

Library Management System - Part – 3

(Distributed Database Design)

Updates from Part – 2:

1. Have updated the “Salary” data in the “Staff” table.
2. Have added another column in the “Books” relation as “Book genre” and inserted the data.
3. In the “Return” table, added three more columns “Expected_Return_date”, “Actual_Return_date”, and “Late”. Then created a Trigger to increment the “Late” number by 1 for each user whenever they return the book after the actual return date.
4. In the “Users” table, the “Late_Factor” and “Lost_books” columns are created to update the number of books that have been lost or returned late by each user. Here an assumption is made that if a user didn’t return the book after the expected return date, it is considered a lost book.

Below are the queries for Create and Insert statements, which include all global and fragmented inserts. Highlighted are essential new changes on the tables. Updated the inserts as per the new table changes as well.

Tables:

```
create table Author(  
    Auth_ID NUMBER(8) NOT NULL,  
    Auth_name VARCHAR2(25),  
    Qualification VARCHAR2(50),  
    PRIMARY KEY (Auth_ID)  
);
```

```
create table Publisher(  
    Pub_code NUMBER(8) NOT NULL,  
    Pub_name VARCHAR2(25) NOT NULL,  
    Pub_country VARCHAR2(50),  
    Year_of_publication NUMBER(4) check (Year_of_publication >= 1440),  
    PRIMARY KEY (Pub_code)  
);
```

```
create table Vendor(  
    Ven_code NUMBER(8) NOT NULL,  
    Ven_name VARCHAR2(25),  
    Ven_phone NUMBER(20) NOT NULL,  
    PRIMARY KEY (Ven_code)  
);
```

```
create table Library(  
    Lib_code NUMBER(8) NOT NULL,  
    Lib_name VARCHAR2(25),  
    Library_street VARCHAR2(40) NOT NULL,  
    Library_city VARCHAR2(15) NOT NULL,  
    Library_State VARCHAR2(15) NOT NULL,  
    Library_country VARCHAR2(40),  
    Library_zip_code VARCHAR2(9),  
    PRIMARY KEY (Lib_code)  
);
```

```
create table Administrator(  
    Admin_ID NUMBER(8) NOT NULL,  
    Admin_name VARCHAR2(25),  
    Admin_phone NUMBER(20) NOT NULL UNIQUE,  
    PRIMARY KEY (Admin_ID)  
);
```

```
create table Users(  
    User_ID NUMBER(8) NOT NULL,  
    User_name VARCHAR2(25),  
    User_contact NUMBER(20) NOT NULL UNIQUE,  
    User_street VARCHAR2(40) NOT NULL,  
    User_city VARCHAR2(15) NOT NULL,  
    User_State VARCHAR2(15) NOT NULL,  
    User_country VARCHAR2(40),  
    User_zip_code VARCHAR2(9),  
    Late_Factor NUMBER(2),  
    Lost_books NUMBER(2),  
    PRIMARY KEY (User_ID)  
);
```

```
create table Staff(  
    Emp_ID NUMBER(8) NOT NULL,  
    Emp_name VARCHAR2(25),  
    Emp_contact NUMBER(20) NOT NULL,  
    Salary NUMBER(10,3) check (Salary > 25 and Salary < 999999999),  
    Date_of_employment DATE NOT NULL,  
    Designation VARCHAR2(25),  
    Emp_street VARCHAR2(40) NOT NULL,  
    Emp_city VARCHAR2(15) NOT NULL,  
    Emp_state VARCHAR2(15) NOT NULL,  
    Emp_country VARCHAR2(40),  
    Emp_zip_code VARCHAR2(9),
```

```

Admin_ID NUMBER(8),
PRIMARY KEY (Emp_ID),
FOREIGN KEY (Admin_ID) REFERENCES Administrator(Admin_ID)
);

```

```

create table Sponsor(
    Sponsor_ID NUMBER(8) NOT NULL,
    Lib_code NUMBER(8) NOT NULL,
    Percentage NUMBER(3, 2) check (Percentage > 0),
    Govt_name VARCHAR2(25),
    Period VARCHAR2(15),
    PRIMARY KEY (Sponsor_ID),
    FOREIGN KEY (Lib_code) REFERENCES Library(Lib_code)
);

```

```

create table Books(
    Book_ID NUMBER(8) NOT NULL,
    Ven_code NUMBER(8),
    Pub_code NUMBER(8),
    Auth_ID NUMBER(8),
    Lib_code NUMBER(8),
    Book_name VARCHAR2(85),
    Book_genre VARCHAR2(70),
    Price NUMBER(6, 2) check (Price > 0),
    No_of_books NUMBER(3) check (No_of_books >= 0),
    Status VARCHAR2(20) check (Status in ('available','reserved','NA')),
    Return_date DATE,
    Reserve_date DATE,
    Book_location VARCHAR2(50),
    PRIMARY KEY (Book_ID),
    FOREIGN KEY (Lib_code) REFERENCES Library(Lib_code),
    FOREIGN KEY (Ven_code) REFERENCES Vendor(Ven_code),
    FOREIGN KEY (Pub_code) REFERENCES Publisher(Pub_code),
    FOREIGN KEY (Auth_ID) REFERENCES Author(Auth_ID)
);

```

Data Insertion:

```

insert into Author values (90011, 'Leo Tolstoy', 'law and oriental languages');
Insert into Author values (90012, 'Tarantino', 'Cinema');
Insert into Author values (90013, 'Hunter Thompson', 'Journalism');
Insert into Author values (90014, 'Burt Macklin', 'Crime');
Insert into Author values (90015, 'William Shakesphere', 'Playwright');
Insert into Author values (90016, 'Bruce Wayne', 'Crime');
Insert into Author values (90017, 'Frank Herbert', 'SciFi');

```

Insert into Author values (90018, 'George Orwell', 'Social');
Insert into Author values (90019, 'Tolkein', 'Literature');
Insert into Author values (90020, 'Mark Twain', 'Literature');

insert into Publisher values (80011, 'The Russian Messenger', 'Russia', 1869);
Insert into Publisher values (80012, 'Penguin', 'UK', 1800);
Insert into Publisher values (80013, 'harpercollins', 'US', 1899);
Insert into Publisher values (80014, 'Macmillan', 'UK', 1843);
Insert into Publisher values (80015, 'Hachette', 'Europe', 1992);
Insert into Publisher values (80016, 'Scholastic', 'India', 1989);
Insert into Publisher values (80017, 'Pearson', 'US', 1901);
Insert into Publisher values (80018, 'Mcgraw Hill', 'US', 1900);
Insert into Publisher values (80019, 'Pearson', 'UK', 1954);
Insert into Publisher values (80020, 'Random', 'UK', 1984);

insert into Vendor values (70011, 'Victor', 1234567890);
insert into Vendor values (70012, 'Huey', 1236540987);
insert into Vendor values (70013, 'Duey', 4561237890);
insert into Vendor values (70014, 'Humpty', 1237894560);
insert into Vendor values (70015, 'Dumpty', 3214569999);
insert into Vendor values (70016, 'Deshaun', 9998431234);
insert into Vendor values (70017, 'The Rock', 9408438430);
insert into Vendor values (70018, 'Vlad', 9408436969);
insert into Vendor values (70019, 'Chad', 4086904200);
insert into Vendor values (70020, 'Jennifer', 4567891234);

insert into Library values (20011, 'Sycamore', 'Sycamore St', 'San Antonio', 'Texas', 'US', '78015');
insert into Library values (20012, 'Willis', 'W Prairie St', 'Denton', 'Texas', 'US', '76201');
insert into Library values (20013, 'Discovery Park', 'N Elm St', 'Denton', 'Texas', 'US', '76201');
insert into Library values (20014, 'Library Of Alexandria', 'Ptolemy St', 'Alexandria', 'Athens', 'Greece', '11001');
insert into Library values (20015, 'Library of Congress', 'President St', 'Washington', 'DC', 'US', '11007');
insert into Library values (20016, 'Bodleian', 'Tea St', 'Oxford', 'London', 'UK', '34808');
insert into Library values (20017, 'Yale', 'Teasley St', 'New Haven', 'Connecticut', 'US', '30240');
insert into Library values (20018, 'Vatican', 'Pope Ln', 'Square', 'Vatican City', 'Rome', '01066');
insert into Library values (20019, 'Boston Public', 'Oak Street', 'Boston', 'Massachusetts', 'US', '69020');
insert into Library values (20020, 'Seattle Central', 'Fry St', 'Seattle', 'Washington', 'US', '42069');

insert into Sponsor values (10011, 20011, 5, 'govt_xx', '2006-2008');
Insert into Sponsor values (10012, 20012, 7, 'govt_x1', '1993-1999');
Insert into Sponsor values (10013, 20013, 8, 'govt_x3', '2020-2030');

