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	Mata Kuliah	Algoritma Pemrograman Praktik VII
	Projek	Projek Pertemuan 12

Copy Paste Codingan:

1.Create Database dan Tabel

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')

koneksi.execute('''
                CREATE TABLE HEWAN (
                id_hewan INTEGER PRIMARY KEY AUTOINCREMENT,
                nama_hewan VARCHAR(50),
                jenis VARCHAR(50),
                asal VARCHAR(50),
                jml_skrg INTEGER(10),
                thn_ditemukan INTEGER(10)
                )
                ''')

koneksi.close()
```

2.INSERT INTO

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')

koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Orangutan','Mamalia','Sumatera',14000,2021)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Harimau Sumatera','Mamalia','Sumatera',400,2020)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Komodo','Reptil','Nusa Tenggara',3000,2019)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Anoa','Mamalia','Sulawesi',5000,2022)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Badak Jawa','Mamalia','Jawa',72,2021)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Kuskus','Mamalia','Papua',50,2020)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Trenggilling','Mamalia','Sumatera',90,2022)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Burung Cendrawasih','Burung','Papua',45,2021)''')
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Penyu Hijau','Reptil','Nusa Tenggara Timur',20,2022)''')
```

```
koneksi.execute('''INSERT INTO HEWAN(nama_hewan,jenis,asal,jml_skrg,thn_ditemukan)
VALUES ('Gajah Sumatera','Mamalia','Sumatera',2500,2023)''')

koneksi.commit()
koneksi.close()
```

3.SELECT ALL

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN ")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

4.SELECT WHERE

-jenis = mamalia

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN WHERE jenis = 'Mamalia' ")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
```

```
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

-jumlah sekarang <= 1000

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN WHERE jml_skrg <= 1000 ")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

5.SELECT WHERE AND

Jenis = mamalia & asal = Sumatera

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN WHERE jenis = 'Mamalia' AND asal = 'Sumatera'
")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
```

```
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

6.SELECT WHERE OR
Asal = sumatera OR jumlah saat ini > 500

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN WHERE asal = 'Mamalia' OR jml_skrg > 500 ")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

7.SELECT SUM
SUM(jumlah saat ini)

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT SUM(jml_skrg) FROM HEWAN")

total = kursor.fetchone()[0]

print('DATA HEWAN')
print('='*50)
print(f"TOTAL POPULASI HEWAN LANGKA SAAT INI : {total}")
print("-"*50)
print("-"*50)
koneksi.close()
```

8.SELECT ORDER BY

-nama hewan bersasar awal alphabetic

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN ORDER BY  nama_hewan ASC")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

-jumlah hewan dari yang terbanyak

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN ORDER BY  jml_skrg DESC")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

-tahun ditemukan dari tahun yang terlama

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
```

```
kursor  = koneksi.cursor()

#Select All
kursor.execute("SELECT * FROM HEWAN ORDER BY  thn_ditemukan ASC")

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

9.SELECT LIKE

Cari nama hewan yang diawali dengan karakter “B”

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
nama = 'B%'
kursor.execute("SELECT * FROM HEWAN WHERE nama_hewan LIKE ?", (nama,))

baris_tabel = kursor.fetchall()

print('DATA HEWAN')
print('='*150)
print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format("id_hewan","nama_hewan","jenis","asal","jml_skrg","thn_ditemukan"))
print("-"*150)

for baris in baris_tabel:
    print("{:<5} {:<30} {:<30} {:<30} {:<30}
{:<30}".format(baris[0],baris[1],baris[2],baris[3],baris[4],baris[5]))

print("-"*150)
koneksi.close()
```

10.UPDATE SET

-jumlah Orangutan menjadi 900

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
jmlSkrgUpdate = 900
idHewan = 1
kursor.execute(f"UPDATE HEWAN SET jml_skrg = {jmlSkrgUpdate} WHERE id_hewan =
{idHewan}")
koneksi.commit()

if kursor.rowcount > 0:
    print(f"Data Hewan dengan id {idHewan} berhasil di update")
else :
    print(f"TIdak ada Data Hewan dengan id {idHewan}")
koneksi.close()
```

-asal Komodo menjadi “Nusa Tenggara Timur“

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All
idHewan = 3
kursor.execute(f'UPDATE HEWAN SET asal = "Nusa Tenggara Timur" WHERE id_hewan =
{idHewan}')
koneksi.commit()

if kursor.rowcount > 0:
    print(f"Data Hewan dengan id {idHewan} berhasil di update")
else :
    print(f"TIdak ada Data Hewan dengan id {idHewan}")
koneksi.close()
```

