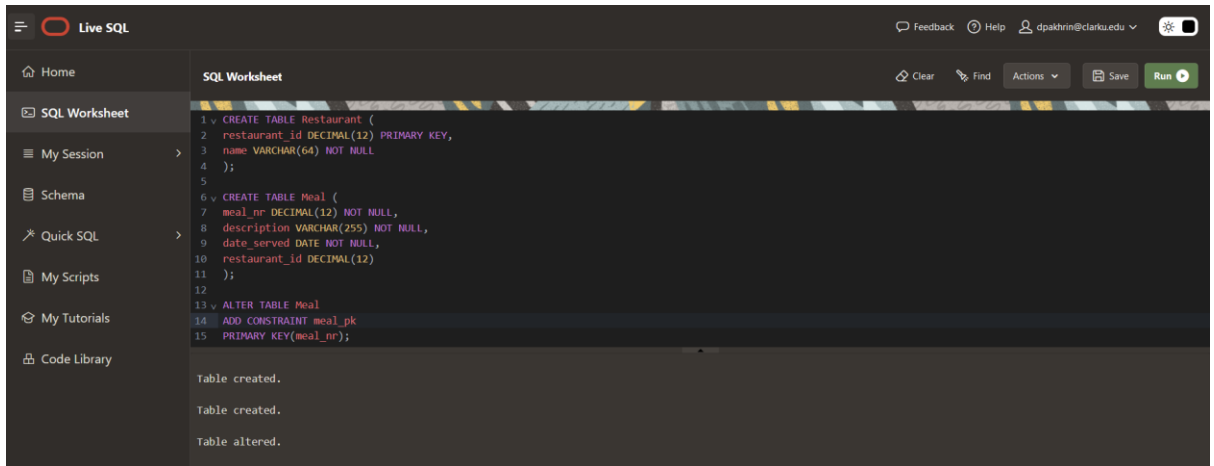


Lab 2

Section 1

- Exercise 1



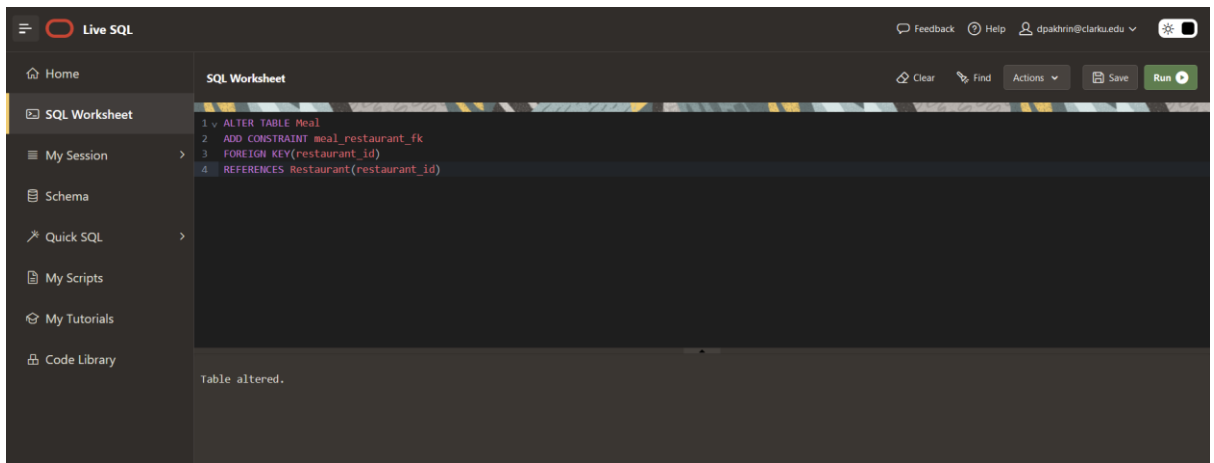
The screenshot shows the Live SQL interface with the following SQL code in the editor:

```
1 CREATE TABLE Restaurant (  
2   restaurant_id DECIMAL(12) PRIMARY KEY,  
3   name VARCHAR(64) NOT NULL  
4 );  
5  
6 CREATE TABLE Meal (  
7   meal_nr DECIMAL(12) NOT NULL,  
8   description VARCHAR(255) NOT NULL,  
9   date_served DATE NOT NULL,  
10  restaurant_id DECIMAL(12)  
11 );  
12  
13 ALTER TABLE Meal  
14 ADD CONSTRAINT meal_pk  
15 PRIMARY KEY(meal_nr);
```

