HACETTEPE UNIVERSITY

DEPARTMENT OF COMPUTER ENGINEERING

Student

Name :

Surname :

Student ID :

Department : Computer Engineering

PROGRAMMING ASSIGNMENT 3

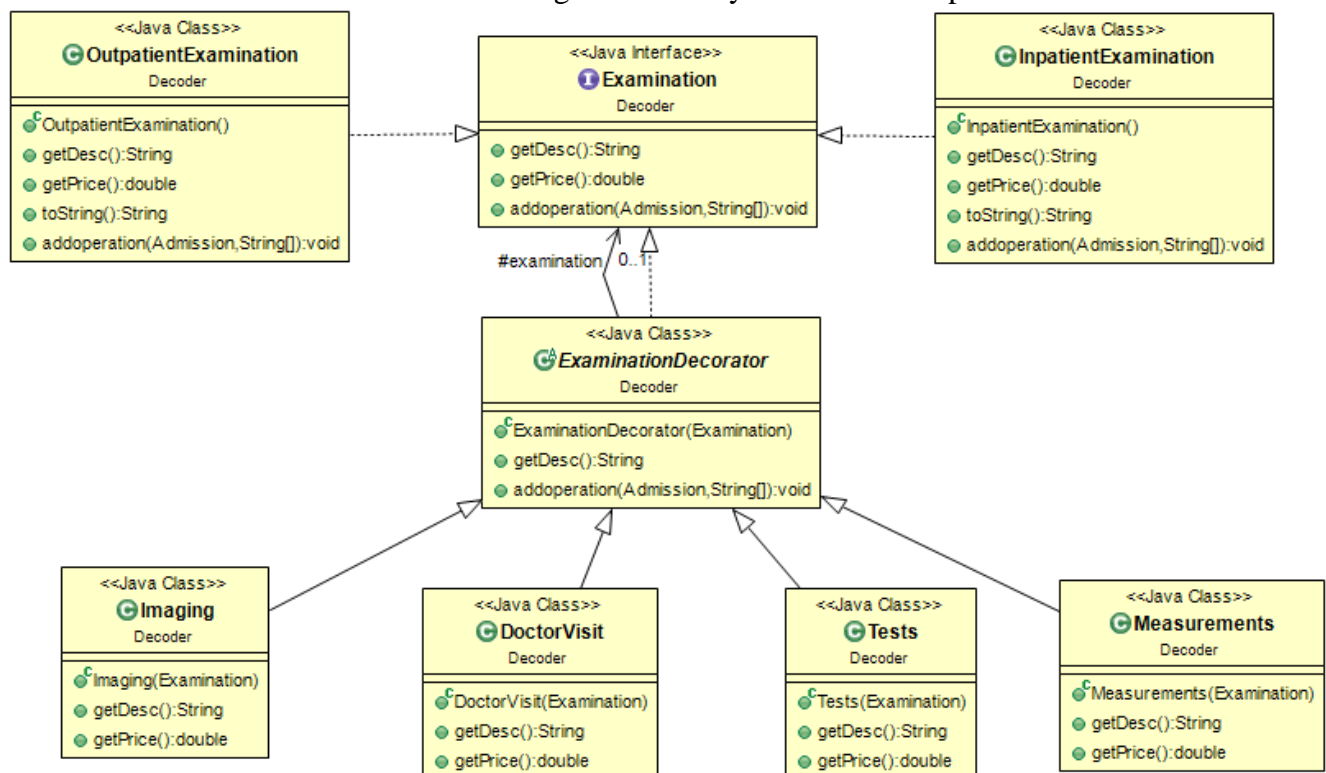**Subject**: Inheritance and Polimorphism
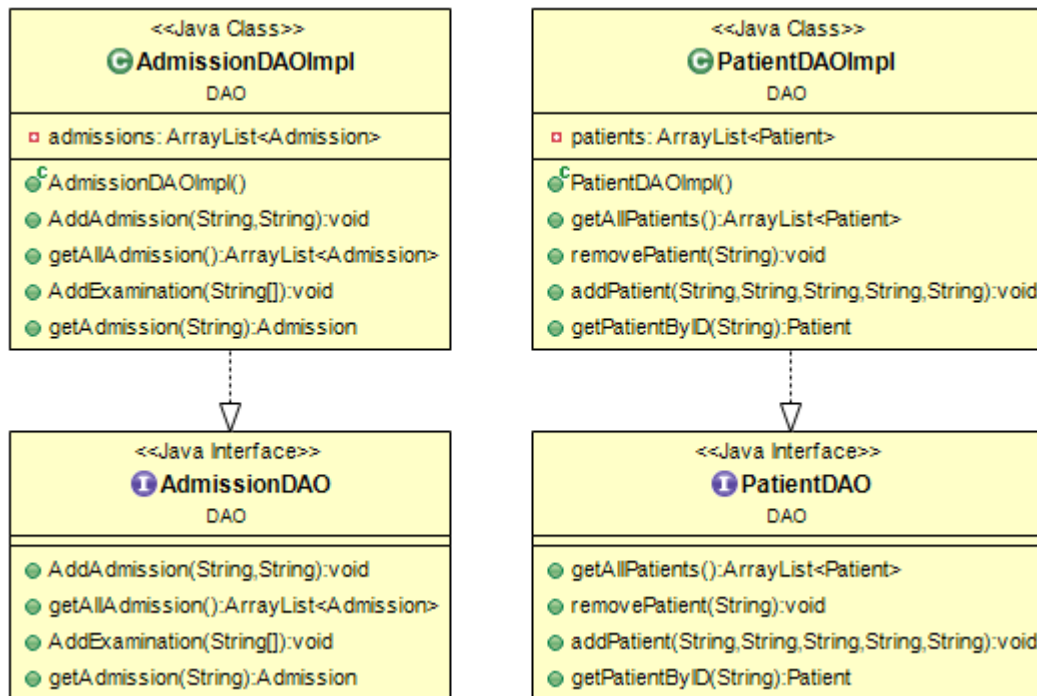**Programming Language:** Java

