

Assignment2

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Problem

In this problem I am solving a problem about salaries of the university personnel. Personals are grouped in four categories. This categories are Academician, Officer, Employee and Security. Academicians and employees are also groped in two categories. Academician groups are Faculty members and Research assistants. And employee groups are Full Time and Part Time. In addition, a full-time employee could be assigned to one of the following roles: Worker or Chief. In this assignment expecting from us to calculate personals salaries based on many attributes.

Solution

In this problems solution I have used encapsulation and inheritance. In my code I read personnel.txt and monitoring.txt with ReadFromFile class and save them to the a list after that I created a new object from Splitter class and object name is also splitter. In the Splitter class I created a new method and this names is split. Then send lists from ReadFromFile class to the split method. I use a for loop inside the split method. In this loop method I split lists so I achieve the variables name, surname, registration number, position, start year, and work hour of four weeks and send them to the Personnel class. I use loop for each element in the list so I have created for each element of the list a new object from Personnel class. Personnel class have private attributes and In the Personnel class constructor I set values of this attributes from created list. Also I have two attribute in the Personnel class different from Splitter class their names are severancePay and salary. severancePay value is $(2020 - \text{startYear}) * 20 * 0.8$. I set salary later it is zero now. Then in the splitter class I call method a method from Personnel class and its name is selector. In the selector method I have many conditions. In these conditions I control this personnel type so I can call this class methods and attributes. And each type of personnel have their class. Academician, Officer, Employee and Security are subclass of Personnel class. Academician class have two subclasses and they name are FacultyMember and ResearchAssistant. Also Employee class have two

subclasses and they name are FullTime and PartTime. There are two class under the FullTime they are Chief and Worker. In this subclasses constructors I set values of the attributes based on conditions. And under the Personnel class method selector I call this attributes from its own class with accessors. Finally I calculated salary based on personnel type and set attribute salary with mutator method. In the end we have Writer class this class writes name, surname, registration number, position, start year, salary in the txt file for each element in the list. This txt files name is registration number.

UML Diagram

