

# Assignment 6

**Deadline: Friday 11 December 2020 at 6pm**

**Before you start:** create a new folder, called "Assignment\_6" for this assignment in your GitHub repository.

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## Exercise 1 (5 points)

In this exercise, we ask you to use the Model-View-Controller design pattern to implement a company system to manage employees. Each employee has a name, a surname, an address, a telephone number and a unique ID number (a sequence of 8 characters or numbers). You must have a view class, a model class, and a controller class.

Then, we ask you to create a simple demo. To this aim, you can create a class MVCPatternDemo that acts as the main class to demonstrate use of MVC pattern. Your demo must do the following actions:

- 1) Create a new employee
- 2) Print the employee name, surname and ID.
- 3) Update the employee address
- 4) Print the new address
- 5) Update the employee phone number
- 6) Print the new phone number

Motivate your design choices in a **ANSWERS.md** file.

Draw a UML class diagram comprising all the classes in your code. Write a description of the class diagram (if needed) to further describe your choices. Address these points in the **ANSWERS.md** file in the assignment folder.

You can use tools to help you draw the class diagram, but you are **not** allowed to automatically generate it.

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## Exercise 2 (5 points)

The ShoppingSW is an interactive online shopping platform. With it, users can sell two categories of products: clothes and shoes. There are three types of clothes: dresses, trousers, and shirts. There are two types of shoes: boots and sneakers.

A product has the following characteristics: name, color, size and price. A user can set the price of the product they wish to sell.

There are three levels of customers: (1) normal customers, (2) gold customers, and (3) platinum customers. Depending on their level customers can sell a different number of items

at the same time: Normal customers can sell one product at the same time; gold customers can sell five products at the same time; platinum customers can sell ten products at the same time. A user needs to log-in into the Shopping platform to be able to sell and buy products. A user can not buy their own products.

Once a user selects a product, this is added to the user's cart. A cart contains a list of all the products selected by the user. A user can add and remove products from the cart. Once the user is satisfied with their cart, they can proceed to the checkout, pay the products and leave the online platform.

Moreover, a user can buy a product that somebody else is selling by paying the reported price. The payment can be done by credit card, debit card, invoice or bank transfer.

A search bar allows the user to look for the product they want. Furthermore, the bar allows you to filter the research by category of product (clothes and shoes), type of clothes (dresses, trousers, and shirts), and type of shoes (boots and sneakers).

Using Responsibility Driven Design, create a UML class diagram of the system. Think carefully about the responsibility assigned to each class. Describe your choices and reasoning in a **ANSWERS.md** file in the assignment folder.

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### **Important notes**

Write all your answers in the **ANSWERS.md** file. Do not use a file with a different name. Also, please ensure that it is clear which answers belong to each exercise of the assignment.

Please note that no commits can be added to the assignment folder on GitHub after the deadline. Any commit added after the deadline **will not** be counted in the evaluation of the assignment.