

Data Base Lab04

Group members: Liang Haoxuan, Liu Sihan, Wang Changpeng

Basic Tasks

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The screenshot displays a database management tool interface with a left sidebar showing a tree view of the database structure. The main area shows the execution of SQL statements. The results pane at the bottom shows the execution of several SQL statements, including table creation and data insertion, with their respective messages and execution times.

SQL Statements Executed:

```
1 CREATE TABLE FACULTY(  
2   facultyId VARCHAR(20) PRIMARY KEY,  
3   facultyName VARCHAR(100),  
4   NoOfStaff INT  
5 );  
6  
7 CREATE TABLE STAFF(  
8   staffId VARCHAR(20) PRIMARY KEY,  
9   staffName varchar(100),  
10  staffDOB DATE,  
11  staffFaculty VARCHAR(20),  
12  FOREIGN KEY (staffFaculty) REFERENCES FACULTY(facultyId)  
13 );  
14  
15 INSERT INTO FACULTY VALUES  
16   ('C001','Computing',120),  
17   ('E002','Engineering',76),  
18   ('M002','Mathematics',56),  
19   ('B001','Business',89);  
20  
21 INSERT INTO STAFF VALUES  
22   ('AB9872','Mark White','01-JAN-1978','M002'),  
23   ('DL2314','Jas Singh','14-MAR-1982','M002'),  
24   ('AF4512','Alison Green','23-DEC-1998','C001'),  
25   ('BK2134','Kieran West','16-JAN-1992','B001'),  
26   ('FG3124','Lucy Liu','03-AUG-1997','E002');  
27  
28 SELECT * FROM STAFF;  
29  
30 SELECT facultyName FROM faculty WHERE NoOfStaff < 75;  
31  
32 SELECT * FROM staff WHERE staffdob between '01-JAN-1980' and '01-Jan-1990';  
33  
34 SELECT staffId AS "ID", staffName AS "Name", staffDOB AS "Date of Birth",  
35    staffFaculty AS "Faculty ID" FROM staff ORDER BY staffName DESC;  
36  
37 UPDATE STAFF SET staffFaculty = 'E002' WHERE staffName = 'Alison Green'
```

Execution Results:

| 查询 | 消息 | 查询时间 |
|---|------------------|--------|
| CREATE TABLE FACULTY(facultyId VARCHAR(20) PRIMARY KEY, facultyName VARCHAR(100), NoOfStaff INT) | OK | 0.002s |
| CREATE TABLE STAFF(staffId VARCHAR(20) PRIMARY KEY, staffName varchar(100), staffDOB DATE, staffFaculty VARCHAR(20), FOREIGN KEY (staffFaculty) REFERENCES FACULTY(facultyId) | OK | 0.002s |
| INSERT INTO FACULTY VALUES ('C001','Computing',120), ('E002','Engineering',76), ('M002','Mathematics',56), ('B001','Business',89) | Affected rows: 4 | 0s |
| INSERT INTO STAFF VALUES ('AB9872','Mark White','01-JAN-1978','M002'), ('DL2314','Jas Singh','14-MAR-1982','M002'), ('AF4512','Alison Green','23-DEC-1998','C001'), ('BK2134','Kieran West','16-JAN-1992','B001'), ('FG3124','Lucy Liu','03-AUG-1997','E002') | Affected rows: 5 | 0s |

运行时间: 0.051s

4/

a/

```
26 ('FG3124','Lucy Liu','03-AUG-1997','E002');
27
28 SELECT * FROM STAFF;
29
30 SELECT facultyName FROM faculty WHERE NoOfStaff < 75;
31
32 SELECT * FROM staff WHERE staffdob between '01-JAN-1980' and '01-Jan-1990';
33
34 SELECT staffId AS "ID", staffName AS "Name", staffDOB AS "Date of Birth",
  staffFaculty AS "Faculty ID" FROM staff ORDER BY staffName DESC;
35
36 UPDATE STAff SET stafffACULTY = 'E002' WHERE staffName = 'Alison Green'
```

消息 摘要 结果 1

| staffid | staffname | staffdob | stafffaculty |
|---------|--------------|------------|--------------|
| AB9872 | Mark White | 1978-01-01 | M002 |
| DL2314 | Jas Singh | 1982-03-14 | M002 |
| AF4512 | Alison Green | 1998-12-23 | C001 |
| BK2134 | Kieran West | 1992-01-16 | B001 |
| FG3124 | Lucy Liu | 1997-08-03 | E002 |

b/

```
29
30 SELECT facultyName FROM faculty WHERE NoOfStaff < 75;
31
32 SELECT * FROM staff WHERE staffdob between '01-JAN-1980' and '01-Jan-1990';
33
34 SELECT staffId AS "ID", staffName AS "Name", staffDOB AS "Date of Birth",
  staffFaculty AS "Faculty ID" FROM staff ORDER BY staffName DESC;
35
36 UPDATE STAff SET stafffACULTY = 'E002' WHERE staffName = 'Alison Green'
```