The output pane at the bottom shows the following messages:

```
Table created.  
Table created.  
Table altered.
```

- Exercise 2



The screenshot shows the Live SQL interface with the following SQL code in the editor:

```
1 ALTER TABLE Meal  
2 ADD CONSTRAINT meal_restaurant_fk  
3 FOREIGN KEY(restaurant_id)  
4 REFERENCES Restaurant(restaurant_id)
```

The output pane at the bottom shows the following message:

```
Table altered.
```

- Exercise 3

The screenshot shows the Live SQL interface with the SQL Worksheet tab active. The worksheet contains 10 INSERT statements. The first two insert into the Restaurant table, and the remaining eight insert into the Meal table. The execution results show that all 10 rows were successfully inserted.

```
1 INSERT INTO Restaurant (restaurant_id, name)
2 VALUES (31, 'Sunset Grill');
3 INSERT INTO Restaurant (restaurant_id, name)
4 VALUES (32, 'Oceanside Beachview');
5 INSERT INTO Meal (meal_nr, description, date_served, restaurant_id)
6 VALUES (101, 'Grilled eggplant with sides', CAST('03-Jul-2012' AS DATE), 31);
7 INSERT INTO Meal (meal_nr, description, date_served, restaurant_id)
8 VALUES (102, 'Delicious pizza with salad', CAST('09-Jul-2012' AS DATE), 31);
9 INSERT INTO Meal (meal_nr, description, date_served, restaurant_id)
10 VALUES (103, 'Five-course luxurious meal', CAST('13-Jul-2012' AS DATE), NULL);
```

1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.

- Exercise 4

The screenshot shows the Live SQL interface with an SQL error. The SQL Worksheet contains two INSERT statements. The second statement, which attempts to insert a meal with restaurant_id 57, has failed. The error message indicates that the integrity constraint (SQL_RAZTQFECNEHBPORHXSPPHMKZ_MEAL_RESTAURANT_FK) was violated because the parent key (restaurant_id 57) was not found.

```
1 INSERT INTO Meal (meal_nr, description, date_served, restaurant_id)
2 VALUES (104, 'Juicy entree and french fries', CAST('17-Jul-2012' AS DATE), 57);
```

ORA-02291: integrity constraint (SQL_RAZTQFECNEHBPORHXSPPHMKZ_MEAL_RESTAURANT_FK) violated - parent key not found
ORA-06512: at "SYS.DBMS_SQL", line 1721
More Details: <https://docs.oracle.com/error-help/db/ora-02291>

- Exercise 5

The screenshot shows the Live SQL interface with a SQL query in the worksheet. The query selects the description, date_served, and name from the Meal table, joined with the Restaurant table on restaurant_id. The results are displayed in a table below the query.

```
1 SELECT description, date_served, name
2 FROM Meal
3 JOIN Restaurant ON Meal.restaurant_id = Restaurant.restaurant_id
```

DESCRIPTION	DATE_SERVED	NAME
Grilled eggplant with sides	03-JUL-12	Sunset Grill
Delicious pizza with salad	09-JUL-12	Sunset Grill

