KING KHALID UNIVERSITY
Women Center, Al-Samer, Abha
Dept. of Information Systems
Instructors: Ms. Kholoud Alghamdi

Subject Code: 271-IS
Subject Name: Programming of data science
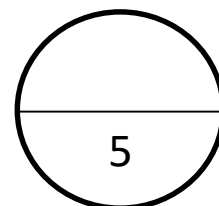**Total Mark: 5**

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Lab Activity (3)
semester 2, 1445

5

Name & Academic No.: Rahaf Saeed Alhalai 442807504

Instructions:

1) *Use python program to answer questions.*
2) *Your answer should be as python file contains your name and ID as comment in the bigging of file.*
3) *Write question as comment before each code.*
4) *Each class should contain your name if you don't do that will be cheating and lose mark*
5) *Take screen of your code and output and put it in word file in case your file is not working.*
6) *You should have Jupyter files|(modules and packages in one folder) and word file , compress your files and attached folder to assignment under name Activity2 and your name ex.(Activity2Kholoud)*

Questions--**(5 marks).**

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I. From Database using python lab do following:
    a) create table name (Student) and insert information as: **(2 points)**

stdID (PK)	stdName	stdMajor
324521	Khalid	Accounting
334673	Ali	Computer Science
742421	Elias	Engineering

b) Do following operation: **(3 points)**
1. Update student Major ('Accounting') to ('Medicine')
2. Alter table by adding new column called age, then open the database to check it is added or not (screen shot for database)
3. After you do all above and take screen shot, drop table (write the code of dropping and then check if the table exist or not).

File   Edit   View   Insert   Cell   Kernel   Widgets   Help   Trusted | Python 3 (ipykernel) ○

Code

```
In [1]:  #Rahaf Saeed Alhalai 442807504
         import sqlite3

         # for Connect to the database
         conn = sqlite3.connect('students.db')
         cursor = conn.cursor()

         # a)Create table and insert data
         cursor.execute('''CREATE TABLE Student (
                     stdID INTEGER PRIMARY KEY,
                     stdName TEXT,
                     stdMajor TEXT
                 )''')

         students = [
             (324521, 'Khalid', 'Accounting'),
             (334673, 'Ali', 'Computer Science'),
             (742421, 'Elias', 'Engineering')
         ]

         cursor.executemany('INSERT INTO Student VALUES (?, ?, ?)', students)
```

Out[1]: <sqlite3.Cursor at 0x21fa3682bc0>

File   Edit   View   Insert   Cell   Kernel   Widgets   Help   Trusted | Python 3 (ipykernel) ○

Code

Out[1]: <sqlite3.Cursor at 0x21fa3682bc0>

```
In [2]:  #Rahaf Saeed Alhalai 442807504
         # b) all the Operations
         # 1.Update student Major from 'Accounting' to 'Medicine'
         cursor.execute("UPDATE Student SET stdMajor = 'Medicine' WHERE stdID = 324521")

         # 2.Alter table by adding a new column called 'age'
         cursor.execute("ALTER TABLE Student ADD COLUMN age INTEGER")

         # this command to Commit the changes
         conn.commit()

         # To Check if the new column 'age' was added
         cursor.execute("PRAGMA table_info(Student)")
         table_info = cursor.fetchall()
         column_names = [column[1] for column in table_info]
         age_column_exists = 'age' in column_names
         print(f"Is 'age' column added? {age_column_exists}")
```

         Is 'age' column added? True

```
In [ ]:  #Rahaf Saeed Alhalai 442807504
         # 3.Drop the table
         cursor.execute("DROP TABLE Student")
```

```
table_info = cursor.fetchall()
column_names = [column[1] for column in table_info]
age_column_exists = 'age' in column_names
print(f"Is 'age' column added? {age_column_exists}")
```

```
Is 'age' column added? True
```

```
In [ ]: #Rahaf Saeed Alhalai 442807504
# 3.Drop the table
cursor.execute("DROP TABLE Student")

# TO Check if the table exists
cursor.execute("SELECT name FROM sqlite_master WHERE type='table' AND name='Student'")
table_exists = cursor.fetchone() is not None
print(f"Does 'Student' table exist? {table_exists}")

#after every thing we should Close the connection
conn.close()
```

Table: Student

	stdID	stdName	stdMajor
	Filter	Filter	Filter
1	324521	Khalid	Accounting
2	334673	Ali	Computer Science
3	742421	Elias	Engineering

Attach Database   Close Database

Edit Database Cell

Mode: Text

```
1  324521
```

Type of data currently in cell: Text / Numeric   Apply
6 character(s)

Remote

Identity Select an identity to connect

DBHub.io   Local   Current Database

Name	Last modified	Size

SQL Log   Plot   DB Schema   Remote

me TEXT, stdMajor TEXT , age

stdID	stdName	stdMajor	age
Filter	Filter	Filter	Filter
1 324521	Khalid	Medicine	NULL
2 334673	Ali	Computer Science	NULL
3 742421	Elias	Engineering	NULL

1 - 3 of 3   Go to: 1

Type here to search   35°C   ENG 2:37 PM 4/19/2024

Is 'age' column added? True

```
In [3]:  #Rahaf Saeed Alhalai 442807504
         # 3.Drop the table
         cursor.execute("DROP TABLE Student")

         # TO Check if the table exists
         cursor.execute("SELECT name FROM sqlite_master WHERE type='table' AND name='Student'")
         table_exists = cursor.fetchone() is not None
         print(f"Does 'Student' table exist? {table_exists}")

         #after every thing we should Close the connection
         conn.close()
```

Does 'Student' table exist? False

```
In [ ]:
```

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