11. DELETE FROM

-hapus isian field jenis = “Mamalia”

```
import sqlite3
koneksi = sqlite3.connect('hewan.db')
kursor  = koneksi.cursor()

#Select All

kursor.execute(f"DELETE FROM HEWAN WHERE jenis = 'Mamalia'")
koneksi.commit()
```

```
print('Data Berhasil Dihapus')
koneksi.close()
```

Screenshot hasil Codingan:

3.SELECT ALL

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                 jenis                   asal                    jml_skrg                thn_ditemukan

--------------------------------------------------------------------------------------------------------------------------
1     Orangutan                     Mamalia                 Sumatera                14000                   2021

2     Harimau Sumatera              Mamalia                 Sumatera                400                     2020

3     Komodo                        Reptil                  Nusa Tenggara           3000                    2019
4     Anoa                          Mamalia                 Sulawesi                5000                    2022
5     Badak Jawa                    Mamalia                 Jawa                    72                      2021
6     Kuskus                        Mamalia                 Papua                   50                      2020
7     Trenggilling                  Mamalia                 Sumatera                90                      2022
8     Burung Cendrawasih            Burung                  Papua                   45                      2021
9     Penyu Hijau                   Reptil                  Nusa Tenggara Timur     20                      2022
10    Gajah Sumatera                Mamalia                 Sumatera                2500                    2023
--------------------------------------------------------------------------------------------------------------------------
PS C:\Users\LABKOM\Documents\258 py\PROJECT-AKHIR-ALPROVII-5230411258>
```

4.SELECT WHERE

-jenis = mamalia

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                 jenis                   asal                    jml_skrg                thn_ditemukan
--------------------------------------------------------------------------------------------------------------------------
1     Orangutan                     Mamalia                 Sumatera                14000                   2021
2     Harimau Sumatera              Mamalia                 Sumatera                400                     2020
4     Anoa                          Mamalia                 Sulawesi                5000                    2022
5     Badak Jawa                    Mamalia                 Jawa                    72                      2021
6     Kuskus                        Mamalia                 Papua                   50                      2020
7     Trenggilling                  Mamalia                 Sumatera                90                      2022
10    Gajah Sumatera                Mamalia                 Sumatera                2500                    2023
--------------------------------------------------------------------------------------------------------------------------
PS C:\Users\LABKOM\Documents\258 py\PROJECT-AKHIR-ALPROVII-5230411258>
```

-jumlah sekarang <= 1000

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                 jenis                   asal                    jml_skrg                thn_ditemukan
--------------------------------------------------------------------------------------------------------------------------
2     Harimau Sumatera              Mamalia                 Sumatera                400                     2020
5     Badak Jawa                    Mamalia                 Jawa                    72                      2021
6     Kuskus                        Mamalia                 Papua                   50                      2020
7     Trenggilling                  Mamalia                 Sumatera                90                      2022
8     Burung Cendrawasih            Burung                  Papua                   45                      2021
9     Penyu Hijau                   Reptil                  Nusa Tenggara Timur     20                      2022
--------------------------------------------------------------------------------------------------------------------------
PS C:\Users\LABKOM\Documents\258 py\PROJECT-AKHIR-ALPROVII-5230411258>
```

5.SELECT WHERE AND

Jenis = mamalia & asal = Sumatera

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                 jenis                   asal                    jml_skrg                thn_ditemukan
--------------------------------------------------------------------------------------------------------------------------
1     Orangutan                     Mamalia                 Sumatera                14000                   2021
2     Harimau Sumatera              Mamalia                 Sumatera                400                     2020
7     Trenggilling                  Mamalia                 Sumatera                90                      2022
10    Gajah Sumatera                Mamalia                 Sumatera                2500                    2023
--------------------------------------------------------------------------------------------------------------------------
PS C:\Users\LABKOM\Documents\258 py\PROJECT-AKHIR-ALPROVII-5230411258>
```