• Exercise 6

Live SQL

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```
1 SELECT description, date_served, name
2 FROM Meal
3 LEFT JOIN Restaurant ON Meal.restaurant_id = Restaurant.restaurant_id;
```

DESCRIPTION	DATE_SERVED	NAME
Grilled eggplant with sides	03-JUL-12	Sunset Grill
Delicious pizza with salad	09-JUL-12	Sunset Grill
Five-course luxurious meal	13-JUL-12	-

• Exercise 7

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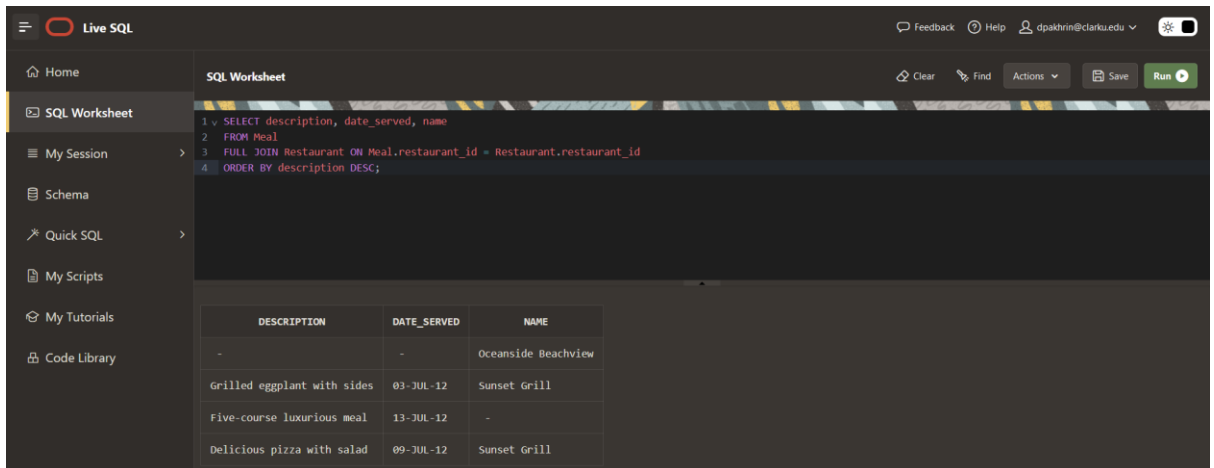
Code Library

Clear Find Actions Save Run

```
1 SELECT description, date_served, name
2 FROM Meal
3 LEFT JOIN Restaurant ON Meal.restaurant_id = Restaurant.restaurant_id;
```

DESCRIPTION	DATE_SERVED	NAME
Grilled eggplant with sides	03-JUL-12	Sunset Grill
Delicious pizza with salad	09-JUL-12	Sunset Grill
Five-course luxurious meal	13-JUL-12	-

• Exercise 8



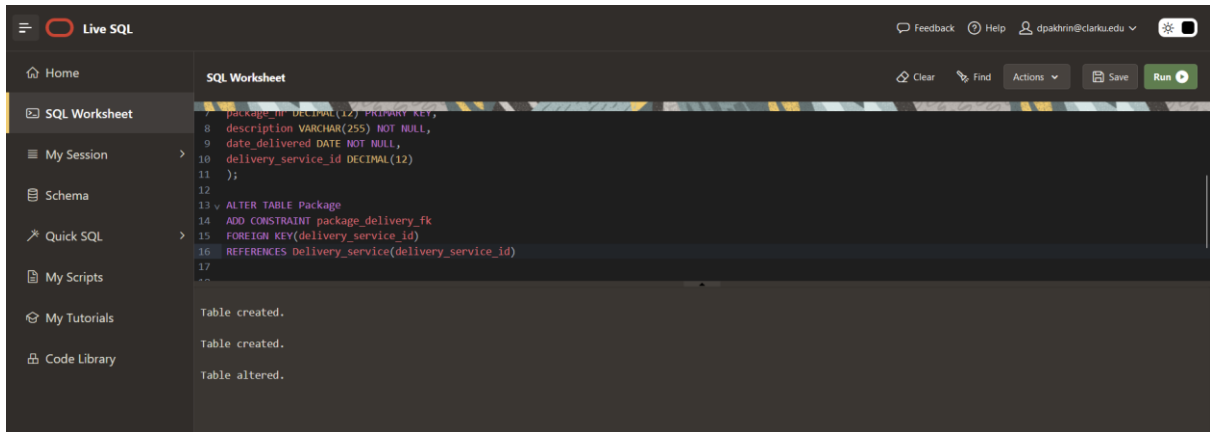
The screenshot shows the Live SQL interface with a SQL Worksheet. The query executed is:

