

LAPORAN PRAKTIKUM PRAKTIK PEMROGRAMAN PYTHON

PRAKTIK VI DATABASE DENGAN PYTHON

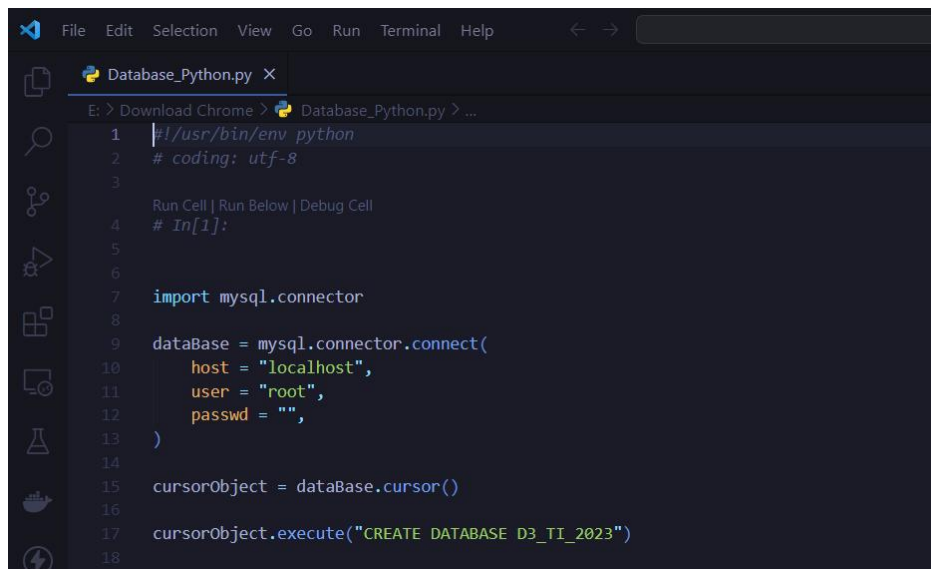


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**PS D-III TEKNIK INFORMATIKA
SEKOLAH VOKASI
UNIVERSITAS SEBELAS MARET
202**

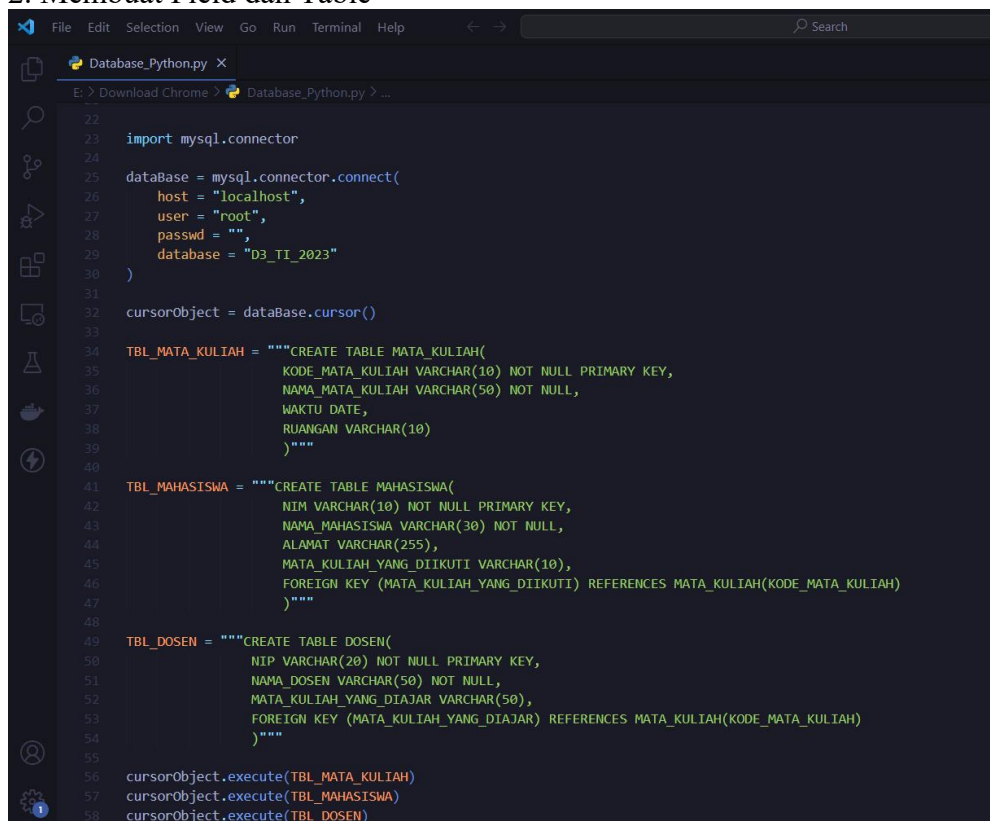
1. Membuat database



```
Database_Python.py x
E: > Download Chrome > Database_Python.py > ...

1  #!/usr/bin/env python
2  # coding: utf-8
3
4  Run Cell | Run Below | Debug Cell
5  # In[1]:
6
7  import mysql.connector
8
9  dataBase = mysql.connector.connect(
10     host = "localhost",
11     user = "root",
12     passwd = "",
13 )
14
15 cursorObject = dataBase.cursor()
16
17 cursorObject.execute("CREATE DATABASE D3_TI_2023")
18
```