PROBLEM

In this experiment, we have been commissioned to develop a hospital management system (HMS). Expecting from us is implement HMS with the given rule. The main focus of this experiment is to get you familiar with inheritence and polymorphism concepts in object oriented (OO) programming with decorator and Data Access Objects.
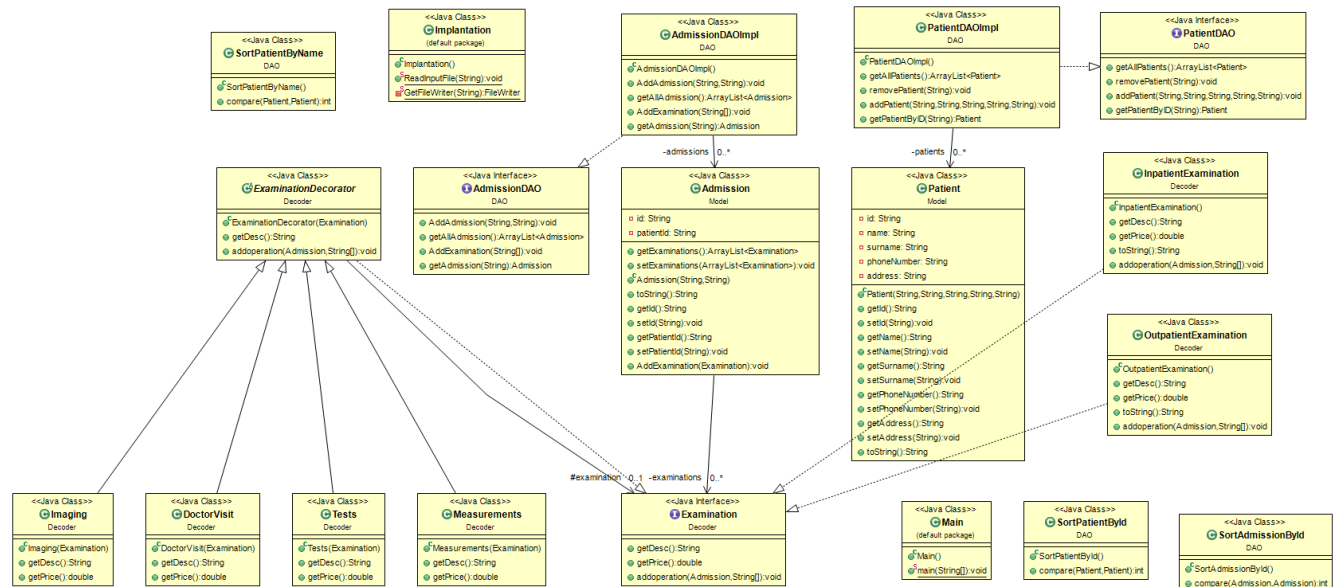
METHOD AND SOLUTION

First of all I created two object class first one for Patients second one is for Admission. After That Designed my DAO so I can add remove patients and admission beside these I created a class For examination. We have design our Examination object about decorator pattern so I build my inheritance like below. This below uml diagram show my examination dependencies.

For DAO I created two interface and two objects class in object class I read my data whichs (patient.txt and admission.txt) after that parse and store this data in my Dao arraylists. So whenever I want I can remove and add new patient, admission to data collections. My Das uml diagram is like that:

<<Java Class>>
AdmissionDAOImpl
DAO

- admissions: ArrayList<Admission>

- AdmissionDAOImpl()
- AddAdmission(String,String):void
- getAllAdmission():ArrayList<Admission>
- AddExamination(String[]):void
- getAdmission(String):Admission

<<Java Class>>
PatientDAOImpl
DAO

- patients: ArrayList<Patient>

- PatientDAOImpl()
- getAllPatients():ArrayList<Patient>
- removePatient(String):void
- addPatient(String,String,String,String,String):void
- getPatientByID(String):Patient

<<Java Interface>>
AdmissionDAO
DAO

- AddAdmission(String,String):void
- getAllAdmission():ArrayList<Admission>
- AddExamination(String[]):void
- getAdmission(String):Admission

<<Java Interface>>
PatientDAO
DAO

- getAllPatients():ArrayList<Patient>
- removePatient(String):void
- addPatient(String,String,String,String,String):void
- getPatientByID(String):Patient

After all these I just read input.txt file and applying command. After all that I updated patient.txt and admission file. My project whole uml diagram is like below:

RESULT

In this assignment I review java programming basic. I learn what is inheritace and Polimorphism how we can use it in a oop programming. Also I review decoder pattern and Dao (Data access object) logic.

Not : Project root must contain patient.txt and admission.txt files.