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SECD2523 - DATABASE

SECTION: 08

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LAB 2- DML1

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Database Design Project

Oracle Baseball League Store Database

Project Scenario:

You are a small consulting company specializing in database development. You have just been awarded the contract to develop a data model for a database application system for a small retail store called Oracle Baseball League (OBL).

The Oracle Baseball League store serves the entire surrounding community selling baseball kit. The OBL has two types of customer, there are individuals who purchase items like balls, cleats, gloves, shirts, screen printed t-shirts, and shorts. Additionally customers can represent a team when they purchase uniforms and equipment on behalf of the team.

Teams and individual customers are free to purchase any item from the inventory list, but teams get a discount on the list price depending on the number of players. When a customer places an order we record the order items for that order in our database.

OBL has a team of three sales representatives that officially only call on teams but have been known to handle individual customer complaints.

Section 6 Lesson 4 Exercise 1: Data Manipulation Language

Use DML operations to manage database tables (S6L4 Objective 2)

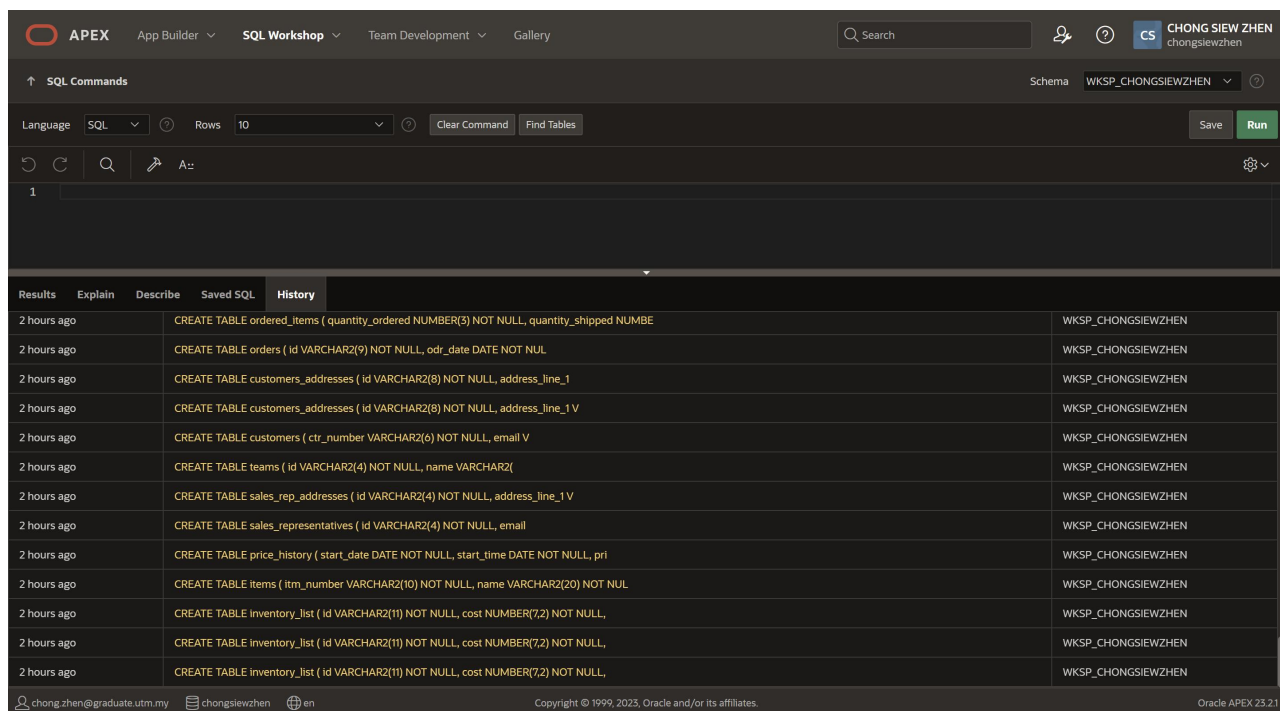
In this exercise you will populate and work with the data that is stored in the database system tables.

