

In [1]:

```
from sqlalchemy import Table, Column, Integer, String, MetaData
meta = MetaData()
```

In [2]:

```
employee = Table(
    'employee', meta,
    Column('id', Integer, primary_key = True),
    Column('name', String),
    Column('department', String),
    Column('basicsalary', Integer),
    Column('DA', Integer),
    Column('HRA', Integer)
)
```

In [3]:

```
from sqlalchemy import create_engine, MetaData, Table, Column, Integer, String
engine = create_engine('sqlite:///organization.db', echo = True)
meta = MetaData()

employee = Table(
    'employee', meta,
    Column('id', Integer, primary_key = True),
    Column('name', String),
    Column('department', String),
    Column('basicsalary', Integer),
    Column('DA', Integer),
    Column('HRA', Integer)
)
meta.create_all(engine)
```

```
2022-01-17 00:40:32,478 INFO sqlalchemy.engine.Engine BEGIN (implicit)
2022-01-17 00:40:32,482 INFO sqlalchemy.engine.Engine PRAGMA main.table_info
("employee")
2022-01-17 00:40:32,484 INFO sqlalchemy.engine.Engine [raw sql] ()
2022-01-17 00:40:32,487 INFO sqlalchemy.engine.Engine PRAGMA temp.table_info
("employee")
2022-01-17 00:40:32,488 INFO sqlalchemy.engine.Engine [raw sql] ()
2022-01-17 00:40:32,492 INFO sqlalchemy.engine.Engine
CREATE TABLE employee (
    id INTEGER NOT NULL,
    name VARCHAR,
    department VARCHAR,
    basicsalary INTEGER,
    "DA" INTEGER,
    "HRA" INTEGER,
    PRIMARY KEY (id)
)
```

```
2022-01-17 00:40:32,493 INFO sqlalchemy.engine.Engine [no key 0.00144s] ()
2022-01-17 00:40:32,502 INFO sqlalchemy.engine.Engine COMMIT
```

In [4]:

```

ins = employee.insert()
ins = employee.insert().values(id = 101, name = 'prudhvi', department = 'sales', basicsalary
conn = engine.connect()
result = conn.execute(ins)

```

```

2022-01-17 00:40:45,673 INFO sqlalchemy.engine.Engine INSERT INTO employee
(id, name, department, basicsalary, "DA", "HRA") VALUES (?, ?, ?, ?, ?, ?)
2022-01-17 00:40:45,675 INFO sqlalchemy.engine.Engine [generated in 0.00231
s] (101, 'prudhvi', 'sales', 15000, 5000, 4000)
2022-01-17 00:40:45,680 INFO sqlalchemy.engine.Engine COMMIT

```

In [5]:

```

conn.execute(employee.insert(), [
    {'id' : 102, 'name' : 'Vishnu', 'department' : 'sales', 'basicsalary' : 15000, 'DA' : 5000, 'HRA' : 4000},
    {'id' : 103, 'name' : 'Vardhan', 'department' : 'development', 'basicsalary' : 45000, 'DA' : 5000, 'HRA' : 4000},
    {'id' : 105, 'name' : 'Valli', 'department' : 'HR', 'basicsalary' : 35000, 'DA' : 5000, 'HRA' : 8000},
])

```

```

2022-01-17 00:41:01,194 INFO sqlalchemy.engine.Engine INSERT INTO employee
(id, name, department, basicsalary, "DA", "HRA") VALUES (?, ?, ?, ?, ?, ?)
2022-01-17 00:41:01,195 INFO sqlalchemy.engine.Engine [generated in 0.00182
s] ((102, 'Vishnu', 'sales', 15000, 5000, 4000), (103, 'Vardhan', 'developme
nt', 45000, '5000', 4000), (105, 'Valli', 'HR', 35000, 5000, 8000))
2022-01-17 00:41:01,202 INFO sqlalchemy.engine.Engine COMMIT

```

Out[5]:

```
<sqlalchemy.engine.cursor.LegacyCursorResult at 0x22d4dbb0070>
```

In [6]:

```

e = employee.select()
conn.execute(e).fetchall()

```

```

2022-01-17 00:41:16,536 INFO sqlalchemy.engine.Engine SELECT employee.id, em
ployee.name, employee.department, employee.basicsalary, employee."DA", emplo
yee."HRA"
FROM employee
2022-01-17 00:41:16,539 INFO sqlalchemy.engine.Engine [generated in 0.00233
s] ()

```

Out[6]:

```

[(101, 'prudhvi', 'sales', 15000, 5000, 4000),
 (102, 'Vishnu', 'sales', 15000, 5000, 4000),
 (103, 'Vardhan', 'development', 45000, 5000, 4000),
 (105, 'Valli', 'HR', 35000, 5000, 8000)]

```

In [7]:

```
stmt=employee.update().where(employee.c.name=='Vardhan').values(name = 'Dr.Vardhan')
conn.execute(stmt)
e = employee.select()
conn.execute(e).fetchall()
```

```
2022-01-17 00:41:53,399 INFO sqlalchemy.engine.Engine UPDATE employee SET name=? WHERE employee.name = ?
2022-01-17 00:41:53,401 INFO sqlalchemy.engine.Engine [generated in 0.00239 s] ('Dr.Vardhan', 'Vardhan')
2022-01-17 00:41:53,405 INFO sqlalchemy.engine.Engine COMMIT
2022-01-17 00:41:53,412 INFO sqlalchemy.engine.Engine SELECT employee.id, employee.name, employee.department, employee.basicsalary, employee."DA", employee."HRA"
FROM employee
2022-01-17 00:41:53,413 INFO sqlalchemy.engine.Engine [cached since 36.88s ago] ()
```

Out[7]:

```
[(101, 'prudhvi', 'sales', 15000, 5000, 4000),
 (102, 'Vishnu', 'sales', 15000, 5000, 4000),
 (103, 'Dr.Vardhan', 'development', 45000, 5000, 4000),
 (105, 'Valli', 'HR', 35000, 5000, 8000)]
```

In [8]:

```
e = employee.select().where(employee.c.id < 103)
result = conn.execute(e)
for row in result:
    print (row)
```

```
2022-01-17 00:42:13,651 INFO sqlalchemy.engine.Engine SELECT employee.id, employee.name, employee.department, employee.basicsalary, employee."DA", employee."HRA"
FROM employee
WHERE employee.id < ?
2022-01-17 00:42:13,657 INFO sqlalchemy.engine.Engine [generated in 0.00538 s] (103,)
(101, 'prudhvi', 'sales', 15000, 5000, 4000)
(102, 'Vishnu', 'sales', 15000, 5000, 4000)
```

In []: