Mohammad Ali Jinnah University

Object Oriented Programming (Lab)

Project Report

Project Title:

VIRTUAL DOCTOR

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**Problem:**

World have so many problems. As we are humans our major problem is how to maintain Health. Health was, is, and always will be a problem for every living being in this world.

Living in a third world country it is hard to find a fully qualified doctor that many people can trust. When they fall ill they have to rush to a doctor and doctors in this country are seldom found in their offices as it is not easy to find an honest politician.

People living in isolated area and having old aged people in their home tend to face largest problems when being confronted with a problem of this magnitude. Transport is an issue for most people not having the means or private vehicles. Will be helpful in emergency conditions or when reaching a doctor is difficult.

**Solution:**

To solve this problem, I will be making a program that will diagnose the patient’s symptoms and will propose the right medicine. The user will input their name, age and weight and then they will enter their symptoms. The program will then provide a prescription according to the individual need of the patient.

Class Patient

**All Implemented Interfaces:**

DesiTips.

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public class **Patient**

extends Object

The Patient class contains name, age, weight, gender as well as the symptoms i.e. fever, headache, stomachPain and cough.

Patient class also contains a method of doseCalculation() which contain formula that is {(age\*weight)/150} where age and weight is taken input by user and 150 is constant.

It also contains a display() method which is used to print the patient’s data.

**Field Summary**

|  |  |
| --- | --- |
| **Modifier and type** | **Field and Description** |
| private String | name : return Patient name |
| private int | age : return Patient age |
| private double | weight : return Patient weight |
| private String | gender : return Patient gender |
| private Fever | fever : The relation between Patient and Fever is aggregating. |
| private Headache | headache : The relation between Patient and Headache is aggregating. |
| private StomachPain | stomachPain : The relation between Patient and StomachPain is aggregating. |
| private Cough | cough : The relation between Patient and Cough is aggregating. |

**Constructor Summary**

|  |
| --- |
| **Constructor and Description** |
| public Patient() : Default constructor. |
| public Patient(String name, int age, double weight, String gender, Fever fever, Headache headache, StomachPain stomachPain, Cough cough) |

**Method Summary**

|  |  |
| --- | --- |
| **Modifier and Type** | **Method and Description** |
| public | getter() |
| public void | setter() |
| public double | doseCalculation() : Formula : ((age \* weight) / 150) It is used to calculate Patient medicine dose. |
| public void | Display() : It’s used to display the data of name, age, weight, gender, doseCalculation(). |

Class Fever

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public class **Fever**

extends Patient

implements DesiTips

**Field Summary**

|  |  |
| --- | --- |
| **Modifier and type** | **Field and Description** |
| private boolean | rheumatoidArthritis : |
| private boolean | strepThroat : |
| private boolean | dehydration : |

**Constructor Summary**

|  |
| --- |
| **Constructor and Description** |
| public Fever() : Default constructor. |
| public Fever(boolean rheumatoidArthritis, boolean strepThroat, boolean dehydration) |

**Method Summary**

|  |  |
| --- | --- |
| **Modifier and Type** | **Method and Description** |
| public boolean | getter() : It contains the medicine of Patient. |
| public void | Setter() : It is used to set the values. |

Class Headache

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public class **Headache**

extends Patient

implements DesiTips

**Field Summary**

|  |  |
| --- | --- |
| **Modifier and type** | **Field and Description** |
| private boolean | rheumatoidArthritis : |
| private boolean | strepThroat : |
| private boolean | dehydration : |

**Constructor Summary**

|  |
| --- |
| **Constructor and Description** |
| public Headache() : Default constructor. |
| public Headache(boolean migraine, boolean hypertension, boolean stress, boolean depression) : |

**Method Summary**

|  |  |
| --- | --- |
| **Modifier and Type** | **Method and Description** |
| public boolean | getter() : It contains the medicine of Patient. |
| public void | Setter() : It is used to set the values. |

Class StomachPain

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public class **StomachPain**

extends Patient

implements DesiTips

**Field Summary**

|  |  |
| --- | --- |
| **Modifier and type** | **Field and Description** |
| private boolean | malnutrition : |
| private boolean | acidity : |
| private boolean | bloating : |

**Constructor Summary**

|  |
| --- |
| **Constructor and Description** |
| public StomachPain() : Default constructor. |
| public StomachPain(boolean malnutrition, boolean acidity, boolean bloating) : |

**Method Summary**

|  |  |
| --- | --- |
| **Modifier and Type** | **Method and Description** |
| public boolean | getter() : It contains the medicine of Patient. |
| public void | Setter() : It is used to set the values. |

Class Cough

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public class **Cough**

extends Patient

implements DesiTips

**Field Summary**

|  |  |
| --- | --- |
| **Modifier and type** | **Field and Description** |
| private boolean | coldFlu : |
| private boolean | viralInfection : |
| private boolean | bacterialInfection : |

**Constructor Summary**

|  |
| --- |
| **Constructor and Description** |
| public Cough() : Default constructor. |
| public Cough(boolean coldFlu, boolean viralInfection, boolean bacterialInfection) : |

**Method Summary**

|  |  |
| --- | --- |
| **Modifier and Type** | **Method and Description** |
| public boolean | getter() : It contains the medicine of Patient. |
| public void | Setter() : It is used to set the values. |

Interface DesiTips

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public interface DesiTips

**Method Summary**

|  |  |
| --- | --- |
| **Modifier and Type** | **Method and Description** |
| public static void | rheumatoidArthritisTip() : It contain the easy home tip. |
| public static void | strepThroatTip() : It contain the easy home tip. |
| public static void | dehydrationTip() : It contain the easy home tip. |
| public default void | migraineTip() : It contain the easy home tip. |
| public default void | hypertensionTip() : It contain the easy home tip. |