6.SELECT WHERE OR

Asal = sumatera OR jumlah saat ini > 500

```
DATA HEWAN
=============================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
-----------------------------------------------------------------------------------------------------------------------------
1     Orangutan                    Mamalia                  Sumatera                14000                   2021
2     Harimau Sumatera             Mamalia                  Sumatera                400                     2020
7     Trenggilling                 Mamalia                  Sumatera                90                      2022
10    Gajah Sumatera               Mamalia                  Sumatera                2500                    2023
-----------------------------------------------------------------------------------------------------------------------------
PS C:\Users\LABKOM\Documents\258 py\PROJECT-AKHIR-ALPROVII-5230411258>
```

7.SELECT SUM

SUM(jumlah saat ini)

```
DATA HEWAN
==================================================
TOTAL POPULASI HEWAN LANGKA SAAT INI : 25177
--------------------------------------------------
--------------------------------------------------
```

8.SELECT ORDER BY

-nama hewan bersasar awal alphabetic

```
DATA HEWAN
=============================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
-----------------------------------------------------------------------------------------------------------------------------
4     Anoa                         Mamalia                  Sulawesi                5000                    2022
5     Badak Jawa                   Mamalia                  Jawa                    72                      2021
8     Burung Cendrawasih           Burung                   Papua                   45                      2021
10    Gajah Sumatera               Mamalia                  Sumatera                2500                    2023
2     Harimau Sumatera             Mamalia                  Sumatera                400                     2020
3     Komodo                       Reptil                   Nusa Tenggara           3000                    2019
6     Kuskus                       Mamalia                  Papua                   50                      2020
1     Orangutan                    Mamalia                  Sumatera                14000                   2021
9     Penyu Hijau                  Reptil                   Nusa Tenggara Timur     20                      2022
7     Trenggilling                 Mamalia                  Sumatera                90                      2022
-----------------------------------------------------------------------------------------------------------------------------
```

-jumlah hewan dari yang terbanyak

```
DATA HEWAN
=============================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
-----------------------------------------------------------------------------------------------------------------------------
1     Orangutan                    Mamalia                  Sumatera                14000                   2021
4     Anoa                         Mamalia                  Sulawesi                5000                    2022
3     Komodo                       Reptil                   Nusa Tenggara           3000                    2019
10    Gajah Sumatera               Mamalia                  Sumatera                2500                    2023
2     Harimau Sumatera             Mamalia                  Sumatera                400                     2020
7     Trenggilling                 Mamalia                  Sumatera                90                      2022
5     Badak Jawa                   Mamalia                  Jawa                    72                      2021
6     Kuskus                       Mamalia                  Papua                   50                      2020
8     Burung Cendrawasih           Burung                   Papua                   45                      2021
9     Penyu Hijau                  Reptil                   Nusa Tenggara Timur     20                      2022
-----------------------------------------------------------------------------------------------------------------------------
```

-tahun ditemukan dari tahun yang terlama

```
DATA HEWAN
=============================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
-----------------------------------------------------------------------------------------------------------------------------
3     Komodo                       Reptil                   Nusa Tenggara           3000                    2019
2     Harimau Sumatera             Mamalia                  Sumatera                400                     2020
6     Kuskus                       Mamalia                  Papua                   50                      2020
1     Orangutan                    Mamalia                  Sumatera                14000                   2021
5     Badak Jawa                   Mamalia                  Jawa                    72                      2021
8     Burung Cendrawasih           Burung                   Papua                   45                      2021
4     Anoa                         Mamalia                  Sulawesi                5000                    2022
7     Trenggilling                 Mamalia                  Sumatera                90                      2022
9     Penyu Hijau                  Reptil                   Nusa Tenggara Timur     20                      2022
10    Gajah Sumatera               Mamalia                  Sumatera                2500                    2023
-----------------------------------------------------------------------------------------------------------------------------
```

9.SELECT LIKE

Cari nama hewan yang diawali dengan karakter “B”