Part 1 : Running a script to populate the tables.

You have to consider the order of the tables when populating them. A table that has a foreign key field cannot be populated before the related table with the primary key.

1. Use the table mapping document and list the order that you would use to populate the tables.
inventory_list
items
price_history
sales_representatives
sales_rep_addresses
teams
customers
customers_addresses
orders
ordered_items
2. Open the “sports data.sql” and look at the order the data is being added there, does your list match? This file can be found in the Section 6 Lesson 4 interaction (sports data.zip) and must first be extracted.

Match



The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The user is logged in as 'CHONG SIEW ZHEN' with the schema 'WKSP_CHONGSIEWZHEN'. The 'SQL Commands' section is active, showing a list of 14 SQL commands executed to create tables. The commands are listed in a table with columns for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The commands are as follows:

Results	Explain	Describe	Saved SQL	History
2 hours ago			CREATE TABLE ordered_items (quantity_ordered NUMBER(3) NOT NULL, quantity_shipped NUMBE	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE orders (id VARCHAR2(9) NOT NULL, odr_date DATE NOT NUL	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE customers_addresses (id VARCHAR2(8) NOT NULL, address_line_1	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE customers_addresses (id VARCHAR2(8) NOT NULL, address_line_1V	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE customers (ctr_number VARCHAR2(6) NOT NULL, email V	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE teams (id VARCHAR2(4) NOT NULL, name VARCHAR2(WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE sales_rep_addresses (id VARCHAR2(4) NOT NULL, address_line_1V	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE sales_representatives (id VARCHAR2(4) NOT NULL, email	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE price_history (start_date DATE NOT NULL, start_time DATE NOT NULL, pri	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE items (itm_number VARCHAR2(10) NOT NULL, name VARCHAR2(20) NOT NUL	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE inventory_list (id VARCHAR2(11) NOT NULL, cost NUMBER(7,2) NOT NULL,	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE inventory_list (id VARCHAR2(11) NOT NULL, cost NUMBER(7,2) NOT NULL,	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE inventory_list (id VARCHAR2(11) NOT NULL, cost NUMBER(7,2) NOT NULL,	WKSP_CHONGSIEWZHEN
2 hours ago			CREATE TABLE inventory_list (id VARCHAR2(11) NOT NULL, cost NUMBER(7,2) NOT NULL,	WKSP_CHONGSIEWZHEN