2. Membuat Field dan Table



```
Database_Python.py x
E: > Download Chrome > Database_Python.py > ...

22
23 import mysql.connector
24
25 dataBase = mysql.connector.connect(
26     host = "localhost",
27     user = "root",
28     passwd = "",
29     database = "D3_TI_2023"
30 )
31
32 cursorObject = dataBase.cursor()
33
34 TBL_MATA_KULIAH = """CREATE TABLE MATA_KULIAH(
35     KODE_MATA_KULIAH VARCHAR(10) NOT NULL PRIMARY KEY,
36     NAMA_MATA_KULIAH VARCHAR(50) NOT NULL,
37     WAKTU DATE,
38     RUANGAN VARCHAR(10)
39 )"""
40
41 TBL_MAHASISWA = """CREATE TABLE MAHASISWA(
42     NIM VARCHAR(10) NOT NULL PRIMARY KEY,
43     NAMA_MAHASISWA VARCHAR(30) NOT NULL,
44     ALAMAT VARCHAR(255),
45     MATA_KULIAH YANG DIKUTI VARCHAR(10),
46     FOREIGN KEY (MATA_KULIAH YANG DIKUTI) REFERENCES MATA_KULIAH(KODE_MATA_KULIAH)
47 )"""
48
49 TBL_DOSEN = """CREATE TABLE DOSEN(
50     NIP VARCHAR(20) NOT NULL PRIMARY KEY,
51     NAMA_DOSEN VARCHAR(50) NOT NULL,
52     MATA_KULIAH YANG DIAJAR VARCHAR(50),
53     FOREIGN KEY (MATA_KULIAH YANG DIAJAR) REFERENCES MATA_KULIAH(KODE_MATA_KULIAH)
54 )"""
55
56 cursorObject.execute(TBL_MATA_KULIAH)
57 cursorObject.execute(TBL_MAHASISWA)
58 cursorObject.execute(TBL_DOSEN)
```