Insert into Sponsor values (10014,20014,4.5,'govt_z','3000-3033');
Insert into Sponsor values (10015,20015,1.1,'govt_u','1939-1945');
Insert into Sponsor values (10016,20016,2.5,'govt_s','1914-1918');
Insert into Sponsor values (10017,20017,5.6,'govt_r','1888-1898');
Insert into Sponsor values (10018,20018,7.3,'govt_tt','2010-2015');
Insert into Sponsor values (10019,20019,6,'govt_xy','2015-2018');
Insert into Sponsor values (10020,20020,5,'govt_xz','2018-2023');

insert into Books values (50011, 70011, 80011, 90011, 20011, 'War and Peace, first edition',
'literary', 15.03, 12, 'available', 'FL_02 RACK33');
insert into Books values (50012, 70012, 80012, 90012, 20012, 'Hells Angels', 'mystery', 19.99, 3,
'available', 'FL_01 Aisle 4');
insert into Books values (50013, 70013, 80013, 90013, 20013, 'Kitchen Confidential',
'education',21.99, 1, 'reserved', 'FL_01 Aisle 2');
insert into Books values (50014, 70014, 80014, 90014, 20014, 'Dune 4th', 'fiction' , 10.99, 2,
'available', 'FL_11 Aisle 6');
insert into Books values (50015, 70015, 80015, 90015, 20015, 'Programming for Dummies',
'education', 5.99, 0, 'reserved', 'FL_01 Aisle 3');
insert into Books values (50016, 70016, 80016, 90016, 20016, 'College Textbook', 'education',
999.89, 1, 'reserved', 'FL_00 Aisle1');
insert into Books values (50017, 70017, 80017, 90017, 20017, 'Dune Messiah', 'fiction', 10.99, 10,
'available', 'FL_10 Aisle 20');
insert into Books values (50018, 70018, 80018, 90018, 20018, 'College Book 2', 'education',
1999.99, 0, 'reserved', 'FL_01 Aisle 1');
insert into Books values (50019, 70019, 80019, 90019, 20019, 'Murder Handbook', 'mystery', 1.99,
10, 'available', 'FL_99 Aisle 2');
insert into Books values (50020, 70020, 80020, 90020, 20020, 'Cooking Meth', 'education', 59.99, 1,
'available' , 'FL_69 Aisle 3');

insert into Administrator values (30011, 'A. Alex', 0110981234);
insert into Administrator values (30012, 'B. Alex', 0120981234);
insert into Administrator values (30013, 'C. Alex', 0130981234);
insert into Administrator values (30014, 'D. Alex', 0140981234);
insert into Administrator values (30015, 'E. Alex', 0150981234);
insert into Administrator values (30016, 'F. Alex', 0160981234);
insert into Administrator values (30017, 'G. Alex', 0170981234);
insert into Administrator values (30018, 'H. Alex', 0180981234);
insert into Administrator values (30019, 'I. Alex', 0190981234);
insert into Administrator values (30020, 'J. Alex', 0200981234);

insert into Users values (40011, 'K. Christina', 3426757979, 'W. Oak', 'San Antonio', 'Texas', 'US',
'78015',2,14);
insert into Users values (40012, 'Kirk', 7896757979, 'A. Oak', 'San Francisco', 'California', 'US',
'76207',3,2);

```

insert into Users values (40013, 'Mary', 0136757979, 'A. Oak', 'San Francisco', 'California', 'US',
'76207',5,9);
insert into Users values (40014, 'Rosy', 0146757979, 'A. Oak', 'San Francisco', 'California', 'US',
'76207',1,5);
insert into Users values (40015, 'Chris', 0156757979, 'A. Oak', 'San Francisco', 'California', 'US',
'76207',4,15);
insert into Users values (40016, 'Tracy', 0166757979, 'Fry St', 'Galveston', 'Texas', 'US',
'76207',8,11);
insert into Users values (40017, 'Bruce', 0176757979, 'Bleeker St', 'Gotham City', 'Michigan', 'US',
'76207',2,5);
insert into Users values (40018, 'Garg', 0186757979, '10 Downing St', 'Boston', 'Massachusetts',
'US', '76207',4,16);
insert into Users values (40019, 'Henry', 0196757979, 'A. Oak', 'Houston', 'Texas', 'US',
'76207',8,12);
insert into Users values (40020, 'Feng', 0206757979, 'JFK st', 'Queens', 'New York', 'US',
'76207',6,8);

```

```

insert into Staff values (60011, 'A. Cooper', 0112344545, 12345,
TO_DATE('10/10/21','mm/dd/yy'), 'librarian', 'Avenue A', 'San Antonio', 'Texas', 'US', '78015',
30011);
insert into Staff values (60012, 'James Lovey', 0122344545, 35000,
TO_DATE('03/10/21','mm/dd/yy'), 'Manager', 'Avenue A', 'san francisco', 'Texas', 'US', '78015',
30012);
insert into Staff values (60013, 'Alexander', 0132344545, 24000,
TO_DATE('10/10/21','mm/dd/yy'), 'lead', 'Avenue A', 'Houston', 'Texas', 'US', '78015', 30013);
insert into Staff values (60014, 'Roopa K', 0142344545, 40078, TO_DATE('10/09/21','mm/dd/yy'),
'Manager', 'Avenue A', 'San Antonio', 'Texas', 'US', '78015', 30014);
insert into Staff values (60015, 'Kim Jim', 0152344545, 67899, TO_DATE('10/02/22','mm/dd/yy'),
'Manager', 'Avenue A', 'san francisco', 'Texas', 'US', '78015', 30015);
insert into Staff values (60016, 'Fiaz', 0162344545, 34567, TO_DATE('09/10/21','mm/dd/yy'),
'Manager', 'Avenue A', 'Houston', 'Texas', 'US', '78015', 30016);
insert into Staff values (60017, 'Tom Jom', 0172344545, 24567, TO_DATE('08/10/21','mm/dd/yy'),
'librarian', 'Avenue A', 'New Jersey', 'Texas', 'US', '78015', 30017);
insert into Staff values (60018, 'Charles lokey', 0182344545, 56766,
TO_DATE('08/10/21','mm/dd/yy'), 'Manager', 'Avenue A', 'New Jersey', 'Texas', 'US', '78015',
30018);
insert into Staff values (60019, 'Riveria', 0192344545, 23456, TO_DATE('09/10/21','mm/dd/yy'),
'librarian', 'Avenue A', 'California', 'Texas', 'US', '78015', 30019);
insert into Staff values (60020, 'Lionel cab', 0202344545, 20778,
TO_DATE('10/28/21','mm/dd/yy'), 'librarian', 'Avenue A', 'California', 'Texas', 'US', '78015',
30020);

```

Relation Tables and Data Insertion:

```
create table MaintainsTrackOf(  
    Emp_ID NUMBER(8),  
    User_ID NUMBER(8),  
    PRIMARY KEY (Emp_ID, User_ID)  
);
```

```
create table Reserve(  
    Book_ID NUMBER(8),  
    User_ID NUMBER(8),  
    Reserve_date DATE,  
    PRIMARY KEY (Book_ID, User_ID)  
);
```

```
create table Return(  
    Book_ID NUMBER(8),  
    User_ID NUMBER(8),  
    Expected_Return_date DATE,  
    Actual_Return_date DATE,  
    Late NUMBER(1),  
    PRIMARY KEY (Book_ID, User_ID)  
);
```

```
CREATE OR REPLACE TRIGGER TRG_INCREMENT_LATE_FACTOR  
AFTER INSERT ON RETURN  
FOR EACH ROW  
WHEN (NEW.Late = 1)  
BEGIN  
    UPDATE Users  
    SET Late_Factor = Late_Factor + 1  
    WHERE User_ID = :NEW.User_ID;  
END;  
/
```

```
Insert into MaintainsTrackOf values (60011,40011);  
Insert into MaintainsTrackOf values (60011,40012);  
Insert into MaintainsTrackOf values (60019,40013);  
Insert into MaintainsTrackOf values (60019,40014);  
Insert into MaintainsTrackOf values (60017,40015);  
Insert into MaintainsTrackOf values (60017,40016);  
Insert into MaintainsTrackOf values (60012,40017);  
Insert into MaintainsTrackOf values (60013,40018);
```