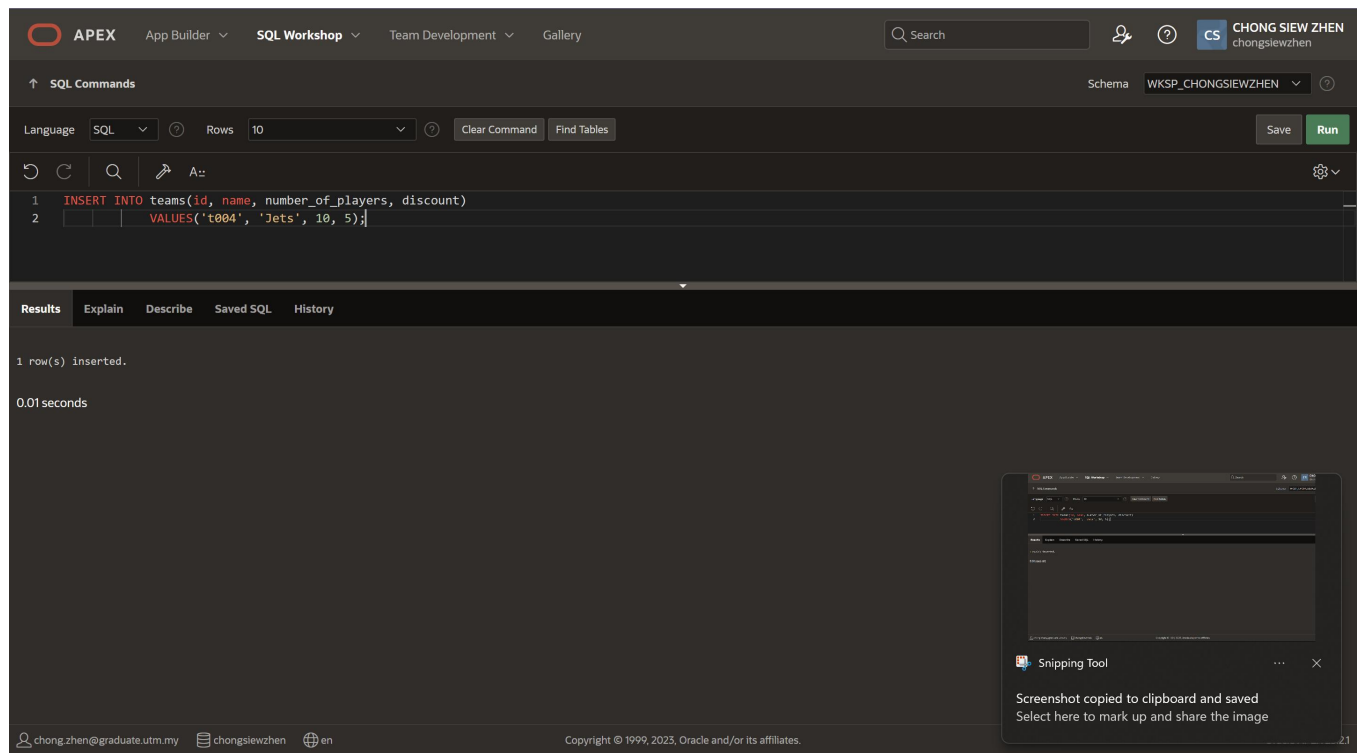
3. Run the “sports data.sql” script in APEX to populate your tables

