

SEMESTER 1, SESSION 2023/2024

LAB EXERCISE 3: DML 2

SECD2523: DATABASE

SECTION 09

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COURSE : 2 SECRH – BACHELOR OF COMPUTER SCIENCE

(COMPUTER NETWORKS & SECURITY)

WITH HONOURS

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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 1: Retrieving Data Using SELECT

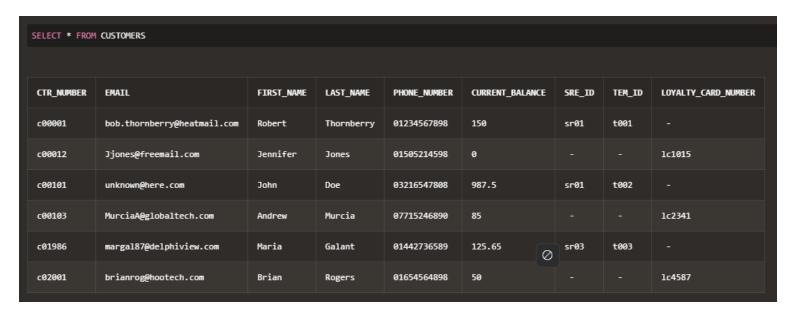
Write and Execute SELECT statements (S6L6 Objective 2)

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

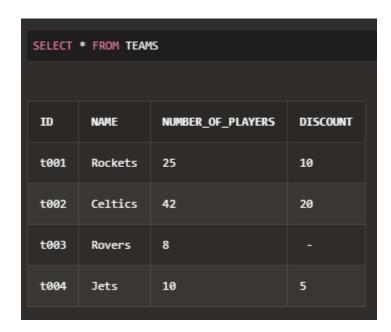
Part 1: Retrieving all columns from a table.

Using the SELECT * statement show all data stored in the following tables:

1. customers.



2. teams.



3. items

SELECT * FROM ITEMS						
ITM_NUMBER	NAME	DESCRIPTION	CATEGORY	COLOR	Size	ILT_ID
im01101044	gloves	catcher mitt	clothing	brown	m	i1010230124
im01101045	under shirt	top worn under the game top	clothing	white	s	i1010230125
im01101046	socks	team socks with emblem	clothing	range	1	i1010230126
im01101047	game top	team shirt with emblem	clothing	range	n	i1010230127
im01101048	premium bat	high quaity basball bat	equipment			i1010230128

Part 2: Selecting Specific Columns

1. Display the customer number, first name, last name, email and phone number of the customers.

SELECT ctr_number, first_name, last_name, email, phone_number FROM CUSTOMERS				
CTR_NUMBER	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER
c00001	Robert	Thornberry	bob.thornberry@heatmail.com	01234567898
c00012	Jennifer	Jones	Jjones@freemail.com	01505214598
c00101	John	Doe	unknown@here.com	03216547808
c00103	Andrew	Murcia	MurciaA@globaltech.com	07715246890
c01986	Maria	Galant	marga187@delphiview.com	01442736589
c02001	Brian	Rogers	brianrog@hootech.com	01654564898

2. Display the name and number of players for each team.



3. Display the name, description and category for every item in the table.



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.

SELECT first_name, last_name, current_balance, ROUND(current_balance/12, 2) FROM customers				
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	
Brian	Rogers	50	4.17	

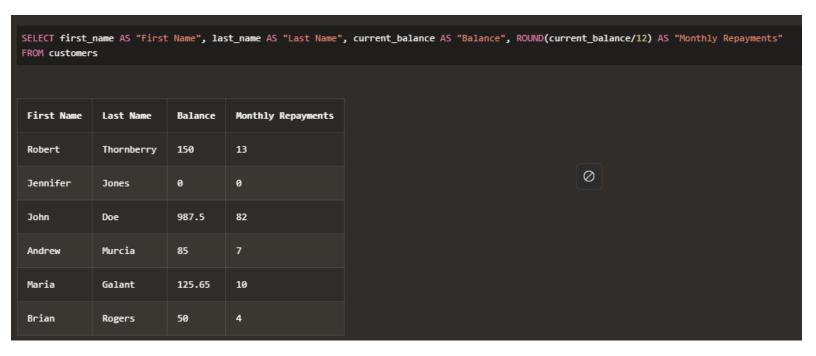
2. Oblis considering giving a gift card to all its customers of 5.00 that can be used to reduce their current balance. Write a query that will show the customers first name, last name, customer number, current balance and the value of their balance minus the gift value.

SELECT first_name, last_name, ctr_number, current_balance, current_balance-5 FROM customers					
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	
Brian	Rogers	c02001	50	45	

^{3.} What would be the problem with implementing this scheme? = The current balance cannot go 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).



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.

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

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.

The Jets team has 10 players and receives a discount of 5 percent.
```

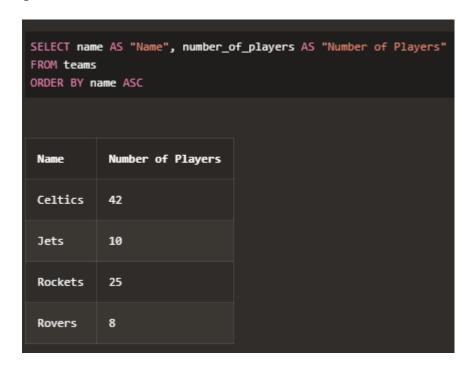
- 2. Why does the last team not show a discount?
 - = It contains a null value which is not the same as zero and the output will be null.

Section 6 Lesson 8 Exercise 1: Sorting Data Using ORDER BY

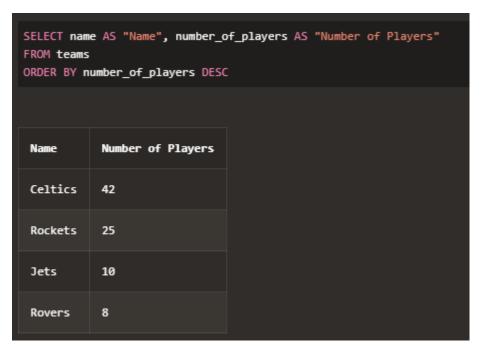
Use the ORDER BY Clause to Sort SQL Results (S6L8 Objective 1)

In this exercise you will sort the order of the data that is returned in your query by adding an ORDER BY clause to the end of your SELECT statement.

1. Display the team name and number of players alphabetically in order of team name. Use an appropriate alias for your column headings.



2. Display the team name and number of players in descending order of number of players. Use an appropriate alias for your column headings.



3. Display the team name and number of players alphabetically in order of team name. Use Team Name for the name alias and Players for the number of players. Sort the output in descending order of name using the alias in the ORDER BY clause.