Insert into MaintainsTrackOf values (60014,40019);

Insert into MaintainsTrackOf values (60015,40020);

Insert into Reserve values (50011,40011,TO_DATE('11/20/22','mm/dd/yy'));

Insert into Reserve values (50012,40011,TO_DATE('10/11/22','mm/dd/yy'));

Insert into Reserve values (50013,40011,TO_DATE('01/23/23','mm/dd/yy'));

Insert into Reserve values (50014,40011,TO_DATE('09/18/22','mm/dd/yy'));

Insert into Reserve values (50015,40011,TO_DATE('10/10/22','mm/dd/yy'));

Insert into Reserve values (50011,40016,TO_DATE('12/20/22','mm/dd/yy'));

Insert into Reserve values (50011,40012,TO_DATE('09/27/22','mm/dd/yy'));

Insert into Reserve values (50011,40013,TO_DATE('10/19/22','mm/dd/yy'));

Insert into Reserve values (50011,40014,TO_DATE('05/26/22','mm/dd/yy'));

Insert into Reserve values (50011,40015,TO_DATE('10/10/22','mm/dd/yy'));

Insert into Return values

(50011,40011,TO_DATE('11/25/22','mm/dd/yy'),TO_DATE('11/25/22','mm/dd/yy'),0);

Insert into Return values

(50012,40011,TO_DATE('10/18/22','mm/dd/yy'),TO_DATE('10/28/22','mm/dd/yy'),1);

Insert into Return values

(50013,40011,TO_DATE('01/30/23','mm/dd/yy'),TO_DATE('01/30/23','mm/dd/yy'),0);

Insert into Return values

(50014,40011,TO_DATE('09/28/22','mm/dd/yy'),TO_DATE('10/01/22','mm/dd/yy'),1);

Insert into Return values

(50015,40011,TO_DATE('10/20/22','mm/dd/yy'),TO_DATE('10/20/22','mm/dd/yy'),0);

Insert into Return values

(50011,40016,TO_DATE('12/25/22','mm/dd/yy'),TO_DATE('12/25/22','mm/dd/yy'),0);

Insert into Return values

(50011,40012,TO_DATE('09/30/22','mm/dd/yy'),TO_DATE('09/30/22','mm/dd/yy'),0);

Insert into Return values

(50011,40013,TO_DATE('10/29/22','mm/dd/yy'),TO_DATE('10/29/22','mm/dd/yy'),0);

Insert into Return values

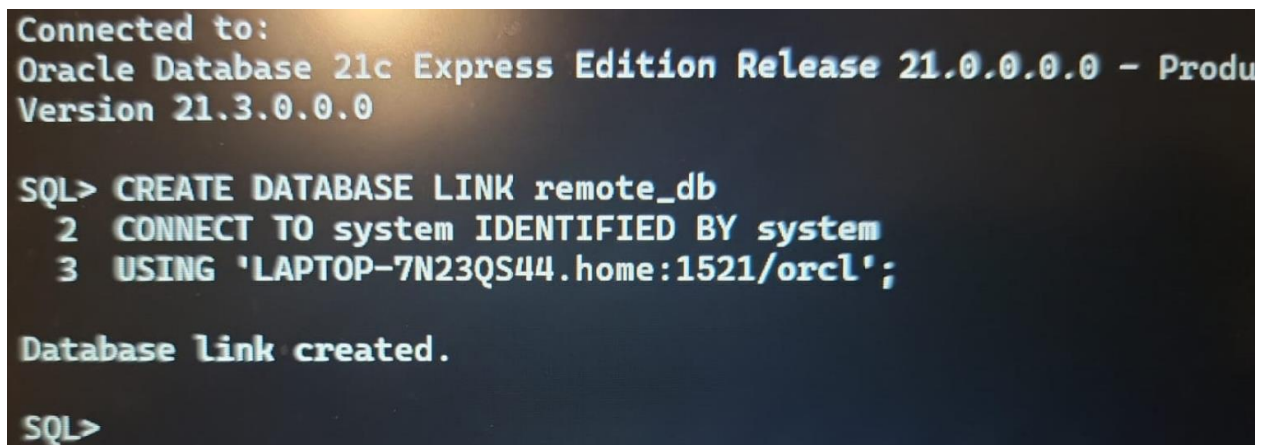
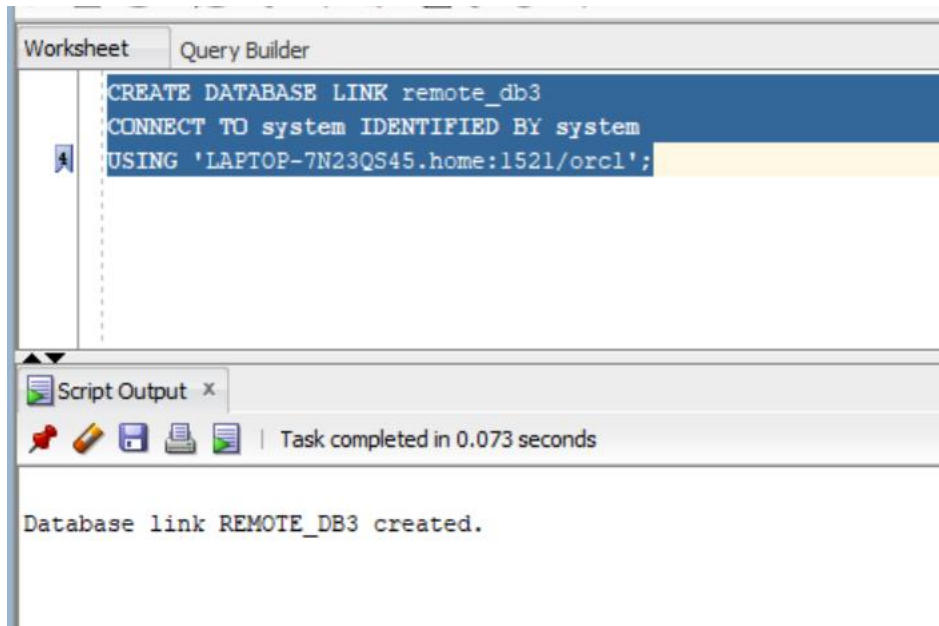
(50011,40014,TO_DATE('05/29/22','mm/dd/yy'),TO_DATE('05/29/22','mm/dd/yy'),0);

Insert into Return values

(50011,40015,TO_DATE('10/12/22','mm/dd/yy'),TO_DATE('10/12/22','mm/dd/yy'),0);

Connecting to Database by establishing links using the query (common part across all sites):

```
CREATE DATABASE LINK remote_db  
CONNECT TO system IDENTIFIED BY system  
USING 'LAPTOP-7N23QS44.home:1521/orcl';
```



Site 1:

1. drop table high_salary;

```
create table high_salary as  
select * from staff where salary > 30000;  
select * from high_salary;
```

```
create table high_salary as
select * from staff where salary > 30000;
select * from high_salary;
```

Script Output x Query Result x

SQL | All Rows Fetched: 5 in 0.005 seconds

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_EMPLOYMENT | DESIGNATION | EMP_STREET | EMP_CITY | EMP_STATE | EMP_COUNTRY | EMP_ZIP_CODE | ADMIN_ID |
|--------|---------------------|-------------|--------|--------------------|-------------|------------|---------------|-----------|-------------|--------------|----------|
| 1 | 60012 James Lovey | 122344545 | 35000 | 10-MAR-21 | Manager | Avenue A | san francisco | Texas | US | 78015 | 30012 |
| 2 | 60014 Roopa K | 142344545 | 40078 | 09-OCT-21 | Manager | Avenue A | San Antonio | Texas | US | 78015 | 30014 |
| 3 | 60015 Kim Jim | 152344545 | 67899 | 02-OCT-22 | Manager | Avenue A | san francisco | Texas | US | 78015 | 30015 |
| 4 | 60016 Fiaz | 162344545 | 34567 | 10-SEP-21 | Manager | Avenue A | Houston | Texas | US | 78015 | 30016 |
| 5 | 60018 Charles lokey | 182344545 | 56766 | 10-AUG-21 | Manager | Avenue A | New Jersey | Texas | US | 78015 | 30018 |



SQL>

```
SQL> create table high_salary as
      2 select * from staff where salary > 30000;
```

Table created.