4. Check that no errors occurred when you ran the script.

Part 2- Inserting rows to the system

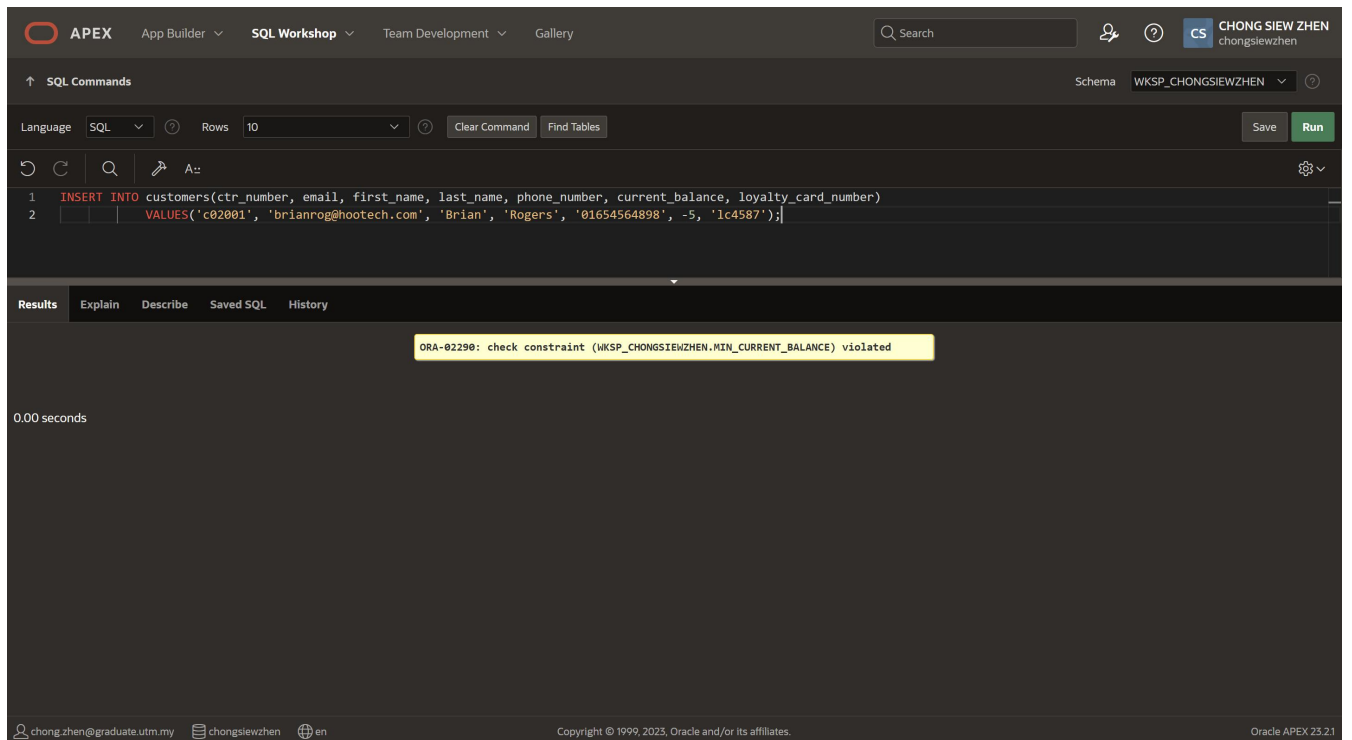
1. Add a new team to the system

id	name	Number_of_players	discount
t004	Jets	10	5

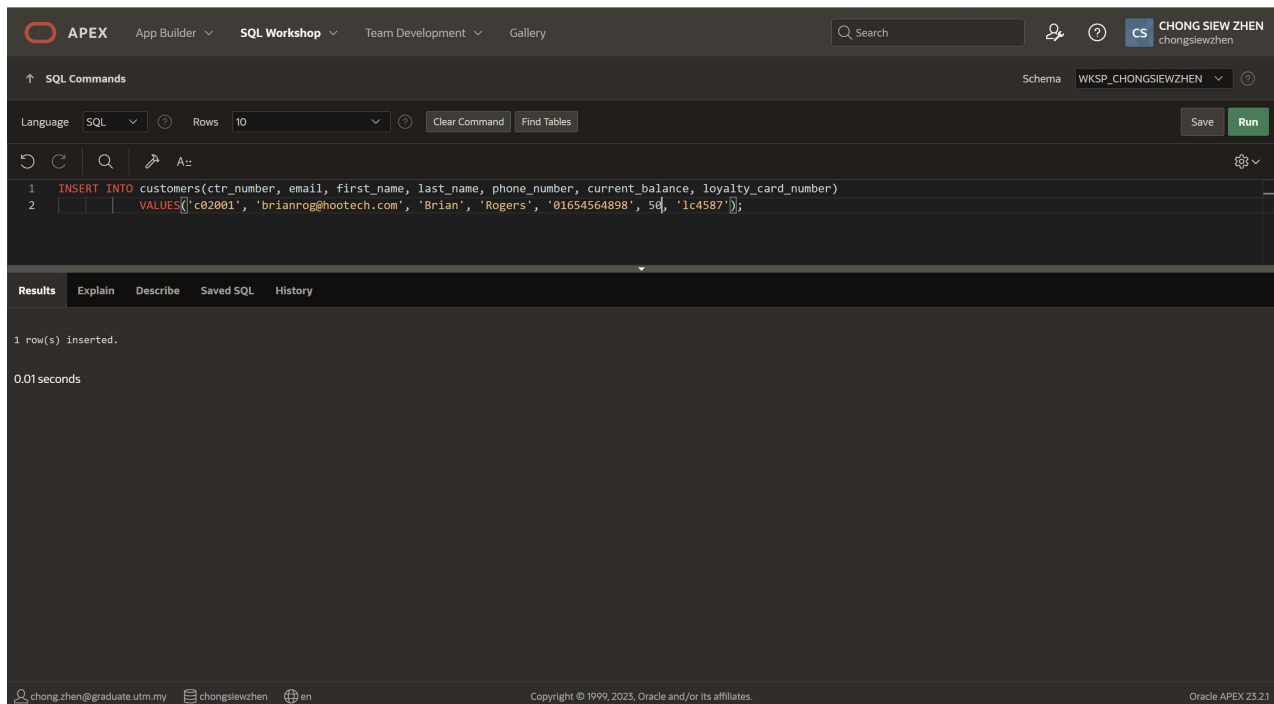


2. Add a new Customer with the following details to the system

ctr number	email	First name	Last name	Phone number	Current balance	Loyalty card number	tem id	sre id
c02001	brianrog@hootech.com	Brian	Rogers	01654564898	-5	lc4587		



3. This information violates the check constraint that the current balance must not be less than zero. Change the current balance to 50 and rerun the query.



Section 6 Lesson 4 Exercise 2: Data Manipulation Language

Use DML operations to manage database tables (S6L4 Objective 2)

In this exercise you will populate and work with the data that is stored in the database system.

Part 1- Updating rows to the system

1. Run the following query to view the content of the price_history table:

```
SELECT start_date, TO_CHAR (start_time, 'HH24:MI:SS'), price, end_date, TO_CHAR  
(end_time, 'HH24:MI')  
FROM price_history;
```

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'CHONG SIEW ZHEN' are on the right. Below the navigation bar, the 'SQL Commands' section shows a query with two lines: `SELECT start_date, TO_CHAR (start_time, 'HH24:MI:SS'), price, end_date, TO_CHAR (end_time, 'HH24:MI')` and `FROM price_history;`. The 'Results' tab is active, displaying a table with 7 rows. The table has five columns: 'START_DATE', 'TO_CHAR(START_TIME, 'HH24:MI:SS')', 'PRICE', 'END_DATE', and 'TO_CHAR(END_TIME, 'HH24:MI')'. The data rows are as follows:

