

Structured and Object Oriented programming
Laboratory

Assignment #6: The First Class

Task 1

Implement a class with the name `ProductType`. It should contain the following data members:

- Name : a nonempty string of characters, default value "not_known"
- itemPrice: double value with the price of a single item of that product type, must be ≥ 0 and ≤ 200 ; the default value is 0.0
- comment (string, default value "none")
- priceChangeNo: int with the number of successful price modifications
- valid: true if the product type was created successfully, false if some default values were used

All data members should be private.

The class should have at least the following methods:

- `public Product(String name, double price, String comment)`
- `public String toString()`
- `public boolean isValid()`
- `public String getName()`
- `public double getPrice()`
- `public boolean modifyName(String new_name) // ignore not valid names and return false`
- `public boolean setPrice(double price) // the validity check should be the same as for the constructor`

If the value of a constructor argument is outside the required range then use the default value instead.

Verify the correctness of all methods.

Task 2.

- a) Implement a program that creates 5 objects of the `ProductType` class. Use both proper and not proper values of the constructor's arguments.
- b) Store the above created objects in an array.
- c) Test thoroughly all of the methods.

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