*Hüseyin Doğan TÜRK 00031288*

**Python CRUD Application Report**

**Brief Description**

In this project, we developed a Python application that performs CRUD (Create, Read, Update, Delete) operations on a MySQL database. We used Python's **mysql.connector** module to connect to the database and execute queries. The database consists of two tables: **Patients** and **owe\_bill**. Each CRUD operation is encapsulated in separate functions to ensure modularity and clarity.

**Database Tables and Data**

***Tables:***

A computer code with text

Description automatically generatedA screenshot of a computer code

Description automatically generated

***Inserted Entries:***

INSERT INTO Patients VALUES (11, 'M', 'David Johnson', '5551111111', '1990-04-15');

INSERT INTO Patients VALUES (12, 'F', 'Sophie Brown', '5552222222', '1986-09-22');

INSERT INTO Patients VALUES (13, 'M', 'James Smith', '5553333333', '1977-11-03');

INSERT INTO Patients VALUES (14, 'F', 'Chloe Davis', '5554444444', '1972-03-14');

INSERT INTO Patients VALUES (15, 'M', 'Benjamin Wilson', '5555555555', '1958-08-25');

INSERT INTO Patients VALUES (16, 'F', 'Isabella Martinez', '5556666666', '1989-05-18');

INSERT INTO Patients VALUES (17, 'M', 'Alexander Anderson', '5557777777', '1998-10-09');

INSERT INTO Patients VALUES (18, 'F', 'Mia Taylor', '5558888888', '1966-07-30');

INSERT INTO Patients VALUES (19, 'M', 'Ethan Thomas', '5559999999', '1974-02-15');

INSERT INTO Patients VALUES (20, 'F', 'Amelia Johnson', '5551010101', '1991-06-07');

INSERT INTO owe\_bill VALUES (1, 11, 250, '2024-03-15');

INSERT INTO owe\_bill VALUES (2, 12, 300, '2024-03-16');

INSERT INTO owe\_bill VALUES (3, 13, 350, '2024-03-17');

INSERT INTO owe\_bill VALUES (4, 14, 400, '2024-03-18');

INSERT INTO owe\_bill VALUES (5, 15, 450, '2024-03-19');

INSERT INTO owe\_bill VALUES (6, 16, 500, '2024-03-20');

INSERT INTO owe\_bill VALUES (7, 17, 550, '2024-03-21');

INSERT INTO owe\_bill VALUES (8, 18, 600, '2024-03-22');

INSERT INTO owe\_bill VALUES (9, 19, 650, '2024-03-23');

INSERT INTO owe\_bill VALUES (10, 20, 700, '2024-03-24');

A screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated

**CRUD Operations**

***Create/Insert***

*Python code:*

A computer screen with numbers and letters

Description automatically generatedA computer code on a black background

Description automatically generated

A computer screen shot of a black screen

Description automatically generated

*Before/after insert*

A screenshot of a computer screen

Description automatically generated

A screen shot of a computer

Description automatically generated

A screenshot of a computer screen

Description automatically generated

***Read***

*Python code:*

A screen shot of a computer program

Description automatically generated

***Update***

*Python code:*

A screen shot of a computer code

Description automatically generatedA black screen with white text

Description automatically generated

*Before/after update*

A computer screen with white text

Description automatically generated

A screen shot of a computer

Description automatically generated

A black screen with white text

Description automatically generated

A screenshot of a computer screen

Description automatically generated

***Delete***

*Python code:*

A screen shot of a computer code

Description automatically generatedA computer screen shot of text

Description automatically generated

A screen shot of a computer code

Description automatically generated

*After insert*

A computer screen shot of a computer screen

Description automatically generated

**CONCLUSION**

The Python application successfully performed the required CRUD operations on the MySQL database. Each operation was encapsulated in a separate function, ensuring modularity and security against SQL injection attacks. The before and after logs clearly demonstrate the changes made to the database by each operation.