Gebze Teknik Üniversitesi

Milgisayar Mühendisliği

Object Oriented Analysis and Design

CSE 443

#Hw1

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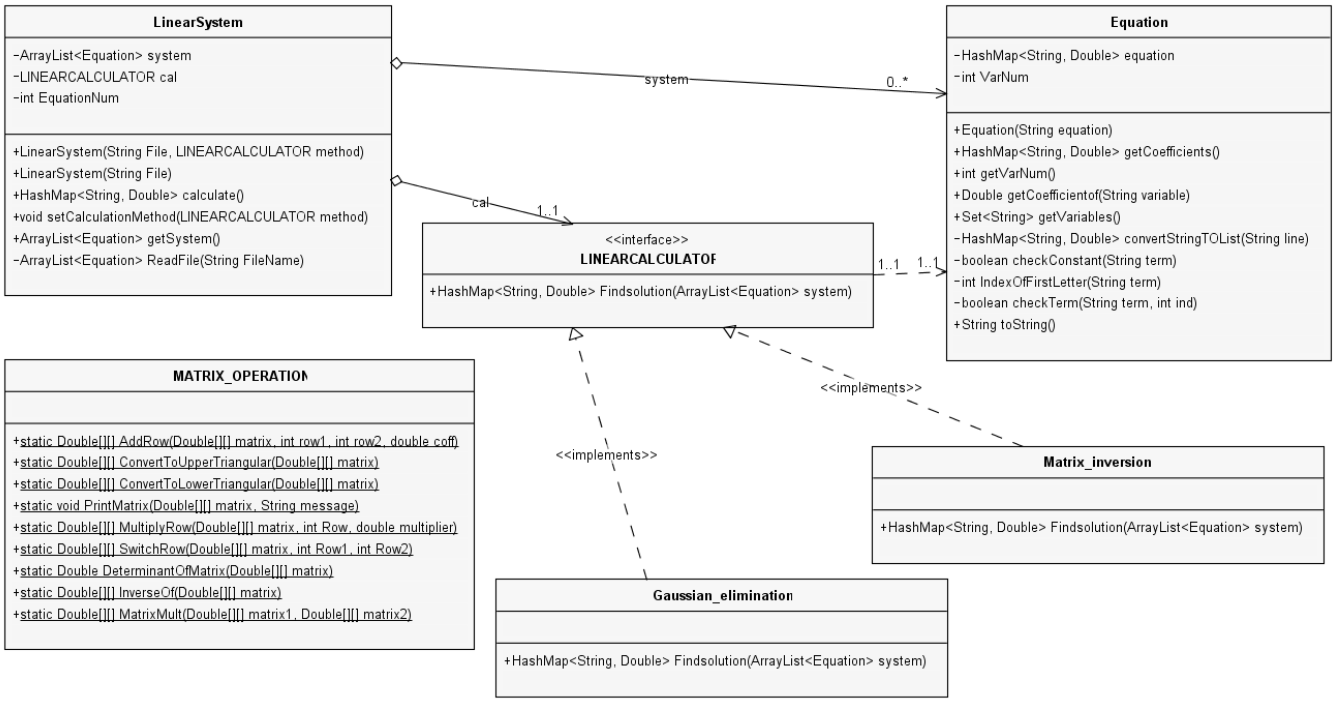
Question 1 :

class diagram:



The Equation class :

Reads a String and convert it into an equation .
Keep the data of the equation (variable name , coefficients , constant) in a map
The given String shoud be formated , the equation can be a single term or more than one term
Each term of the form “(+/-)(coefficients)(variable name)” , or “(+/-)(coefficients)”
all terms should be seperated by a space .
Variable names must consist of letters only
Ex : +3x -2.5y +z +3.1
Exception is thrown if the string format violating the expected format .

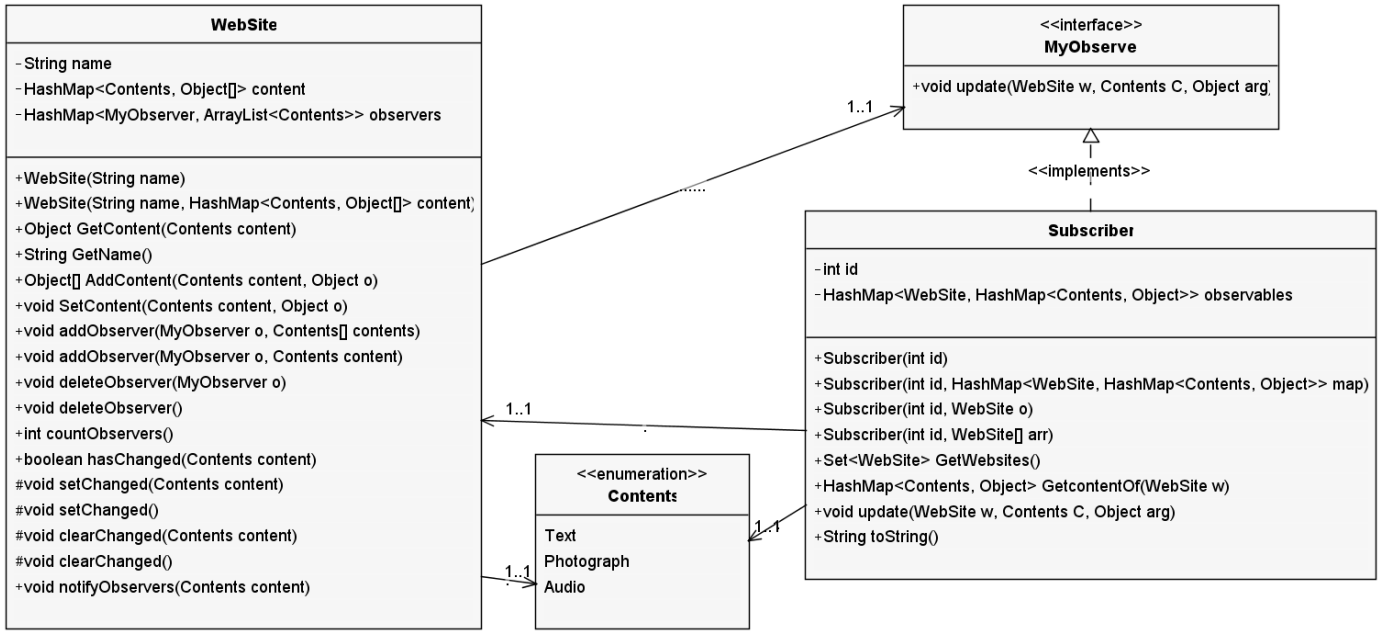
Map	
Key (String)	Value (Double)
y	-2.5
x	3.0
Constant	-3.1
Z	1.0

The Linearsystem class :

Reads the file that contains the equations keeps the data of the system inside an ArrayList of Equation .
Calculate() method delegate the calculation to the field cal . the method calls cal.Findsolution() .
Calculation method can be changed dynamically in runtime using setCalculationmethod() method .
So any class that implements the LINEARCALCULATOR interface can be given to the linearsystem object because it should implement the Findsolution() method.
if any other functionality was demanded in the future , it will be easy to be added. all what it going to need is to create a new class that implements the LINEARCALCULATOR interface .

Question 2 :

class diagram:



What kind of a design would support this? Observer Pattern

What if users or websites demand your software to support a fourth type of content? Will it be easy to modify? All what it need to add a fourth type of content is to add the new content to the Content Enum and it will be ready .