INTRODUCTION TO CLASSES OBJECTS AND METHODS

Exercise 4

Akademia Finansów i Biznesu Vistula
Studia globalnych możliwości

mgr inż. Dominik Bielecki
email: d.bielecki@vistula.edu.pl

TASK 1 – CALCULATION OF A RECTANGLE AREA

Please write a program that follows the rules of object oriented programming and will calculate the area of the rectangle.

Hints:

- we need to create two classes, one RectangleArea for logic

of our program and the Main class for using our logic.

- in the Main class we create the RectangleArea object and call three methods on it.

The methods we should create:

a) getData(), gets side lengths from the user.

b) computeField(), performs computation.

c) fieldDisplay(), displays info and result.

TASK 2 – RETURNING INFORMATION ABOUT OBJECT

Please declare the class Car and define the following fields of this class (with the access modifier private): model, brand, year, price, color, quantity.

Please create a constructor of this class consisting of the previously mentioned fields.

We also create methods to return each of the fields (we use **return**) e.g.: getMOdel () and methods to set value each of the fields (methods taking a new value in their parameters fields) e.g.: setModel (Sting model).

Additionally, we create a delivery() method (simulating car delivery) and sell() (simulating car sales) which change the value of the quantity field.

The last method we create is the toString() method that returns an object of type String and prints it names of all fields of a given object and their state or value.

We also create another class with the main() method in which:

- we create object of the Car class by using the constructor,
- we call and print what the toString() method passes,
- we call the sell() method
- we print all fields (using the previously declared „get" methods of the object field,
- using the „set" methods we change some fields of the object,
- we call and print again toString() method to notice the changes.

TASK 3 – NUMBER SYSTEM CONVERTER (1)

Please prepare the following program menu in a do-while loop:

```
------------------------------------------------------
Choose what operation you want to perform:

A. Convert from any system to the decimal system
B. Convert from decimal system to another system
C. Summing up numbers from different systems
D. Subtracting numbers from different systems
E. Multiplying numbers from different systems
F. Dividing numbers from different systems

W. Exit the program
```

TASK 3 – NUMBER SYSTEM CONVERTER (2)

After preparing the menu, please write a program that after pressing:

A - will get a number from the user and perform conversion from "binary" systems, 3,4,5,6,8,9,10,„hexadecimal" to decimal system,

B - will get a number from the user and perform conversions from the decimal system to the "binary" system, 3,4,5,6,8,9,10, "hexadecimal",

C - will take two numbers from the user (both from any of the above systems) and do the addition (it will display the result on the system selected by the user).

D - will take two numbers from the user (both from any of the above systems) and execute subtraction (will display the result in the system selected by the user).

E - will take two numbers from the user (both from any of the systems above) and do the multiplication (it will display the result on the system selected by the user).

F - will take two numbers from the user (both from any of the above systems) and execute subtraction (will display the result in the system selected by the user).

W - terminate the program.

THANK YOU

Więcej na:

www.vistula.edu.pl

Akademia Finansów i Biznesu Vistula
ul. Stokłosy 3
02-787 Warszawa
(obok stacji metro Stokłosy)