SQL>

```
SQL> select * from high_salary;
```

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|---------------|-------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60012 | James Lovey | 122344545 | 35000 | 10-MAR-21 |
| Manager | Avenue A | | | |
| san francisco | Texas | US | | |
| 78015 | 30012 | | | |

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60014 | Roopa K | 142344545 | 40078 | 09-OCT-21 |
| Manager | Avenue A | | | |
| San Antonio | Texas | US | | |
| 78015 | 30014 | | | |

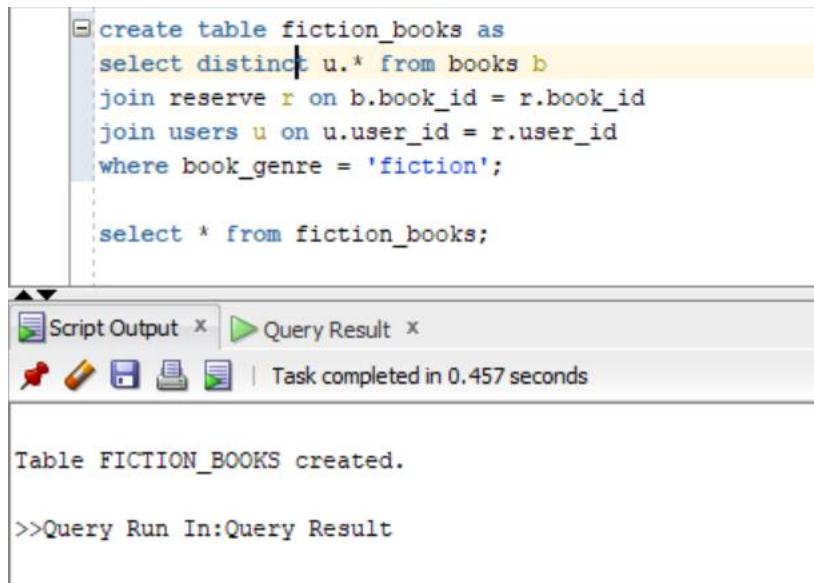
| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|---------------|------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60015 | Kim Jim | 152344545 | 67899 | 02-OCT-22 |
| Manager | Avenue A | | | |
| san francisco | Texas | US | | |
| 78015 | 30015 | | | |

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |

2. drop table fiction_books;

```
create table fiction_books as  
select distinct u.* from books b  
join reserve r on b.book_id = r.book_id  
join users u on u.user_id = r.user_id  
where book_genre = 'fiction';
```

```
select * from fiction_books;
```



The screenshot shows a SQL IDE interface. The top pane is a script editor containing the following SQL code:

```
create table fiction_books as  
select distinct u.* from books b  
join reserve r on b.book_id = r.book_id  
join users u on u.user_id = r.user_id  
where book_genre = 'fiction';  
  
select * from fiction_books;
```

The bottom pane is a script output window with tabs for "Script Output" and "Query Result". The "Script Output" tab is active, displaying the message "Table FICTION_BOOKS created." and the prompt ">>Query Run In:Query Result". A status bar at the top of the output window indicates "Task completed in 0.457 seconds".

```
SQL> drop table fiction_books;
drop table fiction_books
      *
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL>
SQL> create table fiction_books as
  2  select distinct u.* from books b
  3  join reserve r on b.book_id = r.book_id
  4  join users u on u.user_id = r.user_id
  5  where book_genre = 'fiction';
```

Table created.

```
SQL>
SQL> select * from fiction_books;
```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|--------------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40011 | K. Christina | 3426757979 | | |
| W. Oak | | San Antonio | Texas | |
| US | | 78015 | 4 | 14 |

```
SQL>
```

3. drop table late_factor_1;

```
create table late_factor_1 as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where late_factor = 1;
```

```
select * from late_factor_1;
```

Worksheet Query Builder

create table late_factor_1 as

select distinct u.* from books b

join reserve r on b.book_id = r.book_id

join users u on u.user_id = r.user_id

where late_factor = 1;

select * from late_factor_1;

Script Output x

Query Result 1 x

Task completed in 0.441 seconds

Table LATE_FACTOR_1 created.

>>Query Run In:Query Result 1

```
SQL> drop table late_factor_1;
drop table late_factor_1
      *
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL>
SQL> create table late_factor_1 as
  2  select distinct u.* from books b
  3  join reserve r on b.book_id = r.book_id
  4  join users u on u.user_id = r.user_id
  5  where late_factor = 1;
```

Table created.

```
SQL>
SQL> select * from late_factor_1;
```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|---------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40014 | Rosy | 146757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 1 | 5 |

```
SQL>
```

Site 2:

1. drop table less_salary;

create table less_salary as
select * from staff where salary <= 30000;

select * from less_salary;

Worksheet Query Builder

```
create table less_salary as  
select * from staff where salary <= 30000;  
  
select * from less_salary;
```

Script Output x Query Result 1 x Query Result 2 x

SQL | All Rows Fetched: 5 in 0.005 seconds

| | EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_EMPLOYMENT | DESIGNATION | EMP_STREET | EMP_CITY | EMP_STATE | EMP_COUNTRY | EMP_ZIP_CODE | ADMIN_ID |
|---|--------|------------|-------------|--------|--------------------|-------------|------------|-------------|-----------|-------------|--------------|----------|
| 1 | 60011 | A. Cooper | 112344545 | 12345 | 10-OCT-21 | librarian | Avenue A | San Antonio | Texas | US | 78015 | 30011 |
| 2 | 60013 | Alexander | 132344545 | 24000 | 10-OCT-21 | lead | Avenue A | Houston | Texas | US | 78015 | 30013 |
| 3 | 60017 | Tom Jom | 172344545 | 24567 | 10-AUG-21 | librarian | Avenue A | New Jersey | Texas | US | 78015 | 30017 |
| 4 | 60019 | Riveria | 192344545 | 23456 | 10-SEP-21 | librarian | Avenue A | California | Texas | US | 78015 | 30019 |
| 5 | 60020 | Lionel cab | 202344545 | 20778 | 28-OCT-21 | librarian | Avenue A | California | Texas | US | 78015 | 30020 |



```
SQL> drop table less_salary;  
drop table less_salary  
      *  
ERROR at line 1:  
ORA-00942: table or view does not exist
```

```
SQL>  
SQL> create table less_salary as  
      2  select * from staff where salary <= 30000;
```

Table created.

```
SQL>  
SQL> select * from less_salary;
```

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60011 | A. Cooper | 112344545 | 12345 | 10-OCT-21 |
| librarian | Avenue A | | | |
| San Antonio | Texas | US | | |
| 78015 | 30011 | | | |

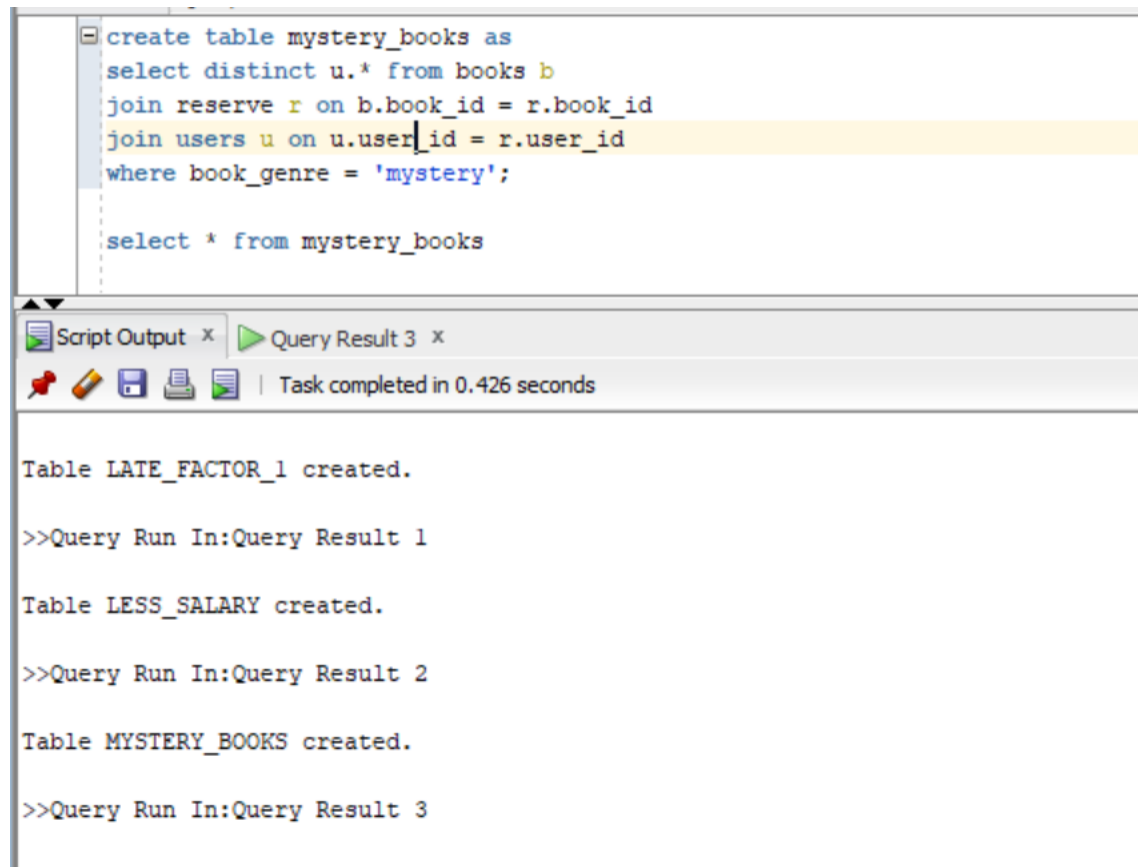
| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60013 | Alexander | 132344545 | 24000 | 10-OCT-21 |
| lead | Avenue A | | | |
| Houston | Texas | US | | |
| 78015 | 30013 | | | |