```
1 SELECT description, date_served, name
2 FROM Meal
3 FULL JOIN Restaurant ON Meal.restaurant_id = Restaurant.restaurant_id
4 ORDER BY description DESC;
```

The results are displayed in a table:

DESCRIPTION	DATE_SERVED	NAME
-	-	Oceanside Beachview
Grilled eggplant with sides	03-JUL-12	Sunset Grill
Five-course luxurious meal	13-JUL-12	-
Delicious pizza with salad	09-JUL-12	Sunset Grill

• Exercise 9



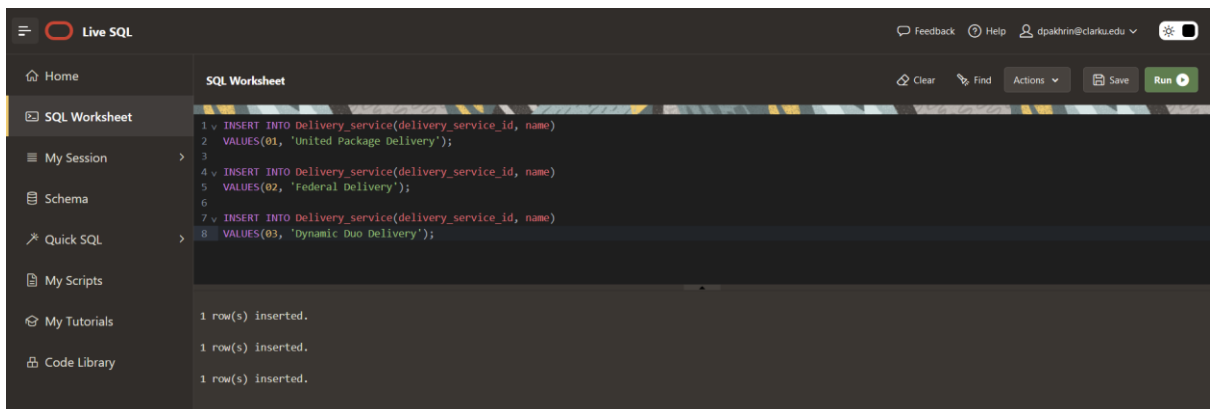
The screenshot shows the Live SQL interface with a SQL Worksheet. The queries executed are:

```
7 package_id DECIMAL(12) PRIMARY KEY,
8 description VARCHAR(255) NOT NULL,
9 date_delivered DATE NOT NULL,
10 delivery_service_id DECIMAL(12)
11 );
12
13 ALTER TABLE Package
14 ADD CONSTRAINT package_delivery_fk
15 FOREIGN KEY(delivery_service_id)
16 REFERENCES Delivery_service(delivery_service_id)
17
18
```

The results show the execution status:

```
Table created.
Table created.
Table altered.
```

• Exercise 10



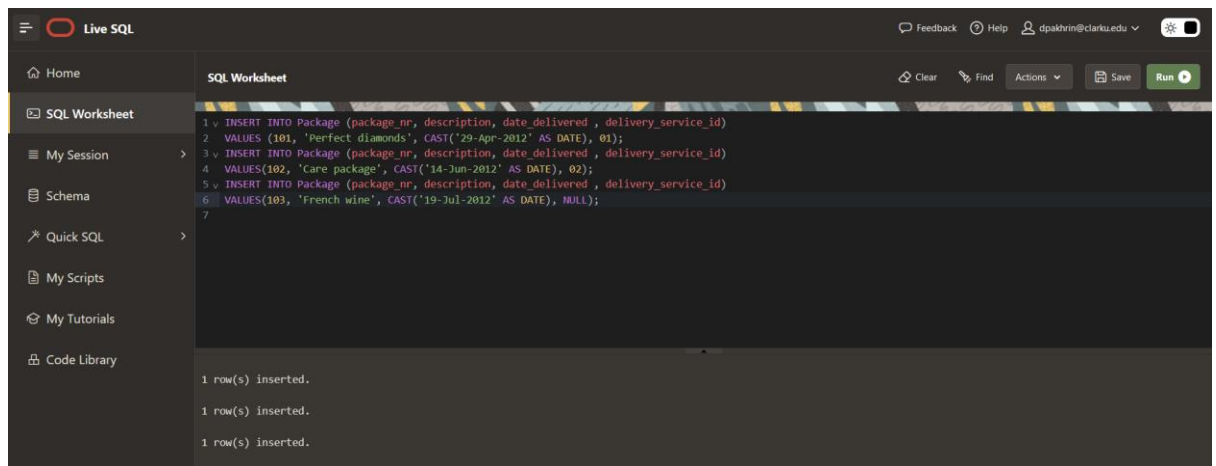
The screenshot shows the Live SQL interface with a SQL Worksheet. The queries executed are:

