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15.04.2019

Object Oriented Modeling and Design 4th Assignment

Problem:

You have to design a part of the "personnel administration" software system for a company.

- There are different reward programs in the company. At the end of each month, the system checks the status of employees and if they are "successful" according to the rules of the program, they are rewarded and get extra (bonus) payment.
  - The amount of bonus payment is calculated using an algorithm running in an external system. The algorithm may use different properties of employees, such as for how many years she/he has been working for the company, performance grade given by the manager, duration of overtimes in a mount, the age, etc. *In future, another external system with a new type of reward program can be added to the system and the new program may use different parameters. An existing external system can be also removed.*
  - Normally, each employee is connected to one reward program depending on her start date to work.
  - However, some employees can be also rewarded by more than one program at a time (decided by the management of the company). When an employee wins more than one reward, greatest amount of premium (bonus) is paid. *In future, the company may change this rule and can pay the sum of all rewards*.
- In the system there is an operation called **checkForReward** that is triggered by a timer at the end of each month. This operation invokes calculateReward method of employees.

- Construct and draw the proper design class diagram according to the given requirements by considering object oriented design principles and GoF design patterns.
- Draw sequential interaction UML diagram for the calculateReward method.
- You may assume that the necessary initial operations have been performed and all information about employees and reward programs reside in the memory in proper data structures.
- You do not need to create use cases or domain models.

SUBMISSION:

- Prepare your solution as a file(s) only in pdf format. You may split your drawing in separate pages and create more than one pdf files. In this case, you have to combine them in a zip file.
- Upload the file (pdf, zip) to Ninova until **23.00 on 28 April 2019**, **Sunday**. Late submitted assignments are not accepted.
- **Cheating** will not be tolerated. If cheating is discovered, all responsible students will be subject to the University disciplinary proceedings.
  It is allowed to discuss how to solve a problem with your classmates; however, **this assignment is not group homework. The actual solution should be an independent effort**.