消息 摘要 结果 1

| facultyname |
|-------------|
| Mathematics |

c/

```

29
30 SELECT facultyName FROM faculty WHERE NoOfStaff < 75;
31
32 SELECT * FROM staff WHERE staffdob between '01-JAN-1980' and '01-Jan-1990';
33
34 SELECT staffId AS "ID", staffName AS "Name", staffDOB AS "Date of Birth",
    staffFaculty AS "Faculty ID" FROM staff ORDER BY staffName DESC;
35
36 UPDATE STAff SET stafffACULTY = 'E002' WHERE staffName = 'Alison Green'

```

| staffid | staffname | staffdob | stafffaculty |
|---------|-----------|------------|--------------|
| DL2314 | Jas Singh | 1982-03-14 | M002 |

d/

```

33
34 SELECT staffId AS "ID", staffName AS "Name", staffDOB AS "Date of Birth",
    staffFaculty AS "Faculty ID" FROM staff ORDER BY staffName DESC;
35
36 UPDATE STAff SET stafffACULTY = 'E002' WHERE staffName = 'Alison Green'

```

| ID | Name | Date of Birth | Faculty ID |
|--------|--------------|---------------|------------|
| AB9872 | Mark White | 1978-01-01 | M002 |
| FG3124 | Lucy Liu | 1997-08-03 | E002 |
| BK2134 | Kieran West | 1992-01-16 | B001 |
| DL2314 | Jas Singh | 1982-03-14 | M002 |
| AF4512 | Alison Green | 1998-12-23 | C001 |

e/

```

35
36 UPDATE STAff SET stafffACULTY = 'E002' WHERE staffName = 'Alison Green'

```

| 消息 | 摘要 |
|------|---|
| 查询 | UPDATE STAff SET stafffACULTY = 'E002' WHERE staffName = 'Alison Green' |
| 消息 | Affected rows: 1 |
| 查询时间 | 0.004s |

f/

| | | | |
|---|--|--------|----|
| 38 | DELETE FROM STAFF WHERE staffName = 'Kieran West'; | | fr |
| 消息 | 摘要 | | U |
| 查询 | 消息 | 查询时间 | U |
| DELETE FROM STAFF WHERE staffName = 'Kieran West' | Affected rows: 1 | 0.001s | er |
| | | | ni |
| | | | ve |
| | | | V |
| | | | Cl |

