LAPORAN PRAKTIKUM
PEMROGRAMAN PYTHON

PRAKTIKUM
PYTHON DATABASE

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PS D-III TEKNIK INFORMATIKA
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Membuat Database

```python
import mysql.connector

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

cursorObject = dataBase.cursor()

cursorObject.execute("CREATE DATABASE D3_TI_2023")


```

Membuat Tabel

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "D3_TI_2023"
)

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.close()
```

Memasukkan Data Pada Tabel

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "D3_TI_2023"
)

cursorObject = dataBase.cursor()

insertMatkul = "INSERT INTO MATA_KULIAH (KODE_MATA_KULIAH, NAMA_MATA_KULIAH, WAKTU, RUANGAN) VALUES (%s, %s, %s, %s)"
valueMatkul = [
    ("MK001", "Praktik Pemrograman Python", "2024-03-11", "L2R2"),
    ("MK002", "Statistika dan Probabilitas", "2024-03-11", "L2R2"),
    ("MK003", "Pemrograman Berorientasi Objek", "2024-03-12", "L2R3"),
    ("MK004", "Praktik Basis Data", "2024-03-13", "L2R2"),
    ("MK005", "Praktik Sistem Operasi", "2024-03-13", "L2R2")
]

insertDosen = "INSERT INTO DOSEN (NIP, NAMA_DOSEN, MATA_KULIAH_AJAR) VALUES (%s, %s, %s)"
valueDosen = [
    ("123456781", "Yusuf Fadilla Rachman", "MK001"),
    ("123456782", "Nur Azizul Haqimi", "MK005"),
    ("123456783", "Darmawan Lahru Riatma", "MK003"),
    ("123456784", "Trisna Ari Roshinta", "MK002"),
    ("123456785", "Masbahah", "MK004")
]

insertMahasiswa = "INSERT INTO MAHASISWA (NIM, NAMA_MAHASISWA, ALAMAT, MATA_KULIAH_DIIKUTI) VALUES (%s, %s, %s, %s)"
valueMahasiswa = [
    ("V1234561", "Dimas", "Madiun", "MK001"),
    ("V1234562", "Yudi", "Surabaya", "MK005"),
    ("V1234563", "Anto", "Surakarta", "MK004"),
    ("V1234564", "Aldo", "Jakarta", "MK003"),
    ("V1234565", "Soni", "Yogyakarta", "MK002")
]

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

dataBase.commit()

dataBase.close()
```

Menampilkan Data pada Tabel Dosen

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "D3_TI_2023"
)

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()
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\VsCode Project\Database Python> python -u "d:\VsCode Project\Database Python\ShowDataDosen.py"
==> Data Tabel Dosen
('123456781', 'Yusuf Fadilla Rachman', 'MK001')
('123456782', 'Nur Azizul Haqimi', 'MK005')
('123456783', 'Darmawan Lahru Riatma', 'MK003')
('123456784', 'Trisna Ari Roshinta', 'MK002')
('123456785', 'Masbahah', 'MK004')
PS D:\VsCode Project\Database Python>
```

Menampilkan Data pada Tabel Mata Kuliah

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "D3_TI_2023"
)

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()
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\VsCode Project\Database Python> python -u "d:\VsCode Project\Database Python\ShowDataMataKuliah.py"
==> Data Tabel Mata Kuliah
('MK001', 'Praktik Pemrograman Python', datetime.date(2024, 3, 11), 'L2R2')
('MK002', 'Statistika dan Probabilitas', datetime.date(2024, 3, 11), 'L2R2')
('MK003', 'Pemrograman Berorientasi Objek', datetime.date(2024, 3, 12), 'L2R3')
('MK004', 'Praktik Basis Data', datetime.date(2024, 3, 13), 'L2R2')
('MK005', 'Praktik Sistem Operasi', datetime.date(2024, 3, 13), 'L2R2')
PS D:\VsCode Project\Database Python>
```

Menampilkan Data pada Tabel Mahasiswa

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "D3_TI_2023"
)

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()
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\VsCode Project\Database Python> python -u "d:\VsCode Project\Database Python\ShowDataMahasiswa.py"
==> Data Tabel Mahasiswa
('V1234561', 'Dimas', 'Madiun', 'MK001')
('V1234562', 'Yudi', 'Surabaya', 'MK005')
('V1234563', 'Anto', 'Surakarta', 'MK004')
('V1234564', 'Aldo', 'Jakarta', 'MK003')
('V1234565', 'Soni', 'Yogyakarta', 'MK002')
PS D:\VsCode Project\Database Python>
```

Menampilkan Data Mata Kuliah, Nama Mahasiswa, dan Dosen

```python
import mysql.connector

database = mysql.connector.connect(
    host="localhost",
    user="root",
    passwd="",
    database="D3_TI_2023"
)

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()
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\VsCode Project\Database Python> python -u "d:\VsCode Project\Database Python\ShowGabung.py"
Mata Kuliah: Praktik Pemrograman Python
Mahasiswa: Dimas
Dosen: Yusuf Fadilla Rachman

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

Mata Kuliah: Pemrograman Berorientasi Objek
Mahasiswa: Aldo
Dosen: Darmawan Lahru Riatma

Mata Kuliah: Statistika dan Probabilitas
Mahasiswa: Soni
Dosen: Trisna Ari Roshinta

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