LAPORAN PRAKTIKUM
PRAKTIK PEMROGRAMAN PYTHON

PRAKTIKUM
LATIHAN MEMBUAT DATABASE

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PS D-III TEKNIK INFORMATIKA
SEKOLAH VOKASI
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HASIL DAN PEMBAHASAN

1. Membuat Data Base

```python
In [4]: import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = ""
)

cursorObject = dataBase.cursor()

cursorObject.execute("CREATE DATABASE D3_TI_23")
```

2. Membuat Tabel Mata Kuliah, Mahasiswa, dan Dosen

```python
In [9]: import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = "",
    database = "D3_TI_23"
)

cursorObject = dataBase.cursor()

tblMataKuliah = """CREATE TABLE MATA_KULIAH(
                    KODE_MATA_KULIAH VARCHAR(10) NOT NULL PRIMARY KEY,
                    NAMA_MATA_KULIAH VARCHAR(50) NOT NULL,
                    WAKTU DATE,
                    RUANGAN VARCHAR(10)
                    )"""

tblMahasiswa = """CREATE TABLE MAHASISWA(
                    NIM VARCHAR(10) NOT NULL PRIMARY KEY,
                    NAMA_MAHASISWA VARCHAR(30) NOT NULL,
                    ALAMAT VARCHAR(255),
                    MATA_KULIAH_DIIKUTI VARCHAR(10),
                    FOREIGN KEY (MATA_KULIAH_DIIKUTI) REFERENCES MATA_KULIAH(KODE_MATA_KULIAH)
                    )"""

tblDosen = """CREATE TABLE DOSEN(
                    NIP VARCHAR(20) NOT NULL PRIMARY KEY,
                    NAMA_DOSEN VARCHAR(50) NOT NULL,
                    MATA_KULIAH_AJAR VARCHAR(50),
                    FOREIGN KEY (MATA_KULIAH_AJAR) REFERENCES MATA_KULIAH(KODE_MATA_KULIAH)
                    )"""

cursorObject.execute(tblMataKuliah)
cursorObject.execute(tblMahasiswa)
cursorObject.execute(tblDosen)

dataBase.commit()
dataBase.close()
```

3. Memasukkan Data Pada Tabel

```python
In [19]: import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = "",
    database = "D3_TI_23"
)

cursorObject = dataBase.cursor()

insertMatkul = "INSERT INTO MATA_KULIAH (KODE_MATA_KULIAH, NAMA_MATA_KULIAH, WAKTU, RUANGAN) VALUES (%s, %s, %s, %s)"
valueMatkul = [
    ("MK01", "Praktik Basis Data", "2024-03-11", "L2R2"),
    ("MK02", "Praktik Pemrograman Python", "2024-03-11", "L2R2"),
    ("MK03", "Pemorgraman Berorientasi Objek", "2024-03-12", "L2R3"),
    ("MK04", "Praktik Cloud Computing", "2024-03-12", "L2R3"),
    ("MK05", "Praktik Sistem Operasi", "2024-03-13", "L2R2"),
    ("MK06", "Statistika dan Probabilitas", "2024-03-13", "L2R3")
]

insertMahasiswa = "INSERT INTO MAHASISWA (NIM, NAMA_MAHASISWA, ALAMAT, MATA_KULIAH_DIIKUTI) VALUES (%s, %s, %s, %s)"
valueMahasiswa = [
    ("V3923020", "Zakaria", "Boyolali", "MK01"),
    ("V3923003", "Arvin", "Madiun", "MK02"),
    ("V3923018", "Rossi", "Klaten", "MK03"),
    ("V3923017", "Rizky", "Madiun", "MK04"),
    ("V3923011", "Heigel", "Magetan", "MK05"),
    ("V3923021", "Eggar", "Wonosobo", "MK06")
]
```

```
insertDosen = "INSERT INTO DOSEN (NIP, NAMA_DOSEN, MATA_KULIAH_AJAR) VALUES (%s, %s, %s)"
valueDosen = [
    ("1234567891", "Masbahah", "MK01"),
    ("1234567892","Yusuf Fadila Rachman", "MK02"),
    ("1234567893", "Darmawan Lahru Riatma", "MK03"),
    ("1234567894", "Nur Azizul Haqimi", "MK04"),
    ("1234567895", "Nur Azizul Haqimi", "MK05"),
    ("1234567896", "Trisna Ari Roshinta", "MK06")
]

cursorObject.executemany(insertMatkul, valueMatkul)
cursorObject.executemany(insertMahasiswa, valueMahasiswa)
cursorObject.executemany(insertDosen, valueDosen)

dataBase.commit()
dataBase.close()
```

4. Menampilkan Data Pada Tabel Mata Kuliah

```
In [21]: import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = "",
    database = "D3_TI_23"
)

cursorObject = dataBase.cursor()
showMataKuliah = "SELECT * FROM MATA_KULIAH"
cursorObject.execute(showMataKuliah)
hasil = cursorObject.fetchall()

print("==>Data Tabel Mata Kuliah<==")
for x in hasil:
    print(x)

dataBase.close()
```

```
==>Data Tabel Mata Kuliah<==
('MK01', 'Praktik Basis Data', datetime.date(2024, 3, 11), 'L2R2')
('MK02', 'Praktik Pemrograman Python', datetime.date(2024, 3, 11), 'L2R2')
('MK03', 'Pemorgraman Berorientasi Objek', datetime.date(2024, 3, 12), 'L2R3')
('MK04', 'Praktik Cloud Computing', datetime.date(2024, 3, 12), 'L2R3')
('MK05', 'Praktik Sistem Operasi', datetime.date(2024, 3, 13), 'L2R2')
('MK06', 'Statistika dan Probabilitas', datetime.date(2024, 3, 13), 'L2R3')
```

5. Menampilkan Data Pada Tabel Mahasiswa

```
In [22]: import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = "",
    database = "D3_TI_23"
)

cursorObject = dataBase.cursor()
showMahasiswa = "SELECT * FROM MAHASISWA"
cursorObject.execute(showMahasiswa)
hasil = cursorObject.fetchall()

print("==>Data Tabel Mahasiswa<==")
for x in hasil:
    print(x)

dataBase.close()
```

```
==>Data Tabel Mahasiswa<==
('V3923003', 'Arvin', 'Madiun', 'MK02')
('V3923011', 'Heigel', 'Magetan', 'MK05')
('V3923017', 'Rizky', 'Madiun', 'MK04')
('V3923018', 'Rossi', 'Klaten', 'MK03')
('V3923020', 'Zakaria', 'Boyolali', 'MK01')
('V3923021', 'Eggar', 'Wonosobo', 'MK06')
```

6. Menampilkan Data Pada Tabel Dosen

```
In [23]: import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = "",
    database = "D3_TI_23"
)

cursorObject = dataBase.cursor()
showDosen = "SELECT * FROM DOSEN"
cursorObject.execute(showDosen)
hasil = cursorObject.fetchall()

print("==>Data Tabel Dosen<==")
for x in hasil:
    print(x)

dataBase.close()
```

```
==>Data Tabel Dosen<==
('1234567891', 'Masbahah', 'MK01')
('1234567892', 'Yusuf Fadila Rachman', 'MK02')
('1234567893', 'Darmawan Lahru Riatma', 'MK03')
('1234567894', 'Nur Azizul Haqimi', 'MK04')
('1234567895', 'Nur Azizul Haqimi', 'MK05')
('1234567896', 'Trisna Ari Roshinta', 'MK06')
```

7. Menampilkan Data Mata Kuliah, Mahasiswa, dan Dosen Secara Bersama

```
In [24]: import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = "",
    database = "D3_TI_23"
)

cursorObject = dataBase.cursor()
query = """
    SELECT MATA_KULIAH.NAMA_MATA_KULIAH, MAHASISWA.NAMA_MAHASISWA, DOSEN.NAMA_DOSEN
    FROM MAHASISWA
    JOIN MATA_KULIAH ON MAHASISWA.MATA_KULIAH_DIIKUTI = MATA_KULIAH.KODE_MATA_KULIAH
    JOIN DOSEN ON DOSEN.MATA_KULIAH_AJAR = MATA_KULIAH.KODE_MATA_KULIAH
"""

cursorObject.execute(query)
hasil = cursorObject.fetchall()

for row in hasil:
    print("Mata Kuliah : ", row[0])
    print("Mahasiswa : ", row[1])
    print("Dosen : ", row[2])
    print()

dataBase.close()
```

```
Mata Kuliah :  Praktik Basis Data
Mahasiswa :  Zakaria
Dosen :  Masbahah

Mata Kuliah :  Praktik Pemrograman Python
Mahasiswa :  Arvin
Dosen :  Yusuf Fadila Rachman

Mata Kuliah :  Pemorgraman Berorientasi Objek
Mahasiswa :  Rossi
Dosen :  Darmawan Lahru Riatma

Mata Kuliah :  Praktik Cloud Computing
Mahasiswa :  Rizky
Dosen :  Nur Azizul Haqimi

Mata Kuliah :  Praktik Sistem Operasi
Mahasiswa :  Heigel
Dosen :  Nur Azizul Haqimi

Mata Kuliah :  Statistika dan Probabilitas
Mahasiswa :  Eggar
Dosen :  Trisna Ari Roshinta
```

```
In [ ]:
```