Classes III

C++ in QF I - a course by Paweł Sakowski

Przemysław Kurek

Chair of Political Economy
Faculty of Economic Sciences
University of Warsaw

Labs 10

We already know about:

- Classes.
- Pointers.
- Inheritance.

Today we will learn about:

- Operator overloading.
- Dynamic memory assignment.
- `static` class members.
- Multiple inheritance.

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Examples:

1. Create a class representing Rational Numbers. Overload an operator + in order to allow calculating sum of two such objects.
2. Ask a user for a whole number. Create an array of such length. Ask a user for this number of integers. Store them in the array, and print them out on console. Hint: you will need to use `new` and `delete` operators.
3. Create a class representing Pets. Create a mechanism to count those pets using `static` members. Test it with the usage of `new` and `delete` keywords. Use `->` operator.
4. Create two classes to represent a Person and a Wolf with some features (methods). Create class representing a warewolf, which inherits features from both classes. Test it.

Exercises:

- Extend example 1 to allow for other calculations. Also, extend this class of a functionality, which simplifies this number if it Can be simplified after every calculation. (for example $\frac{1}{2} + \frac{1}{4} = \frac{6}{8}$, which should be represented by $\frac{3}{4}$).
- Write similar program to example 2, but use Rational numbers from exercise 1.
- Extend dynamic program from exercise 2 with static members to keep count of managed numbers.

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Thank you!

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