Cyber Forensics and Laws

Aim: Write a program to take backup of a MySQL database.

Used software:

• Python 3.10.5 (64 bit)

• MySQL Workbench 8.0

Description:

• **Backup**: In information technology, a backup, or data backup is a copy of computer data taken and stored elsewhere so that it may be used to restore the original after a data loss event. Backups can be used to recover data after its loss from data deletion or corruption, or to recover data from an earlier time.

• **Database**: In computing, a database is an organized collection of data stored and accessed electronically. Small databases can be stored on a file system, while large databases are hosted on computer clusters or cloud storage. ◦ Relational Database: A relational database is a (most commonly digital) database based on the relational model of data. A relational model organizes data into one or more tables (or "relations") of columns and rows, with a unique key identifying each row. Rows are also called records or tuples. Columns are also called attributes. Generally, each table/relation represents one "entity type" (such as customer or product). The rows represent instances of that type of entity (such as "Lee" or "chair") and the columns representing values attributed to that instance (such as address or price).

• **Python**: Python is a high-level, interpreted, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation. Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library.

• **MySQL**: MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses.

Database structure and contents:

Creating a Database and Table

```
create database names;
use names;
create table student(name varchar(20), Age int(3));
insert into student values ('Amir',22),('Owais',22),('Aman',22),('Shubh',22);
select * from student;
show databases;
DROP DATABASE testdb01_backup;
```

	lame	Age
	Filter	Filter
1	Aman	22
2	Amir	22
3	Owais	22
4	Shubh	22

Python Code for creating Backup:

```
import mysql.connector as m

db = 'miniproject'

connection = m.connect(host='localhost', user='root',
                    password='admin', database=db)

cursor = connection.cursor()

cursor.execute('SHOW TABLES;')
table_names = []
for record in cursor.fetchall():
    table_names.append(record[0])

backup_test = db + '_backup'
try:
    cursor.execute(f'CREATE DATABASE {backup_test}')
except:
    pass

cursor.execute(f'USE {backup_test}')
```

```
for table_name in table_names:
    cursor.execute(
        f'CREATE TABLE {table_name} SELECT * FROM {db}.{table_name}')
```

Created Backup: