. Get the list of vectors having a given sum of elements.

12. Get the list of vectors having the minimum less than a given value.

13. Get the sum of all the elements in those vectors having a given color.

14. Get the max of all vectors having the sum greater than a given value.

15. Get the min of all vectors.

16. Get a list of values representing the multiplication of consecutive vectors in the repository.

17. Delete all vectors from the repository. 18. Delete all vectors for which the color is a given value.

18. Delete all vectors for which the product of elements is greater than a given value.

19. Delete all vectors that are between two given indexes.

20. Delete all vectors for which the max value is equal to a given value.

21. Update all vectors by adding a given scalar to each element.

22. Update the color of a vector identified by $name\_id$.

23. Update all vectors having a given type by setting their color to the same given value.