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60017 | Tom Jom | 172344545 | 24567 | 10-AUG-21 |

2. drop table mystery_books;

```
create table mystery_books as  
select distinct u.* from books b  
join reserve r on b.book_id = r.book_id  
join users u on u.user_id = r.user_id  
where book_genre = 'mystery';
```

```
select * from mystery_books
```



The screenshot shows a SQL IDE interface. The top pane contains a SQL script with the following content:

```
create table mystery_books as  
select distinct u.* from books b  
join reserve r on b.book_id = r.book_id  
join users u on u.user_id = r.user_id  
where book_genre = 'mystery';  
  
select * from mystery_books
```

The bottom pane shows the script output, which includes the following text:

```
Table LATE_FACTOR_1 created.  
>>Query Run In:Query Result 1  
  
Table LESS_SALARY created.  
>>Query Run In:Query Result 2  
  
Table MYSTERY_BOOKS created.  
>>Query Run In:Query Result 3
```

The output also indicates that the task was completed in 0.426 seconds.

```
SQL> drop table mystery_books;
drop table mystery_books
*
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL>
SQL> create table mystery_books as
  2 select distinct u.* from books b
  3 join reserve r on b.book_id = r.book_id
  4 join users u on u.user_id = r.user_id
  5 where book_genre = 'mystery';
```

Table created.

```
SQL>
SQL> select * from mystery_books
  2 ;
```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|--------------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40011 | K. Christina | 3426757979 | | |
| W. Oak | | San Antonio | Texas | |
| US | | 78015 | 4 | 14 |

```
SQL>
```

3. drop table late_factor_2;

```
create table late_factor_2 as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where late_factor = 2;
```

```
select * from late_factor_2;
```

```
create table late_factor_2 as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where late_factor = 2;

select * from late_factor_2;
```

Script Output x Query Result x

Task completed in 0.437 seconds

Table LATE_FACTOR_2 created.

>>Query Run In:Query Result

```
SQL> drop table late_factor_2;
drop table late_factor_2
      *
ERROR at line 1:
ORA-00942: table or view does not exist

SQL>
SQL> create table late_factor_2 as
  2  select distinct u.* from books b
  3  join reserve r on b.book_id = r.book_id
  4  join users u on u.user_id = r.user_id
  5  where late_factor = 2;

Table created.

SQL>
SQL> select * from late_factor_2;

no rows selected

SQL>
```

site 3:

1. drop table user_info_cali;

```
create table user_info_cali as
select user_name,user_contact from users where user_state='California';
```

```
select * from user_info_cali;
```

Worksheet | Query Builder

```
create table user_info_cali as
select user_name,user_contact from users where user_state='California';

select * from user_info_cali;
```

Script Output x | Query Result x | Query Result 1 x

SQL | All Rows Fetched: 4 in 0.006 seconds

| | USER_NAME | USER_CONTACT |
|---|-----------|--------------|
| 1 | Kirk | 7896757979 |
| 2 | Mary | 136757979 |
| 3 | Rosy | 146757979 |
| 4 | Chris | 156757979 |

```
SQL> drop table user_info_cali;
drop table user_info_cali
      *
ERROR at line 1:
ORA-00942: table or view does not exist

SQL>
SQL> create table user_info_cali as
  2  select user_name,user_contact from users where user_state='California';

Table created.

SQL>
SQL> select * from user_info_cali;
```

| USER_NAME | USER_CONTACT |
|-----------|--------------|
| Kirk | 7896757979 |
| Mary | 136757979 |
| Rosy | 146757979 |
| Chris | 156757979 |

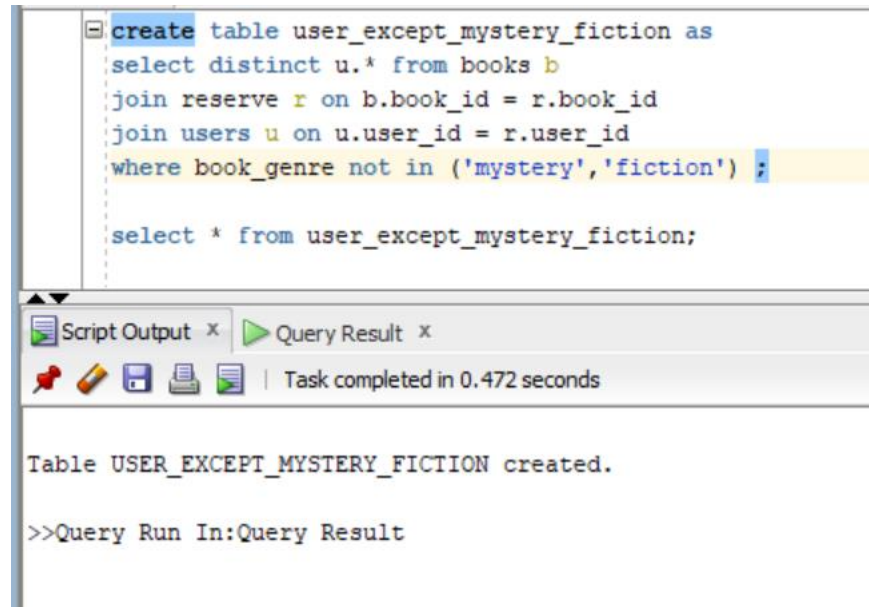
```
SQL>
```

2. drop table user_except_mystery_fiction;

create table user_except_mystery_fiction as

```
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where book_genre not in ('mystery','fiction') ;
```

```
select * from user_except_mystery_fiction;
```



```
create table user_except_mystery_fiction as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where book_genre not in ('mystery','fiction') ;

select * from user_except_mystery_fiction;
```

Script Output x Query Result x

Task completed in 0.472 seconds

Table USER_EXCEPT_MYSTERY_FICTION created.

>>Query Run In:Query Result



SQL>

```
SQL> create table user_except_mystery_fiction as
  2  select distinct u.* from books b
  3  join reserve r on b.book_id = r.book_id
  4  join users u on u.user_id = r.user_id
  5  where book_genre not in ('mystery','fiction') ;
```

Table created.

SQL>

```
SQL> select * from user_except_mystery_fiction;
```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|--------------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40011 | K. Christina | 3426757979 | | |
| W. Oak | | San Antonio | Texas | |
| US | | 78015 | 4 | 14 |

| | | | | |
|--------|------|---------------|------------|---|
| 40012 | Kirk | 7896757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 3 | 2 |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|---------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40013 | Mary | 136757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 5 | 9 |

| | | | | |
|--------|------|---------------|------------|--|
| 40014 | Rosy | 146757979 | | |
| A. Oak | | San Francisco | California | |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| US | | 76207 | 1 | 5 |

| | | | | |
|--------|-------|---------------|------------|----|
| 40015 | Chris | 156757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 4 | 15 |

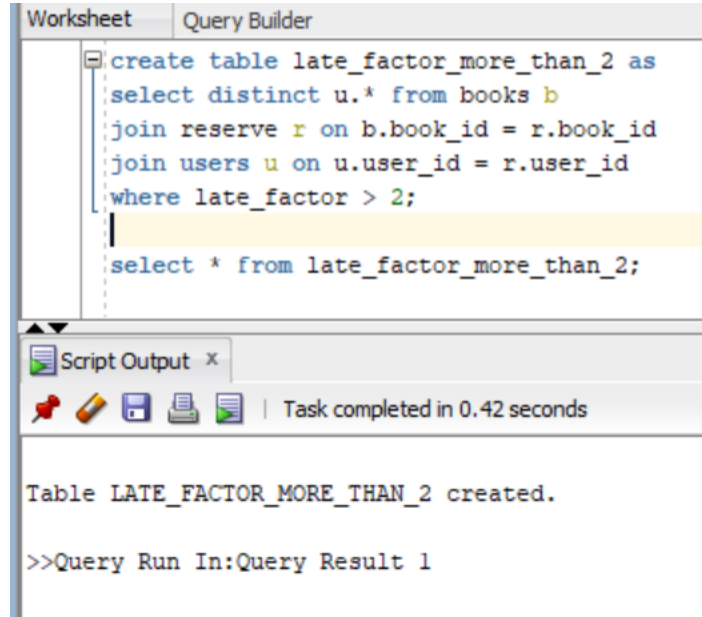
| | | | | |
|-------|-------|-----------|--|--|
| 40016 | Tracy | 166757979 | | |
|-------|-------|-----------|--|--|

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |

3. drop table late_factor_more_than_2;

```
create table late_factor_more_than_2 as  
select distinct u.* from books b  
join reserve r on b.book_id = r.book_id  
join users u on u.user_id = r.user_id  
where late_factor > 2;
```

```
select * from late_factor_more_than_2;
```



```
SQL> drop table late_factor_more_than_2;
drop table late_factor_more_than_2
      *
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL>
SQL> create table late_factor_more_than_2 as
  2 select distinct u.* from books b
  3 join reserve r on b.book_id = r.book_id
  4 join users u on u.user_id = r.user_id
  5 where late_factor > 2;
```

Table created.

```
SQL>
SQL> select * from late_factor_more_than_2;
```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|--------------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40011 | K. Christina | 3426757979 | | |
| W. Oak | | San Antonio | Texas | |
| US | | 78015 | 4 | 14 |

| | | | | |
|--------|-------|-----------|-------|----|
| 40016 | Tracy | 166757979 | | |
| Fry St | | Galveston | Texas | |
| US | | 76207 | 8 | 11 |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|---------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40012 | Kirk | 7896757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 3 | 2 |

| | | | | |
|--------|------|---------------|------------|--|
| 40013 | Mary | 136757979 | | |
| A. Oak | | San Francisco | California | |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| US | | 76207 | 5 | 9 |

| | | | | |
|--------|-------|---------------|------------|----|
| 40015 | Chris | 156757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 4 | 15 |

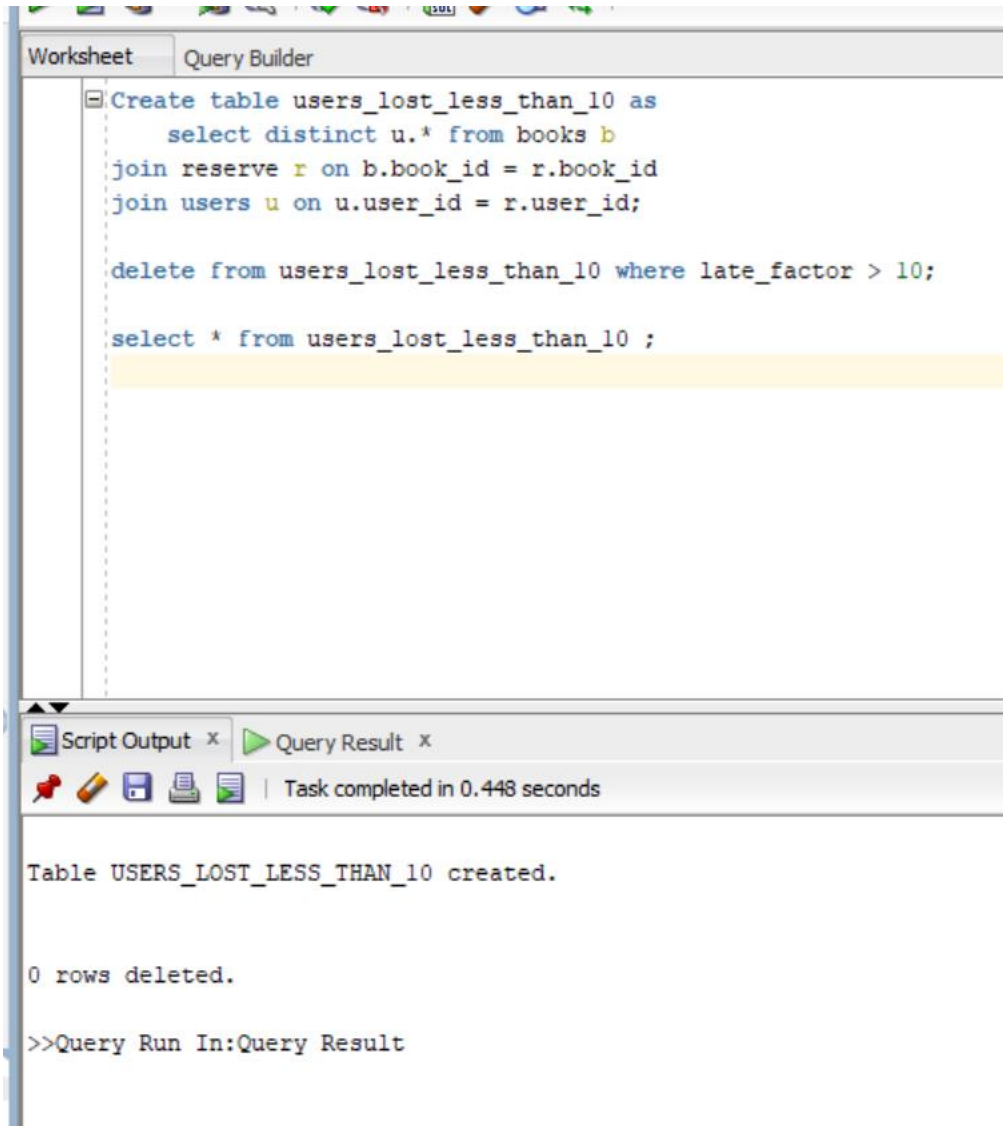
```
SQL>
```


4. drop table users_lost_less_than_10 ;

Create table users_lost_less_than_10 as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id;

delete from users_lost_less_than_10 where late_factor > 10;

select * from users_lost_less_than_10 ;





SQL>

```
SQL> Create table users_lost_less_than_10 as
  2   select distinct u.* from books b
  3   join reserve r on b.book_id = r.book_id
  4   join users u on u.user_id = r.user_id;
```

Table created.

SQL>

```
SQL> delete from users_lost_less_than_10 where late_factor > 10;
```

0 rows deleted.

SQL>

```
SQL> select * from users_lost_less_than_10 ;
```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|--------------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40011 | K. Christina | 3426757979 | | |
| W. Oak | | San Antonio | Texas | |
| US | | 78015 | 4 | 14 |

| | | | | |
|--------|------|---------------|------------|---|
| 40012 | Kirk | 7896757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 3 | 2 |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|---------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40013 | Mary | 136757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 5 | 9 |

| | | | | |
|--------|------|---------------|------------|--|
| 40014 | Rosy | 146757979 | | |
| A. Oak | | San Francisco | California | |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| US | | 76207 | 1 | 5 |

| | | | | |
|--------|-------|---------------|------------|----|
| 40015 | Chris | 156757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 4 | 15 |