3. Menambahkan data pada field

```
Database_Python.py
E: > Download Chrome > Database_Python.py > ...

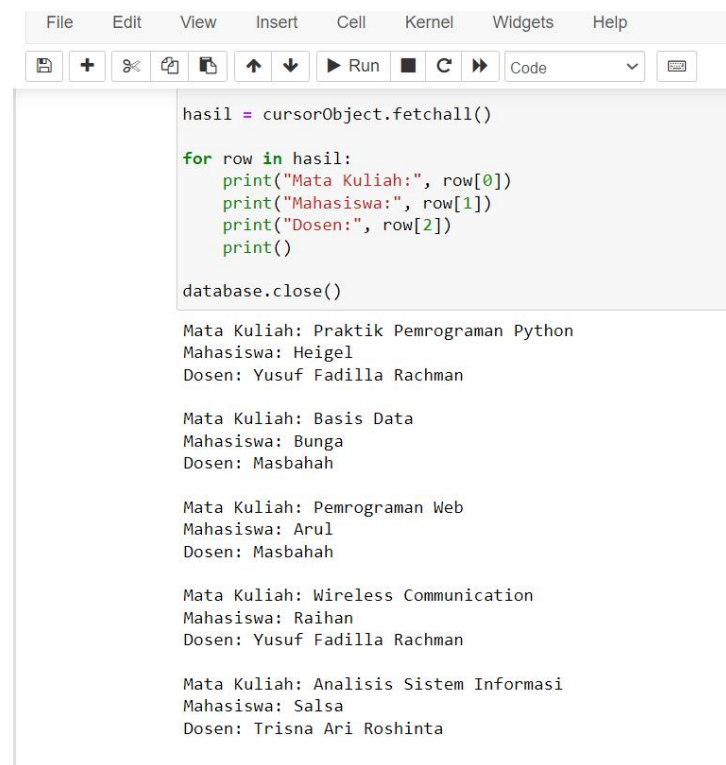
64
65 import mysql.connector
66
67 database = mysql.connector.connect(
68     host = "localhost",
69     user = "root",
70     passwd = "",
71     database = "D3_TI_2023"
72 )
73 cursorObject = database.cursor()
74
75 insertMataKuliah = "INSERT INTO MATA_KULIAH (KODE_MATA_KULIAH, NAMA_MATA_KULIAH, WAKTU, RUANGAN) VALUES (%s, %s, %s, %s)"
76 valueMataKuliah = [
77     ("MK111", "Praktik Pemrograman Python", "2024-03-11", "L2R3"),
78     ("MK222", "Basis Data", "2024-03-11", "L2R2"),
79     ("MK333", "Pemrograman Web", "2024-03-12", "L2R2"),
80     ("MK444", "Wireless Communication", "2024-03-13", "L2R3"),
81     ("MK555", "Analisis Sistem Informasi", "2024-03-13", "L2R2")
82 ]
83
84 insertDosen = "INSERT INTO DOSEN (NIP, NAMA_DOSEN, MATA_KULIAH YANG DIAJAR) VALUES (%s, %s, %s)"
85 valueDosen = [
86     ("00890111", "Yusuf Fadilla Rachman", "MK111"),
87     ("00890112", "Masbahah", "MK222"),
88     ("00890113", "Masbahah", "MK333"),
89     ("00890114", "Yusuf Fadilla Rachman", "MK444"),
90     ("00890115", "Trisna Ari Roshinta", "MK555")
91 ]
92
93 insertMahasiswa = "INSERT INTO MAHASISWA (NIM, NAMA_MAHASISWA, ALAMAT, MATA_KULIAH YANG DIKUTI) VALUES (%s, %s, %s, %s)"
94 valueMahasiswa = [
95     ("V3923001", "Heigel", "Magetan", "MK111"),
96     ("V3923002", "Bunga", "Yogyakarta", "MK222"),
97     ("V3923003", "Arul", "Surabaya", "MK333"),
98     ("V3923004", "Raihan", "Surakarta", "MK444"),
99     ("V3923005", "Salsa", "Malang", "MK555")
100 ]
```

4. Menampilkan data

```
Database_Python.py
E: > Download Chrome > Database_Python.py > ...

111 # In[2]:
112
113
114 import mysql.connector
115
116 database = mysql.connector.connect(
117     host="localhost",
118     user="root",
119     passwd="",
120     database="D3_TI_2023"
121 )
122
123 cursorObject = database.cursor()
124
125 query = """
126     SELECT MATA_KULIAH.NAMA_MATA_KULIAH, MAHASISWA.NAMA_MAHASISWA, DOSEN.NAMA_DOSEN
127     FROM MAHASISWA
128     JOIN MATA_KULIAH ON MAHASISWA.MATA_KULIAH YANG DIKUTI = MATA_KULIAH.KODE_MATA_KULIAH
129     JOIN DOSEN ON DOSEN.MATA_KULIAH YANG DIAJAR = MATA_KULIAH.KODE_MATA_KULIAH
130 """
131 cursorObject.execute(query)
132
133 hasil = cursorObject.fetchall()
134
135 for row in hasil:
136     print("Mata Kuliah:", row[0])
137     print("Mahasiswa:", row[1])
138     print("Dosen:", row[2])
139     print()
140
```

5. Hasil



The screenshot shows a Jupyter Notebook interface with a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for saving, adding, zooming, copying, pasting, undo, redo, and running code. The code cell contains the following Python code:

```
hasil = cursorObject.fetchall()

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

database.close()
```

The output of the code is displayed below the code cell, showing five rows of data:

```
Mata Kuliah: Praktik Pemrograman Python
Mahasiswa: Heigel
Dosen: Yusuf Fadilla Rachman

Mata Kuliah: Basis Data
Mahasiswa: Bunga
Dosen: Masbahah

Mata Kuliah: Pemrograman Web
Mahasiswa: Arul
Dosen: Masbahah

Mata Kuliah: Wireless Communication
Mahasiswa: Raihan
Dosen: Yusuf Fadilla Rachman

Mata Kuliah: Analisis Sistem Informasi
Mahasiswa: Salsa
Dosen: Trisna Ari Roshinta
```