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
--------------------------------------------------------------------------------------------------------------------------
5     Badak Jawa                   Mamalia                  Jawa                    72                      2021
8     Burung Cendrawasih           Burung                   Papua                   45                      2021
--------------------------------------------------------------------------------------------------------------------------
```

10.UPDATE SET

-jumlah Orangutan menjadi 900

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
--------------------------------------------------------------------------------------------------------------------------
1     Orangutan                    Mamalia                  Sumatera                900                     2021
2     Harimau Sumatera             Mamalia                  Sumatera                400                     2020
3     Komodo                       Reptil                   Nusa Tenggara           3000                    2019
4     Anoa                         Mamalia                  Sulawesi                5000                    2022
5     Badak Jawa                   Mamalia                  Jawa                    72                      2021
6     Kuskus                       Mamalia                  Papua                   50                      2020
7     Trenggilling                 Mamalia                  Sumatera                90                      2022
8     Burung Cendrawasih           Burung                   Papua                   45                      2021
9     Penyu Hijau                  Reptil                   Nusa Tenggara Timur     20                      2022
10    Gajah Sumatera               Mamalia                  Sumatera                2500                    2023
--------------------------------------------------------------------------------------------------------------------------
```

-asal Komodo menjadi “Nusa Tenggara Timur“

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
--------------------------------------------------------------------------------------------------------------------------
1     Orangutan                    Mamalia                  Sumatera                900                     2021
2     Harimau Sumatera             Mamalia                  Sumatera                400                     2020
3     Komodo                       Reptil                   Nusa Tenggara Timur     3000                    2019
4     Anoa                         Mamalia                  Sulawesi                5000                    2022
5     Badak Jawa                   Mamalia                  Jawa                    72                      2021
6     Kuskus                       Mamalia                  Papua                   50                      2020
7     Trenggilling                 Mamalia                  Sumatera                90                      2022
8     Burung Cendrawasih           Burung                   Papua                   45                      2021
9     Penyu Hijau                  Reptil                   Nusa Tenggara Timur     20                      2022
10    Gajah Sumatera               Mamalia                  Sumatera                2500                    2023
--------------------------------------------------------------------------------------------------------------------------
```

11. DELETE FROM

-hapus isian field jenis = “Mamalia”

Tampilan sebelum:

```
DATA HEWAN
==========================================================================================================================
id_hewan nama_hewan                jenis                    asal                    jml_skrg                thn_ditemukan
--------------------------------------------------------------------------------------------------------------------------
1     Orangutan                    Mamalia                  Sumatera                900                     2021
2     Harimau Sumatera             Mamalia                  Sumatera                400                     2020
3     Komodo                       Reptil                   Nusa Tenggara Timur     3000                    2019
4     Anoa                         Mamalia                  Sulawesi                5000                    2022
5     Badak Jawa                   Mamalia                  Jawa                    72                      2021
6     Kuskus                       Mamalia                  Papua                   50                      2020
7     Trenggilling                 Mamalia                  Sumatera                90                      2022
8     Burung Cendrawasih           Burung                   Papua                   45                      2021
9     Penyu Hijau                  Reptil                   Nusa Tenggara Timur     20                      2022
10    Gajah Sumatera               Mamalia                  Sumatera                2500                    2023
--------------------------------------------------------------------------------------------------------------------------
PS C:\Users\LABKOM\Documents\258 py\PROJECT-AKHIR-ALPROVII-5230411258>
```

Tampilan sesudah:

```
DATA HEWAN
=========================================================================================================================================
id_hewan nama_hewan                 jenis                       asal                        jml_skrg                    thn_ditemukan
-----------------------------------------------------------------------------------------------------------------------------------------
3        Komodo                     Reptil                      Nusa Tenggara Timur         3000                        2019
8        Burung Cendrawasih         Burung                      Papua                       45                          2021
9        Penyu Hijau                Reptil                      Nusa Tenggara Timur         20                          2022
-----------------------------------------------------------------------------------------------------------------------------------------
PS C:\Users\LABKOM\Documents\258 py\PROJECT-AKHIR-ALPROVII-5230411258>
```