



UTM

UNIVERSITI TEKNOLOGI MALAYSIA

SECD2523 - DATABASE

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SQL3 – DML2

2023/2024

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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 6 Exercise 2: Retrieving Data Using SELECT

Write and Execute SELECT statements (S6L6 Objective 2)

In this exercise you will retrieve data that is stored in the database system by using a SELECT statement.

Part 1: Using Arithmetic Operators

1. Every customer has been told they can pay off their current balance over a 12 month period. Display the customer's first name, last name, current balance and monthly payment.

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 'Jia Yu Ong' are on the right. The 'SQL Commands' tab is active, showing a query: `1 SELECT first_name, last_name, current_balance, ROUND(current_balance/12, 2) FROM customers;`. The 'Run' button is highlighted. Below the query editor, the 'Results' tab is selected, displaying a table with 5 rows. The table columns are FIRST_NAME, LAST_NAME, CURRENT_BALANCE, and ROUND(CURRENT_BALANCE/12,2). The data rows are: Robert Thornberry (150, 12.5), Jennifer Jones (0, 0), John Doe (987.5, 82.29), Andrew Murcia (85, 7.08), and Maria Galant (125.65, 10.47). A status bar at the bottom indicates '5 rows returned in 0.01 seconds' and includes a 'Download' link.

FIRST_NAME	LAST_NAME	CURRENT_BALANCE	ROUND(CURRENT_BALANCE/12,2)
Robert	Thornberry	150	12.5
Jennifer	Jones	0	0
John	Doe	987.5	82.29
Andrew	Murcia	85	7.08
Maria	Galant	125.65	10.47

2. Obl is considering giving a gift card to all its customers of 5.00 that can be used to reduce their current balance. Write a query that will show the customers first name, last name, customer number, current balance and the value of their balance minus the gift value.

APEX

App Builder

SQL Workshop

Team Development

Gallery

Search

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SQL Commands

Schema WKSP_DATABASEBIOINFO

Language SQL

Rows 10

Clear Command

Find Tables

Save

Run

1 SELECT first_name, last_name, ctr_number, current_balance, current_balance-5 FROM customers;

Results

Explain

Describe

Saved SQL

History

FIRST_NAME	LAST_NAME	CTR_NUMBER	CURRENT_BALANCE	CURRENT_BALANCE-5
Robert	Thornberry	c00001	150	145
Jennifer	Jones	c00012	0	-5
John	Doe	c00101	987.5	982.5
Andrew	Murcia	c00103	85	80
Maria	Galant	c01986	125.65	120.65

5 rows returned in 0.03 seconds Download

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3. What would be the problem with implementing this scheme?
Some of the current balance value is below zero.

Part 2 : Using Column Aliases

1. You previously wrote a query that display the customer’s first name, last name, current balance and monthly payment. Rewrite the query to use First Name, Last Name, Balance and Monthly Repayments as the column aliases. The aliases are to be shown exactly as described (case sensitive).

APEX

App Builder

SQL Workshop

Team Development

Gallery

Search

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SQL Commands

Schema WKSP_DATABASEBIOINFO

Language SQL

Rows 10

Clear Command

Find Tables

Save

Run

1 SELECT first_name AS "First Name", last_name AS "Last Name", current_balance AS "Balance", current_balance/12 AS "Monthly Repayments" FROM customers;

Results

Explain

Describe

Saved SQL

History

First Name	Last Name	Balance	Monthly Repayments
Robert	Thornberry	150	12.5
Jennifer	Jones	0	0
John	Doe	987.5	82.291666666666666666666666666667
Andrew	Murcia	85	7.08333333333333333333333333333333
Maria	Galant	125.65	10.47083333333333333333333333333333

5 rows returned in 0.01 seconds Download

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Part 3: Using Literal Character Strings

1. Write a query that will display the team information in the following format:

The Rockets team has 25 players and receives a discount of 10 percent.

Use **Team Information** as the column alias.

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 'Jia Yu Ong' with the role 'database_bioinform...'. The 'SQL Commands' tab is active, showing a query in the editor:

```
1 SELECT 'The ' || name || ' team has ' || number_of_players || ' players and receives a discount of ' || discount || ' percent.' AS "Team Information"
2 FROM teams;
```

The 'Run' button is highlighted in green. Below the editor, the 'Results' tab is selected, displaying the query output:

Team Information
The Rockets team has 25 players and receives a discount of 10 percent.
The Celtics team has 42 players and receives a discount of 20 percent.
The Rovers team has 8 players and receives a discount of percent.

At the bottom of the results section, it states '3 rows returned in 0.03 seconds' with a 'Download' link. The footer of the interface includes the user's email 'preveenong@gmail.com', the database name 'database_bioinformatics', the user 'en', the copyright notice 'Copyright © 1999, 2023, Oracle and/or its affiliates.', and the version 'Oracle APEX 23.21'.

2. Why does the last team not show a discount?
It is because the discount value is a NULL value and it is not equal to zero.