Medium Tasks

5/

```
CREATE TABLE CUSTOMER (
    custId DECIMAL(10) PRIMARY KEY,
    address VARCHAR(30),
    city VARCHAR(20),
    custTypeCd VARCHAR(1) NOT NULL,
    fedId VARCHAR(12) NOT NULL,
    postalCode VARCHAR(10),
    state VARCHAR(20)
);
```

```
CREATE TABLE BRANCH (
    branchId DECIMAL(10) PRIMARY KEY,
    address VARCHAR(30),
    city VARCHAR(20),
    name VARCHAR(20) NOT NULL,
    state VARCHAR(12),
    zipCode VARCHAR(10)
);
```

```
CREATE TABLE DEPARTMENT (
    deptId DECIMAL(10) PRIMARY KEY,
    name VARCHAR(20) NOT NULL
);
```

```
CREATE TABLE EMPLOYEE (
    empId DECIMAL(10) PRIMARY KEY,
```

```
    endDate DATE,  
    firstName VARCHAR(20) NOT NULL,  
    lastName VARCHAR(20) NOT NULL,  
    startDate DATE,  
    title VARCHAR(20),  
    assignedBranchId DECIMAL(10),  
    deptId DECIMAL(10),  
    superiorEmpId DECIMAL(10),  
    FOREIGN KEY (assignedBranchId) REFERENCES BRANCH (branchId),  
    FOREIGN KEY (deptId) REFERENCES DEPARTMENT (deptId),  
    FOREIGN KEY (superiorEmpId) REFERENCES EMPLOYEE (empId)  
);
```

```
CREATE TABLE PRODUCT_TYPE (  
    productTypeCd VARCHAR(255) PRIMARY KEY,  
    name VARCHAR(50)  
);
```

```
CREATE TABLE PRODUCT (  
    productCd VARCHAR(10) PRIMARY KEY,  
    dateOffered DATE,  
    dateRetired DATE,  
    name VARCHAR(50) NOT NULL,  
    productTypeCd VARCHAR(255),  
    FOREIGN KEY (productTypeCd) REFERENCES PRODUCT_TYPE  
(productTypeCd)  
);
```

```
CREATE TABLE ACCOUNT (  
    accountId INT PRIMARY KEY,  
    availBalance DECIMAL(14, 2),  
    closeDate DATE,  
    lastActivityDate DATE,  
    openDate DATE NOT NULL,  
    pendingBalance DECIMAL(14, 2),
```

```
status VARCHAR(10),
custId DECIMAL(10),
openBranchId DECIMAL(10) NOT NULL,
openEmpId DECIMAL(10) NOT NULL,
productCD VARCHAR(10) NOT NULL,
FOREIGN KEY (custId) REFERENCES CUSTOMER (custId),
FOREIGN KEY (openBranchId) REFERENCES BRANCH (branchId),
FOREIGN KEY (openEmpId) REFERENCES EMPLOYEE (empId),
FOREIGN KEY (productCD) REFERENCES PRODUCT (productCd)
);
```

```
CREATE TABLE ACC_TRANSACTION (
    txinId INT PRIMARY KEY,
    amount DECIMAL(14, 2) NOT NULL,
    fundsAvailDate TIMESTAMP NOT NULL,
    txin_Date TIMESTAMP NOT NULL,
    txinTypeCd VARCHAR(10),
    accountId INT,
    executionBranchId DECIMAL(10),
    tellerEmpId DECIMAL(10),
    FOREIGN KEY (accountId) REFERENCES ACCOUNT (accountId),
    FOREIGN KEY (executionBranchId) REFERENCES BRANCH (branchId),
    FOREIGN KEY (tellerEmpId) REFERENCES EMPLOYEE (empId)
);
```

```
CREATE TABLE BUSINESS (
    custId DECIMAL(10) PRIMARY KEY NOT NULL,
    incorpDate DATE,
    name VARCHAR(255) NOT NULL,
    stateId VARCHAR(10) NOT NULL,
    FOREIGN KEY (custId) REFERENCES CUSTOMER (custId)
);
```

```
CREATE TABLE INDIVIDUAL (
    custId DECIMAL(10) PRIMARY KEY,
    birthDate DATE,
```

```
    firstName VARCHAR(30),  
    lastName VARCHAR(30),  
    FOREIGN KEY (custId) REFERENCES CUSTOMER (custId)  
);
```

```
CREATE TABLE OFFICER (  
    officerId DECIMAL(10) PRIMARY KEY,  
    endDate DATE,  
    firstName VARCHAR(30) NOT NULL,  
    lastName VARCHAR(30) NOT NULL,  
    startDate DATE NOT NULL,  
    title VARCHAR(20),  
    custId DECIMAL(10),  
    FOREIGN KEY (custId) REFERENCES CUSTOMER (custId)  
);
```

```
SELECT table_name FROM information_schema.tables WHERE table_schema =  
'public';
```

friendly_bank

public

表

视图

实体化视图

函数

查询

Bank

备份

postgres

University-HR

public

表

faculty

staff

视图

实体化视图

函数

查询

HR

备份

root

friendly_bank

public

运行

```
73 );
74
75 CREATE TABLE ACC_TRANSACTION (
76     txinId INT PRIMARY KEY,
77     amount DECIMAL(14, 2) NOT NULL,
78     fundsAvailDate TIMESTAMP NOT NULL,
79     txin_Date TIMESTAMP NOT NULL,
80     txinTypeCd VARCHAR(10),
81     accountId INT,
82     executionBranchId DECIMAL(10),
83     tellerEmpId DECIMAL(10),
84     FOREIGN KEY (accountId) REFERENCES ACCOUNT (accountId),
85     FOREIGN KEY (executionBranchId) REFERENCES BRANCH (branchId),
86     FOREIGN KEY (tellerEmpId) REFERENCES EMPLOYEE (empId)
87 );
88
89 CREATE TABLE BUSINESS (
90     custId DECIMAL(10) PRIMARY KEY NOT NULL,
91     incorpDate DATE,
92     name VARCHAR(255) NOT NULL,
93     stateId VARCHAR(10) NOT NULL,
94     FOREIGN KEY (custId) REFERENCES CUSTOMER (custId)
95 );
96
97 CREATE TABLE INDIVIDUAL (
98     custId DECIMAL(10) PRIMARY KEY,
99     birthDate DATE,
100    firstName VARCHAR(30),
101    lastName VARCHAR(30),
102    FOREIGN KEY (custId) REFERENCES CUSTOMER (custId)
103 );
104
105 CREATE TABLE OFFICER (
106     officerId DECIMAL(10) PRIMARY KEY,
107     endDate DATE,
108     firstName VARCHAR(30) NOT NULL,
109     lastName VARCHAR(30) NOT NULL,
110     startDate DATE NOT NULL,
111     title VARCHAR(20),
112     custId DECIMAL(10),
113     FOREIGN KEY (custId) REFERENCES CUSTOMER (custId)
114 );
115
116 SELECT table_name FROM information_schema.tables WHERE table_schema =
    'public';
```

消息

摘要

结果 1

| table_name |
|-----------------|
| customer |
| account |
| acc_transaction |
| branch |
| employee |
| department |
| business |
| product_type |
| product |

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