```
1 INSERT INTO Delivery_service(delivery_service_id, name)
2 VALUES(01, 'United Package Delivery');
3
4 INSERT INTO Delivery_service(delivery_service_id, name)
5 VALUES(02, 'Federal Delivery');
6
7 INSERT INTO Delivery_service(delivery_service_id, name)
8 VALUES(03, 'Dynamic Duo Delivery');
```

The results show the execution status:

```
1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.
```

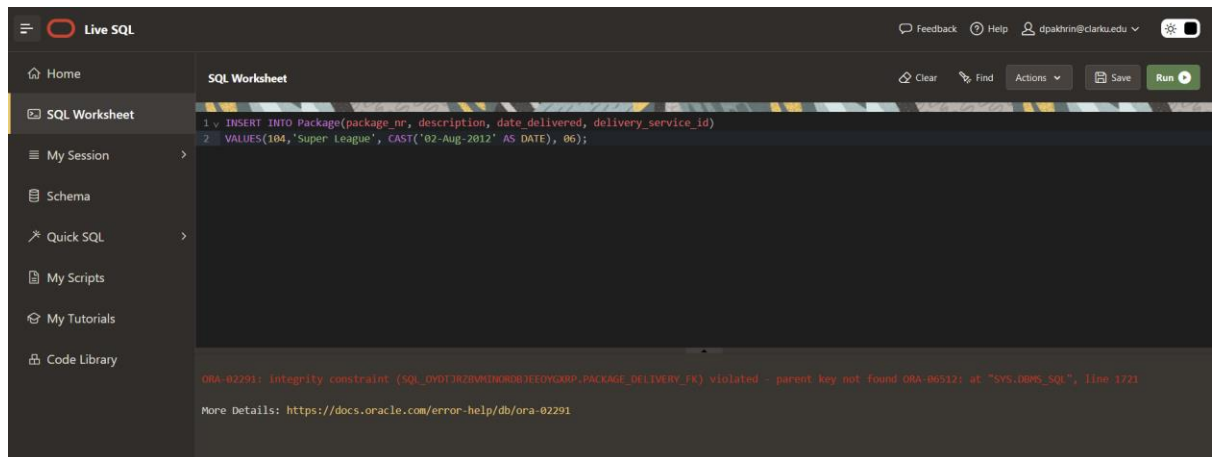
- **Exercise 11**



```
1 INSERT INTO Package (package_nr, description, date_delivered, delivery_service_id)
2 VALUES (101, 'Perfect diamonds', CAST('29-Apr-2012' AS DATE), 01);
3 INSERT INTO Package (package_nr, description, date_delivered, delivery_service_id)
4 VALUES(102, 'Care package', CAST('14-Jun-2012' AS DATE), 02);
5 INSERT INTO Package (package_nr, description, date_delivered, delivery_service_id)
6 VALUES(103, 'French wine', CAST('19-Jul-2012' AS DATE), NULL);
7
```

1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.

- **Exercise 12**



