Paper Code : C

SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY
KARAD
OOP with Java
Module End Lab Re-Exam

Course Name:	PG – DAC	**Batch :**	Mar 2024
Module Name:	OOP with Java	**Date:**	15/05/2024
Max. Marks:	32	**Duration :**	1:30 Hours

Instructions :

1. Create **new workspace (folder)** by the name **OOP_12 digit PRN** in your home directory.
2. Create **new Project** with name **OOP_12 digit PRN**.
3. After evaluation, **first compress/zip your folder (named OOP_12 digit PRN)** and upload it on EMIS.

Evaluation of Lab Exam is based on the following criteria :

Self-declaration for Paper Code – C

Sr. No.	Points to cover	Tick Mark by student	Max Marks	Marks by Evaluator
1.	Member and Bug class	☐	6	
2.	Menu-driven program	☐	4	
3.	Add a new bug (with appropriate BugDao functions)	☐	4	
4.	Update given bug status to 'closed' (with appropriate BugDao functions)	☐	4	
5.	Display all open bugs in ascending order of created date along with developer name (with appropriate BugDao functions)	☐	4	
6.	Display report indicating count of open bugs for each member (with appropriate BugDao functions)	☐	4	
7.	Assign bug to given developer (with appropriate BugDao functions)	☐	4	
8.	Display all members	☐	2	
		Total :	**32**	_____

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Signature of Student

_____
Signature of Evaluator

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Question: Implement a bug tracking system in Java using MySQL database. Create the database tables and insert records as given below.

1. Connect with MySQL

```
CREATE DATABASE btsdb; USE btsdb;
CREATE TABLE members(id INT PRIMARY KEY AUTO_INCREMENT, name VARCHAR(40), designation VARCHAR(20));
INSERT INTO members(name, designation) VALUES('Martin', 'Dev');
INSERT INTO members(name, designation) VALUES('Smith', 'Tester');
INSERT INTO members(name, designation) VALUES('John', 'Dev');
INSERT INTO members(name, designation) VALUES('Harry', 'Tester');
INSERT INTO members(name, designation) VALUES('Peter', 'Dev');

CREATE TABLE bugs(id INT PRIMARY KEY AUTO_INCREMENT, title VARCHAR(40), description VARCHAR(100), status VARCHAR(20), assigned_to INT, created TIMESTAMP, modified TIMESTAMP, FOREIGN KEY (assigned_to) REFERENCES members(id));
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#1', 'email validation is wrong', 'open', 1, '2023-02-24', '2023-02-24');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#2', 'danger button not visible properly', 'open', 3, '2023- 01-24', '2023-01-24');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#3', 'logo image resolution not okay', 'closed', 1, '2023-03- 13', '2023-03-17');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#4', 'jwt token expired', 'open', 5, '2023-01-20', '2023-01- 20');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#5', 'encryption algo is wrong', 'closed', 3, '2023-03-31', '2023-04-05');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#6', 'need types dropdown instead of radio buttons', 'open', 3, '2023-01-12', '2023-01-12');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#7', 'change bg image on home', 'open', 5, '2023-01-14', '2023-01-14');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#8', 'replace heading font', 'open', 1, '2023-01-11', '2023- 01-11');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#9', 'home page accessible even after logout', 'closed', 3, '2023-04-04', '2023-04-05');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#10', 'price change not updating in cart', 'open', 5, '2023- 03-15', '2023-03-15');
INSERT INTO bugs(title,description,status,assigned_to,created,modified) VALUES('bug#11', 'payment status not correctly updating', 'closed', 3, '2023-03-13', '2023-03-19');
```

2. Write a menu driven program to perform following operations.

a. Add a new bug -- with current system time.
b. Update given bug status to 'closed' -- also change modified time to the current system time.
c. Display all open bugs in ascending order of created date along with developer name
d. Display report indicating count of open bugs for each member (including member name)
e. Assign bug to given developer -- also change modified time to the current system time.
f. Display all members

Note that use of DAO classes is expected. DAO class should not accept or display any records directly. All input/output operations should be done in Main class or Service class.

3. You can use following DbUtil class.

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;

public class DbUtil {
        public static final String DB_DRIVER = "com.mysql.cj.jdbc.Driver";
        public static final String DB_URL = "jdbc:mysql://localhost:3306/db_name";
        public static final String DB_USER = "db_username";
        public static final String DB_PASSWORD = "db_password";

static {
           try {
                   Class.forName(DB_DRIVER);
            } catch (ClassNotFoundException e) {
                    e.prisntStackTrace();
                    System.exit(1);
               }
           }

           public static Connection getConnection() throws SQLException {
                   Connection con = DriverManager.getConnection(DB_URL, DB_USER, DB_PASSWORD);
                   return con;
              }
       }
```