



HACETTEPE UNIVERSITY DEPARTMENT OF COMPUTER SCIENCE  
INTRODUCTION TO PROGRAMMING LABARATUVARY 2

## **REPORT OF ASSIGNMENT 3**

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SECTION : 01

## 1. Problem Definition

The main problem of this task is to develop a simple Hospital Management System(HMS) with various components according to the given rules and to enable this system to interact with the given basic databases.

## 2. Problem Solution

To create a HMS object with the given functionalities and database access object and to update the data bases by using various String methods and file operations for each selected function in the system.

Steps :

- 1--> An Interface called HMSComponents created.
- 2--> A superclass called "Operation" created.(implements HMSComponents)
- 3--> Subclasses of "Operation" created.  
**Tests,Measurements,Imaging,Doctor Visit**
- 4--> An Interface called "IExamination" created(extends HMSComponents)
- 5--> A superclass called "Examination" created(implements Iexamination)
- 6--> Subclasses of Examination created  
**InpatientExamination,OutpatientExamination**
- 7--> An abstract class called "ExaminationDecorator" created. (implements HMSComponents)
- 8--> Subclasses of ExaminationDecorator created.  
**OneOperationAdder,TwoOperationsAdder,ThreeOperationsAdder**
- 9--> A class called "Admission" created.
- 10--> A class called "Patient" created.
- 11--> A class called "HMSDataHolder" created.
- 12--> A class called "Reader" created.
- 13--> A class called "UpdateTool" created.
- 14--> An Interface called "DAO" created.
- 15--> A class called "BasicHMSDao" created.(implements DAO)
- 16--> A class called "HMS" created.

### 3. How Does The Program Work ?

Firstly, the given input file is read by the Reader object and sent to the RUN method of HMS. When the RUN method starts working, the database access object automatically reads the target databases and holds the relevant HMS objects in a temporary data holder. Depending on the commands in the input file, the database access object takes the necessary actions inside the data holder. After all operations are completed, the database access object sends the data in the data holder back to the target databases and updates them. Finally, the HMS interface, which keeps all the operations done last, is printed to a file called 'output.txt'.

### 4. Notes About The Program

The program has been tested many times with different inputs. When you try to run the program from the command line, you may encounter the following warning before compiling

```
Yavuz Emre Demirli@DESKTOP-SI5D6FM ~/desktop/son/src  
$ javac Main.java  
Note: .\HMS.java uses unchecked or unsafe operations.  
Note: Recompile with -Xlint:unchecked for details.
```

You may receive this warning message because the program deletes some file contents

If you see this message on your screen, please compile your code again. It will be gone.

# UML Class Diagram