40016 Tracy

166757979

USER ID USER NAME

USER CONTACT

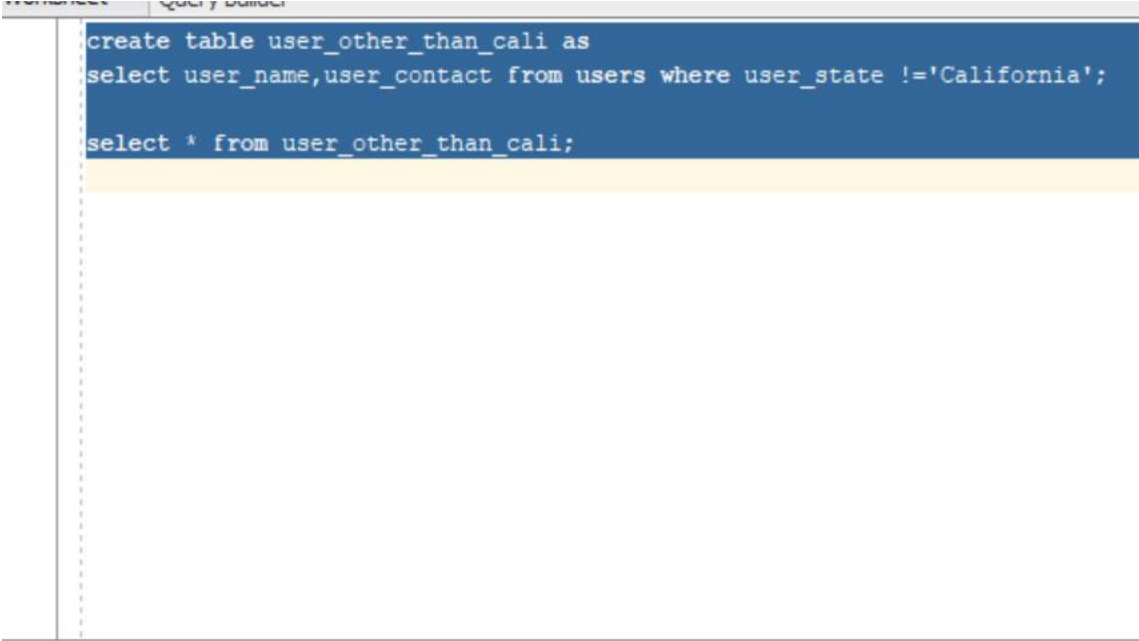
site 4:

1. drop table user_other_than_cali;

create table user_other_than_cali as

select user_name,user_contact from users where user_state !='California';

select * from user_other_than_cali;



The screenshot shows a SQL IDE window with a script editor and a results pane. The script editor contains the following SQL commands:

```
create table user_other_than_cali as  
select user_name,user_contact from users where user_state !='California';  
  
select * from user_other_than_cali;
```

The results pane shows the output of the second query, displaying 6 rows of data. The status bar indicates "All Rows Fetched: 6 in 0.007 seconds".

| | USER_NAME | USER_CONTACT |
|---|--------------|--------------|
| 1 | K. Christina | 3426757979 |
| 2 | Tracy | 166757979 |
| 3 | Bruce | 176757979 |
| 4 | Garg | 186757979 |
| 5 | Henry | 196757979 |
| 6 | Feng | 206757979 |

```

SQL> drop table user_other_than_cali;
drop table user_other_than_cali
      *
ERROR at line 1:
ORA-00942: table or view does not exist

SQL>
SQL> create table user_other_than_cali as
      2  select user_name,user_contact from users where user_state !='California';

Table created.

SQL>
SQL> select * from user_other_than_cali;

USER_NAME                USER_CONTACT
-----
K. Christina              3426757979
Tracy                     166757979
Bruce                     176757979
Garg                      186757979
Henry                     196757979
Feng                      206757979

6 rows selected.

SQL>

```

2. Drop table on_time_submit;

```

Create table on_time_submit as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where late_factor < 1;

```

```

Select * from on_time_submit;

```

WorksheetQuery Builder

Create table on_time_submit as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where late_factor < 1;

Select * from on_time_submit;

Script Output xQuery Result x






 | Task completed in 0.436 seconds

Table ON_TIME_SUBMIT created.
|
>>Query Run In:Query Result

```
SQL> Drop table on_time_submit;
Drop table on_time_submit
      *
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL>
SQL> Create table on_time_submit as
  2   select distinct u.* from books b
  3   join reserve r on b.book_id = r.book_id
  4   join users u on u.user_id = r.user_id
  5   where late_factor < 1;
```

Table created.

```
SQL>
SQL> Select * from on_time_submit
  2   ;
```

no rows selected

```
SQL>
```

3. drop table hike_15;

```
create table hike_15 as
select * from staff;
```

```
UPDATE hike_15
SET DATE_OF_EMPLOYMENT = '03-APR-1997'
WHERE DATE_OF_EMPLOYMENT = '10-OCT-21';
```

```
UPDATE hike_15
SET Salary = Salary * 1.15
WHERE months_between(sysdate, Date_of_employment)/12 >= 15;
```

```
select * from hike_15;
```

```
create table hike_15 as
select * from staff;

UPDATE hike_15
SET DATE_OF_EMPLOYMENT = '03-APR-1997'
WHERE DATE_OF_EMPLOYMENT = '10-OCT-21';

UPDATE hike_15
SET Salary = Salary * 1.15
WHERE months_between(sysdate, Date_of_employment)/12 >= 15;

select * from hike_15;
```

Script Output x Query Result x

SQL All Rows Fetched: 10 in 0.006 seconds

| | EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_EMPLOYMENT | DESIGNATION | EMP_STREET | EMP_CITY | EMP_STATE | EMP_COUNTRY | EMP_ZIP_CODE | ADMIN_ID |
|----|--------|---------------|-------------|----------|--------------------|-------------|------------|---------------|-----------|-------------|--------------|----------|
| 1 | 60011 | A. Cooper | 112344545 | 14196.75 | 03-APR-97 | librarian | Avenue A | San Antonio | Texas | US | 78015 | 30011 |
| 2 | 60012 | James Lovey | 122344545 | 35000 | 10-MAR-21 | Manager | Avenue A | san francisco | Texas | US | 78015 | 30012 |
| 3 | 60013 | Alexander | 132344545 | 27600 | 03-APR-97 | lead | Avenue A | Houston | Texas | US | 78015 | 30013 |
| 4 | 60014 | Roopa K | 142344545 | 40078 | 09-OCT-21 | Manager | Avenue A | San Antonio | Texas | US | 78015 | 30014 |
| 5 | 60015 | Kim Jim | 152344545 | 67899 | 02-OCT-22 | Manager | Avenue A | san francisco | Texas | US | 78015 | 30015 |
| 6 | 60016 | Fiaz | 162344545 | 34567 | 10-SEP-21 | Manager | Avenue A | Houston | Texas | US | 78015 | 30016 |
| 7 | 60017 | Tom Jom | 172344545 | 24567 | 10-AUG-21 | librarian | Avenue A | New Jersey | Texas | US | 78015 | 30017 |
| 8 | 60018 | Charles lokey | 182344545 | 56766 | 10-AUG-21 | Manager | Avenue A | New Jersey | Texas | US | 78015 | 30018 |
| 9 | 60019 | Riveria | 192344545 | 23456 | 10-SEP-21 | librarian | Avenue A | California | Texas | US | 78015 | 30019 |
| 10 | 60020 | Lionel cab | 202344545 | 20778 | 28-OCT-21 | librarian | Avenue A | California | Texas | US | 78015 | 30020 |



```
SQL> create table hike_15 as
2 select * from staff;
```

Table created.

```
SQL>
```

```
SQL> UPDATE hike_15
2 SET DATE_OF_EMPLOYMENT = '03-APR-1997'
3 WHERE DATE_OF_EMPLOYMENT = '10-OCT-21';
```

2 rows updated.

```
SQL>
```

```
SQL>
```

```
SQL> UPDATE hike_15
2 SET Salary = Salary * 1.15
3 WHERE months_between(sysdate, Date_of_employment)/12 >= 15;
```

2 rows updated.

```
SQL>
```

```
SQL> select * from hike_15
2 ;
```

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|-----------|-------------|----------|-----------|
| DESIGNATION | | EMP_STREET | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60011 | A. Cooper | 112344545 | 14196.75 | 03-APR-97 |
| Librarian | Avenue A | | | |
| San Antonio | Texas | US | | |
| 78015 | 30011 | | | |

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|---------------|-------------|-------------|--------|-----------|
| DESIGNATION | | EMP_STREET | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60012 | James Lovey | 122344545 | 35000 | 10-MAR-21 |
| Manager | Avenue A | | | |
| san francisco | Texas | US | | |
| 78015 | 30012 | | | |

