Subject of Experiment: Pharmacy Stock Management

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PROBLEM:

In this experiment, it is expected from us to create Pharmacy Stock Management System in Java programming language. We need to read inputs from files and calculate total cost of medicament's price from given prescription.

SOFTWARE USAGE:

In this experiment, my code take two arguments from command line which they are input files. I use four class to implement my algorithm. The output will be written to console.

SOLUTIONS:

Beginning of the experiment, I create four classes. First one is *Main.java* class where program read files and split them until tab space. Then it assigns them to arraylists by creating objects. Besides these operations, in main class program write output in the console.

After *Main.java* class, i create *ReadFile.java* which it has open and close the file operations.

Then, I created two more classes such as *Prescription.java* and *Price.java*. These two classes have constructor which create objects. *Price.java* class has a method which return minimum price for a medicament.

ALGORITHM:

1.Reading File: I read files from the command line, first prescription.txt then pricelist.txt. Then in main class, I create a *Scanner* object *scan* for reading the *prescription.txt*. I implement a while loop that executed until there is no next line. In loop, first read by line, then split lines by tab space and throw them into an array. For *prescription.txt* first line different from the rest. So, I read first line separately and create an object using constructor *Prescription(String patientName, String socialSecurity, String prescriptionDate).* Then, assign to arraylist 'prescription' as first element. After that I continue reading lines from *prescription.txt* and assign them to the arraylist as an object using constructor *Prescription(String medicine, String quantity).* For read the *pricelist.txt*, I create another *Scanner* object *scan2* and I read it as I read *prescription.txt*. There is only one difference. I do not need to separate first line, because all line's structures are the same. I assign objects which are created using constructor *Price(String medicineName, String socialSecurity, String effectiveDate, String expiryDate, String price)* to the arraylist 'price'.

2.Finding Right Price: For finding right price of medicament, I write a method in *Price.java* class. This method has three parameters, arraylist of Prescription type 'a', arraylist of *Price* type 'b and integer i. First i declared a *double* variable 'min'. I increase i from the

main class with a for loop when i call this method. It need to provide all conditions. So I implement three nested if statement in a for loop. First if statement I search same medicament and social security administration code name in b arraylist using medicament name and social security administration code which they are given a arraylist. Second condition is prescription date must be between effective date and expiry date. For this, I use *java.text.DateFormat*. Finally last if statement, I compare min with price. If all of them true, method return the min variable. In main, I call this method in a for loop and i assign the min values to an array of double type. Then I write them into the console using *System.out.printf*. When I write the output, calculate total cost of medicaments which are given from prescription. For example, the output will be like this:

```
Aspirin 4.00    1       4.00
Novalgin        8.30    2       16.60
Total   20.60
```

REFERENCES:

http://stackoverflow.com/
https://docs.oracle.com/javase/7/docs/api/java/util/ArrayList.html
http://www.tutorialspoint.com/java/java_arraylist_class.htm
https://docs.oracle.com/javase/7/docs/api/java/text/DateFormat.html