GLAZIER ASSIGNMENT

BRIEF

This is a study point assignment (5 study points). Your work is handed in individually.

In this assignment you will help your customer, a glazier, calculating window prices.
You will have to make a web system to do the calculation.
This is an individual assignment, you are however encouraged to help each other.

Your customer, the glazier will input the windows size, and the frame type in a web page. This data is sent to the server. The server looks up the frame price in the database and calculates the total price. The total price is displayed to the glazier in another web page.

LEARNING GOALS

This assignment will teach you to create an input form and practice connecting to a local database.

This will allow you to read input from users on the client side, and process the numbers on the server sider.

You will practice your test skills by writing automated unit tests in JUnit.

You will learn how to document code either visually with UML or with Javadoc tool (see what to hand-in section).

PRICES

The user will input the height and width of a window in cm.

The window price is calculated as

Glass price
+ Frame price
Window price

- The price of glass is kr. 300,- per m^2.
- The price of frame type1 is kr. 100,- per m.
- The price of frame type2 is kr. 200,- per m.
- The price of frame type3 is kr. 350,- per m.

These prices you will have to put in a database. It is ok if you just put all the prices in one table.

PROGRAM DESIGN (FILES)

You will have to make:

- ✓ 4 web pages
    a. A welcome page with either a button or a link to the input page (html)
    b. An input page where a user can input height and width of the window (html)
    c. A result page where the price is shown (Servlet)
    d. An error page to display a static message if the user input is invalid (html)
- ✓ A database script to create price table and insert price data
- ✓ 3 Java classes
    a. Price calculation class
    b. DBConnector class (use your own or the one in Appendix A)
    c. Data Access Object class to retrieve data from the database.

TESTING

You have to write a JUnit test class to make sure that your calculations are correct.

The total price of a 100cm x 160cm window is kr. 1000,-.

Make up a few more test cases: You should test for negative input values, decimal numbers, and super large window size (super small ones too – how about size 0).

HAND IN

WHAT TO HAND IN

Export the finished Netbeans web project to a .zip file (including sql script, screen dump of your test results and a) either a UML class diagram of your program design or b) Javadoc documentation of the 'normal' Java classes).

WHEN TO HAND IN

Hand in on Friday November 25th 2016 before 23:59.

WHERE TO HAND IN

Hand in on Fronter as individuals.

APPENDIX A – DBCONNECTOR

```
public class DBConnector {
    private Connection connection = null;

    //Constants
    private static final String IP       = "<<INSERT IP>>";
    private static final String PORT     = "<<INSERT PORT>>";
    private static final String DATABASE = "<<INSERT DB NAME>>";
    private static final String USERNAME = "<<INSERT USERNAME>>";
    private static final String PASSWORD = "<<INSERT USER PASSWORD>>";


    public DBConnector() throws Exception {
        Class.forName("com.mysql.jdbc.Driver").newInstance();
        String url = "jdbc:mysql://" + IP + ":" + PORT + "/" + DATABASE;
        this.connection = (Connection) DriverManager.getConnection(url, USERNAME, PASSWORD);
    }

    public Connection getConnection() {
        return this.connection;
    }
}
```