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|-----------|-------------|--------|-----------|
| DESIGNATION | | EMP_STREET | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |

| EMP_CITY | | EMP_STATE | | EMP_COUNTRY | |
|---------------|-----------|------------|-------------|-------------|-----------|
| EMP_ZIP_C | ADMIN_ID | | | | |
| 60013 | Alexander | | 132344545 | 27600 | 03-APR-97 |
| Lead | | Avenue A | | | |
| Houston | Texas | US | | | |
| 78015 | 30013 | | | | |
| EMP_ID | EMP_NAME | | EMP_CONTACT | SALARY | DATE_OF_E |
| DESIGNATION | | EMP_STREET | | | |
| EMP_CITY | | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | | |
| 60014 | Roopa K | | 142344545 | 40078 | 09-OCT-21 |
| Manager | | Avenue A | | | |
| San Antonio | Texas | US | | | |
| 78015 | 30014 | | | | |
| EMP_ID | EMP_NAME | | EMP_CONTACT | SALARY | DATE_OF_E |
| DESIGNATION | | EMP_STREET | | | |
| EMP_CITY | | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | | |
| 60015 | Kim Jim | | 152344545 | 67899 | 02-OCT-22 |
| Manager | | Avenue A | | | |
| san francisco | Texas | US | | | |
| 78015 | 30015 | | | | |
| EMP_ID | EMP_NAME | | EMP_CONTACT | SALARY | DATE_OF_E |
| DESIGNATION | | EMP_STREET | | | |
| EMP_CITY | | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | | |
| 60016 | Fiaz | | 162344545 | 34567 | 10-SEP-21 |
| Manager | | Avenue A | | | |
| Houston | Texas | US | | | |
| 78015 | 30016 | | | | |
| EMP_ID | EMP_NAME | | EMP_CONTACT | SALARY | DATE_OF_E |
| DESIGNATION | | EMP_STREET | | | |
| EMP_CITY | | EMP_STATE | EMP_COUNTRY | | |

Site 5:

List employee names with a salary less than 20000

List users who reserved education books and lives in Texas

List all the users who returned books on time.

1. drop table low_salary;

```
create table low_salary as  
select * from staff where salary < 20000;
```

```
select * from low_salary;
```

The screenshot shows a database query tool interface. The top section is a 'Query builder' window with a text area containing the following SQL commands:

```
create table low_salary as  
select * from staff where salary < 20000;  
  
select * from low_salary;
```

Below the query builder is a 'Script Output' tab and a 'Query Result' tab. The 'Query Result' tab is active, showing a table with 11 columns and 1 row of data. The status bar indicates 'All Rows Fetched: 1 in 0.007 seconds'.

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_EMPLOYMENT | DESIGNATION | EMP_STREET | EMP_CITY | EMP_STATE | EMP_COUNTRY | EMP_ZIP_CODE | ADMIN_ID |
|--------|-----------------|-------------|--------|--------------------|-------------|------------|-------------|-----------|-------------|--------------|----------|
| 1 | 60011 A. Cooper | 112344545 | 12345 | 10-OCT-21 | librarian | Avenue A | San Antonio | Texas | US | 78015 | 30011 |

```
SQL> drop table low_salary;
drop table low_salary
      *
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL>
SQL> create table low_salary as
  2  select * from staff where salary < 20000;
```

Table created.

```
SQL>
SQL> select * from low_salary;
```

| EMP_ID | EMP_NAME | EMP_CONTACT | SALARY | DATE_OF_E |
|-------------|------------|-------------|--------|-----------|
| DESIGNATION | EMP_STREET | | | |
| EMP_CITY | EMP_STATE | EMP_COUNTRY | | |
| EMP_ZIP_C | ADMIN_ID | | | |
| 60011 | A. Cooper | 112344545 | 12345 | 10-OCT-21 |
| librarian | Avenue A | | | |
| San Antonio | Texas | US | | |
| 78015 | 30011 | | | |

2. drop table education_genre;

```
Create table education_genre as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where book_genre = 'education' and user_state = 'Texas';
```

```
Select * from education_genre;
```

WorksheetQuery Builder

Create table education_genre as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where book_genre = 'education' and user_state = 'Texas';

Select * from education_genre;

Script Output xQuery Result x
Task completed in 0.417 seconds

Table EDUCATION_GENRE created.

>>Query Run In:Query Result

```
SQL> drop table education_genre;
drop table education_genre
      *
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL>
SQL> Create table education_genre as
  2 select distinct u.* from books b
  3 join reserve r on b.book_id = r.book_id
  4 join users u on u.user_id = r.user_id
  5 where book_genre = 'education' and user_state = 'Texas';
```

Table created.

```
SQL>
SQL> Select * from education_genre;
```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|--------------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40011 | K. Christina | 3426757979 | | |
| W. Oak | | San Antonio | Texas | |
| US | | 78015 | 4 | 14 |

3. Drop table on_time_submit;

```
Create table on_time_submit as
select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where late_factor < 1;
```

```
Select * from on_time_submit;
```

```
Create table on_time_submit as
  select distinct u.* from books b
join reserve r on b.book_id = r.book_id
join users u on u.user_id = r.user_id
where late_factor < 1;

Select * from on_time_submit;
```

Script Output x Query Result x

Task completed in 0.482 seconds

Table ON_TIME_SUBMIT created.

>>Query Run In:Query Result

```

SQL>
SQL> Create table on_time_submit as
2   select distinct u.* from books b
3   join reserve r on b.book_id = r.book_id
4   join users u on u.user_id = r.user_id
5   where late_factor < 1;

```

Table created.

```

SQL>
SQL> Select * from on_time_submit;

```

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40016 | Tracy | 166757979 | | |
| Fry St | | Galveston | Texas | |
| US | | 76207 | 0 | 11 |

| | | | | |
|--------|------|---------------|------------|---|
| 40012 | Kirk | 7896757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 0 | 2 |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|---------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| 40013 | Mary | 136757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 0 | 9 |

| | | | | |
|--------|------|---------------|------------|--|
| 40014 | Rosy | 146757979 | | |
| A. Oak | | San Francisco | California | |

| USER_ID | USER_NAME | USER_CONTACT | | |
|--------------|-----------|--------------|-------------|------------|
| USER_STREET | | USER_CITY | USER_STATE | |
| USER_COUNTRY | | USER_ZIP_ | LATE_FACTOR | LOST_BOOKS |
| US | | 76207 | 0 | 5 |

| | | | | |
|--------|-------|---------------|------------|----|
| 40015 | Chris | 156757979 | | |
| A. Oak | | San Francisco | California | |
| US | | 76207 | 0 | 15 |

```

SQL>

```

Individual Contribution:

Navyatha Yamsani: I'm responsible for Site 1. Firstly, I went through the statements which are given in Site 1. Then I modified the existing tables with new data and made some changes. I have updated the salary data in the Staff table with some data less or greater than 30,000 to show some data in the output. Then by using the database connection query, I connected to the Global database and got access to retrieve data. Then I wrote queries for given statements on site1 and ran queries and got the output which is pasted above. And then worked on the "Books" and "Users" Table and written queries to get output for the given statements. I have also pasted the screenshots as part of the documentation.

Akhila Battula: I have created site 2 and ran queries to access other fragments of the database from the host and other users. For my site, I have first updated my Employees table and the salary attributes as per the project requirements. I then ran queries to fragment the tuples of employees with a salary <30,000. For my second query, I wrote code to display the users who have reserved "Mystery" books. I did this by dropping the book table except for the attribute "Fiction". Finally, I've returned the names of the users who have returned books late more than two times by setting the dropping of every other user except the ones with a late_factor = 2.

Akhil Boga: I have worked on creating site 3 and running the queries. First, I had to show the telephone numbers of users from California. I did this by dropping a user table with info related to California and then displaying the attribute's usernames and related phone numbers of those in California. This is done using vertical fragmentation. Then I displayed the users who have never reserved mystery and fiction books by creating a new table and selecting all the distinct users who have reserved books other than fiction and mystery. For my third query, I had to show users who have returned books late more than two times. This is done by fragmenting users who have had a late factor > 2. My final query required deleting users who have lost 10 or more books. I did this by dropping all the users with a lost factor>10.

I ran all of these queries by accessing the other fragments remotely

Krishna Praveen Velagapalli: I'm responsible for Site 4. I went through the statements provided on-site 2. Then I modified and updated the Users table with some extra rows to show a few users from California, to get the output for the statement given. I have written a query and tried executing it in SQL live first and then when it worked, I executed it in Oracle after connecting and getting access to the database. I have also created a late factor to show the users who never returned books late. And modified the staff table with salaries and output. I have also pasted the screenshots as part of the documentation.

Rakshith Dyavari Shetty: I'm responsible for site 5. Here I have created a separate site and made assumptions to retrieve data from the database. For this, I have modified and updated the data present in the Staff and Users table. Firstly, I want to know the names of employees whose salary is less than 20000, so I have written a query for that and executed it to get the output. By updating the Users table, I got output for the next two statements by connecting and getting access to the database. I have also pasted the screenshots as part of the documentation.