START_DATE	TO_CHAR(START_TIME, 'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME, 'HH24:MI')
04/25/2017	10:10:10	24.99	-	-
02/12/2017	12:30:00	7.99	-	-
01/25/2017	17:01:00	8.99	01/25/2017	19:00
11/25/2016	09:00:00	14.99	01/25/2017	17:00
05/31/2017	16:35:30	149	-	-
06/17/2017	09:00:00	4.99	-	-
01/26/2017	09:00:00	15.99	-	-

Below the table, it says '7 rows returned in 0.01 seconds' and provides a 'Download' link. The footer of the interface shows the user's email 'chong.zhen@graduate.utm.my', the username 'chongsiewzhen', and the copyright notice 'Copyright © 1999, 2023, Oracle and/or its affiliates. Oracle APEX 23.23'.

2. Obl is going to update the price of the premium bat so you will need to write a query that will close off the current price by adding the system date values to the end_date and end_time fields. To run this query you will need to both match the item number and identify that the end date is null. This ensures that you are updating the latest price.

APEX App Builder SQL Workshop Team Development Gallery

Search

Schema WKSP_CHONGSIEWZHEN

Language SQL Rows 10 Clear Command Find Tables Save Run

```

1 UPDATE price_history
2 SET end_date = SYSDATE, end_time = CURRENT_TIMESTAMP
3 WHERE itm_number = 'im01101048' AND end_date is null;

```

Results Explain Describe Saved SQL History

1 row(s) updated.

0.01 seconds

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3. Rerun the select statement on the price_history table to ensure that the statement has been executed.