```
1 INSERT INTO Package(package_nr, description, date_delivered, delivery_service_id)
2 VALUES(104, 'Super League', CAST('02-Aug-2012' AS DATE), 06);
```

ORA-02291: integrity constraint (SQL_OYD13R20V91N0R00)TEEDYGRP.PACKAGE_DELIVERY_FK violated - parent key not found ORA-00512: at "SYS.DBMS_SQL", line 1721
More Details: <https://docs.oracle.com/error-help/db/ora-02291>

- **Exercise 13**

The insertion failed because it couldn't find its foreign key in the Package table. This sql query tried to insert the package record linking with the primary key of the delivery service table that does not exist.

- **Exercise 14**

Similarities

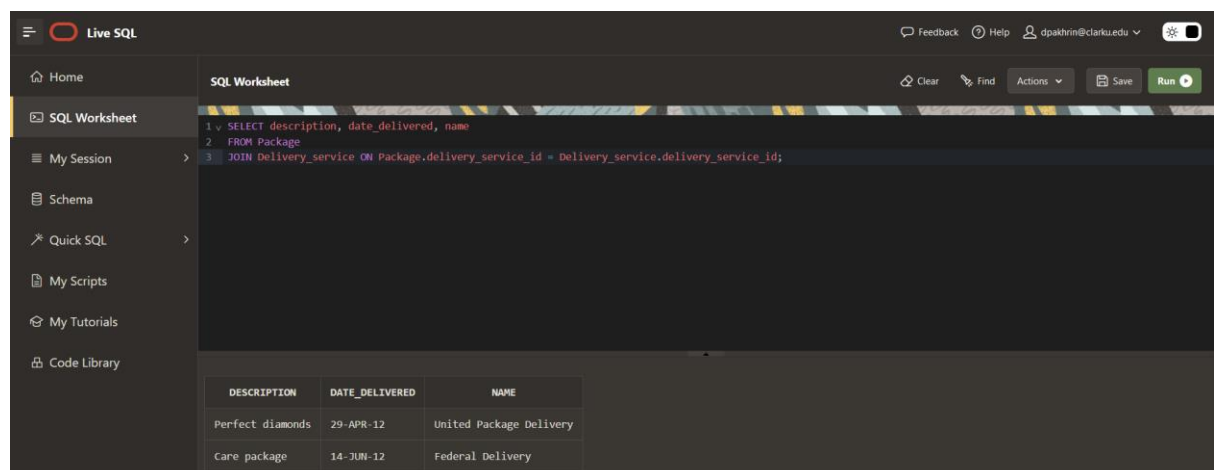
- Every operation joins two records for the given join condition.
- Every join operation joins two tables given the same column and condition.

- Every operation generated a new table that includes the column from another table given the condition.

Difference

Inner Join	Left Join	Right Join	Full Join
It fetches only the record if there is a match in both tables on the given condition.	It fetch all the records from the left table and matched record from the right table and sets NULL value for the attribute from the right table if it doesn't match	It fetch all the records from the right table and matched record from the left table and sets NULL value for the attribute from the left table if it doesn't match	It fetch all the records when there is a match in one of the table(i.e) either left or right table and sets Null value for the columns from the other table if it doesn't match.

• Exercise 15



The screenshot shows a 'Live SQL' interface with a sidebar on the left containing links to Home, SQL Worksheet, My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled 'SQL Worksheet' and contains the following SQL query:

```
1 SELECT description, date_delivered, name
2 FROM Package
3 JOIN Delivery_service ON Package.delivery_service_id = Delivery_service.delivery_service_id;
```

Below the query, the results are displayed in a table:

DESCRIPTION	DATE_DELIVERED	NAME
Perfect diamonds	29-APR-12	United Package Delivery
Care package	14-JUN-12	Federal Delivery

• Exercise 16

Some rows in Delivery_service and some rows in Package were not listed because we had performed an inner join. Inner join fetches only the row where there is a match between the tables. It will not fetch the row of that table that does not have match.

- Exercise 17

Live SQL

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1 SELECT description, date_delivered, name

2 FROM Package

3 RIGHT JOIN Delivery_service ON Package.delivery_service_id = Delivery_service.delivery_service_id

DESCRIPTION	DATE_DELIVERED	NAME
Perfect diamonds	29-APR-12	United Package Delivery
Care package	14-JUN-12	Federal Delivery
-	-	Dynamic Duo Delivery

- Exercise 18

Live SQL

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1 SELECT description, date_delivered, name

2 FROM Package

3 LEFT JOIN Delivery_service ON Package.delivery_service_id = Delivery_service.delivery_service_id

4 ORDER BY name;

DESCRIPTION	DATE_DELIVERED	NAME
Care package	14-JUN-12	Federal Delivery
Perfect diamonds	29-APR-12	United Package Delivery
French wine	19-JUL-12	-

- Exercise 19

Live SQL

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Clear Find Actions Save Run

1 SELECT description, date_delivered, name

2 FROM Package

3 FULL JOIN Delivery_service ON Package.delivery_service_id = Delivery_service.delivery_service_id

4 ORDER BY description DESC;

DESCRIPTION	DATE_DELIVERED	NAME
-	-	Dynamic Duo Delivery
Perfect diamonds	29-APR-12	United Package Delivery
French wine	19-JUL-12	-
Care package	14-JUN-12	Federal Delivery

Download CSV

4 rows selected.