APEX App Builder SQL Workshop Team Development Gallery

Search

Schema WKSP_CHONGSIEWZHEN

Language SQL Rows 10 Clear Command Find Tables Save Run

```

1 SELECT start_date, TO_CHAR(start_time, 'HH24:MI:SS'), price, end_date, TO_CHAR(end_time, 'HH24:MI')
2 FROM price_history;
3

```

Results Explain Describe Saved SQL History

START_DATE	TO_CHAR(START_TIME, 'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME, 'HH24:MI')
04/25/2017	10:10:10	24.99	-	-
02/12/2017	12:30:00	7.99	-	-
01/25/2017	17:01:00	8.99	01/25/2017	19:00
11/25/2016	09:00:00	14.99	01/25/2017	17:00
05/31/2017	16:35:30	149	12/18/2023	09:46
06/17/2017	09:00:00	4.99	-	-
01/26/2017	09:00:00	15.99	-	-

7 rows returned in 0.02 seconds Download

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4. Insert a new row that will use the current date and time to set the new price of the premium bat to be 99.99.

The screenshot shows the Oracle APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The user is logged in as 'CHONG SIEW ZHEN' with the username 'chongsiewzhen'. The 'SQL Commands' tab is active, showing a schema of 'WKSP_CHONGSIEWZHEN'. The language is set to 'SQL' and the number of rows to display is '10'. The SQL command entered is:

```
1 INSERT INTO price_history(start_date, start_time, price, itm_number)
2 VALUES(SYSDATE, CURRENT_TIMESTAMP, 99.99, 'im01101048');
```

The 'Results' tab shows the execution outcome: '1 row(s) inserted.' and '0.01 seconds'.

5. Rerun the select statement on the price_history table to ensure that the statement has been executed.

The screenshot shows the Oracle APEX SQL Workshop interface with the same user and schema. The SQL command entered is:

```
1 SELECT start_date, TO_CHAR (start_time, 'HH24:MI:SS'), price, end_date, TO_CHAR (end_time, 'HH24:MI')
2 FROM price_history;
3
```

The 'Results' tab displays the following data:

START_DATE	TO_CHAR(START_TIME,'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME,'HH24:MI')
04/25/2017	10:10:10	24.99	-	-
02/12/2017	12:30:00	7.99	-	-
01/25/2017	17:01:00	8.99	01/25/2017	19:00
11/25/2016	09:00:00	14.99	01/25/2017	17:00
05/31/2017	16:35:30	149	12/18/2023	09:46
12/18/2023	09:51:25	99.99	-	-
06/17/2017	09:00:00	4.99	-	-
01/26/2017	09:00:00	15.99	-	-

8 rows returned in 0.00 seconds

Part 2: Deleting rows from the system

1. Bob Thornberry has contacted Obl to ask that the 83 Barrhill Drive address be removed from the system as he can longer receive parcels at this address. Write a SQL statement that will remove this address from the system.

APEX SQL Workshop interface showing a DELETE statement execution. The command is: `DELETE FROM customers_addresses WHERE address_line_1 = '83 Barrhill Drive';`. The results show 1 row(s) deleted in 0.01 seconds.

SQL Commands

Language: SQL Rows: 10 Clear Command Find Tables Save Run

```
1 DELETE FROM customers_addresses
2 WHERE address_line_1 = '83 Barrhill Drive';
```

Results Explain Describe Saved SQL History

1 row(s) deleted.

0.01 seconds

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- Run a select statement on the customers_addresses table to ensure that the statement has been executed.

APEX SQL Workshop interface showing a SELECT statement execution. The command is: `SELECT * FROM customers_addresses;`. The results show 4 rows returned in 0.02 seconds.

SQL Commands

Language: SQL Rows: 10 Clear Command Find Tables Save Run

```
1 SELECT * FROM customers_addresses;
```

Results Explain Describe Saved SQL History

ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE	CTR_NUMBER
ca0102	17 Gartsquare Road	Starford	Liverpool	LP89JHK	c00001
ca0103	54 Ropehill Crescent	Georgetown	Star	ST45AGV	c00101
ca0104	36 Watercress Lane	-	Jump	JP23YTH	c01986
ca0105	63 Acacia Drive	Skins	Liverpool	LP83JHR	c00001

4 rows returned in 0.02 seconds Download

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