

# SCHOOL OF COMPUTING SESSION 2023/2024, SEMESTER 1 SECV2113 DATABASE SECTION 10

# LAB3

# LECTURER'S NAME: DR ROZILAWATI BINTI DOLLAH @ MD ZAIN

NO.	NAME	MATRICS NO
1.	LYDIA AZRA BINTI MUHAMMAD NOR	B23CS0042

# 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

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBE
00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	-
00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015
:00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	-
:00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	-	-	lc2341
01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-





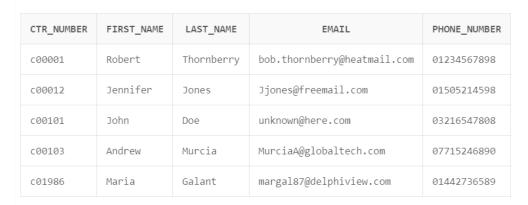
# Part 2: Selecting Specific Columns

- 1. Display the customer number, first name, last name, email and phone number of the customers.
- 2. Display the name and number of players for each team.
- 3. Display the name, description and category for every item in the table.

#### Answer:



1 v SELECT ctr\_number, first\_name, last\_name, email, phone\_number
2 FROM customers;



#### Download CSV

5 rows selected.



3.

- $\mathbf{1}_{\,\scriptscriptstyle\,\vee}$  SELECT name, description, category
- 2 FROM items;

NAME	DESCRIPTION	CATEGORY
gloves	catcher mitt	clothing
under shirt	top worn under the game top	clothing
socks	team socks with emblem	clothing
game top	team shirt with emblem	clothing
premium bat	high quaity basball bat	equipment

Download CSV

5 rows selected.

# Section 6 Lesson 6 Exercise 2: Retrieving Data Using SELECT

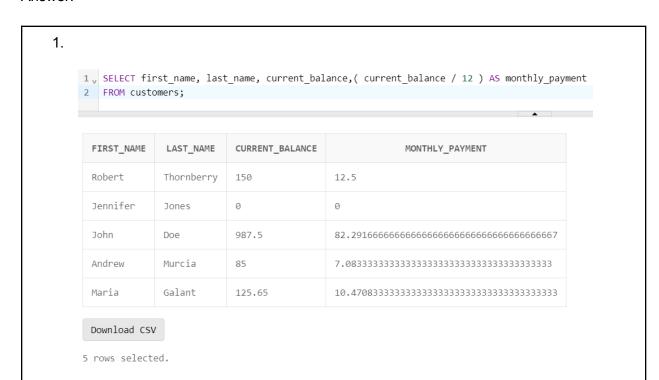
Write and Execute SELECT statements (S6L6 Objective 2)

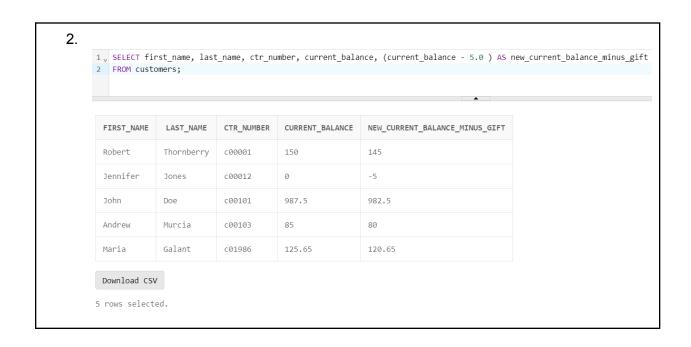
In this exercise you will retrieve data that is stored in the database system by using a SELECT statement.

#### 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.
- 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.
- 3. What would be the problem with implementing this scheme?

#### Answer:



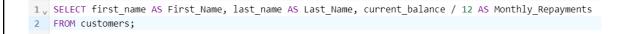


3. It is hard to check whether the data has been updated or not.

#### 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).

# Answer:



FIRST_NAME	LAST_NAME	MONTHLY_REPAYMENTS
Robert	Thornberry	12.5
Jennifer	Jones	0
John	Doe	82.29166666666666666666666666666666666666
Andrew	Murcia	7.08333333333333333333333333333333333333
Maria	Galant	10.4708333333333333333333333333333333333333

Download CSV

5 rows selected.

# 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.

2. Why does the last team not show a discount?

#### Answer:



2. It is because the discount for that team is null.

# Section 6 Lesson 7 Exercise 1: Restricting Data Using WHERE

# Limit rows using WHERE (S6L7 Objective 1)

In this exercise you will refine the data that is returned in your query by adding a WHERE clause to your SELECT statement.

#### Part 1: Using the WHERE Clause.

- 1. Using the unique customer number in the where clause display all columns for Maria Galant.
- 2. Display the first name, last name and customer number for all customers who have a current balance of greater than 100. Use an appropriate alias for your column headings.
- 3. Display the order id, date and time of all orders that were placed before the 28<sup>th</sup> of May 2019. Use an appropriate alias for your column headings.





```
3.
                                     1 v SELECT
                                            id AS "Order ID",
                                      3
                                            odr_date AS "Date",
                                            odr_time AS "Time"
                                      5 FROM orders
                                      6 WHERE odr_date < ' 28 May 2019 ';
                                        Order ID
                                                     Date
                                                                Time
                                                  17-APR-17
                                       or0101250
                                                              17-APR-17
                                       or0101350
                                                  24-MAY-17
                                                              24-MAY-17
                                       or0101425
                                                  28-MAY-17
                                                              28-MAY-17
                                       or0101681
                                                  02-JUN-17
                                                              02-JUN-17
                                       or0101750 18-JUN-17 18-JUN-17
                                       Download CSV
                                      5 rows selected.
```

#### Part 2: Range Conditions: BETWEEN Operator

1. Display the inventory id, cost and number of units using appropriate aliases for all items that have a trade cost of between 3.00 and 15.00.

#### Answer:



# Part 3: Membership Conditions: IN Operator

1. Display the inventory id, cost and number of units using appropriate aliases for all items that have 50, 100, 150 or 200 units in stock.



#### Part 4: Membership Conditions: NOT IN Operator

1. Display the inventory id, cost and number of units using appropriate aliases for all items that do not have 50, 100, 150 or 200 units in stock.

#### Answer:



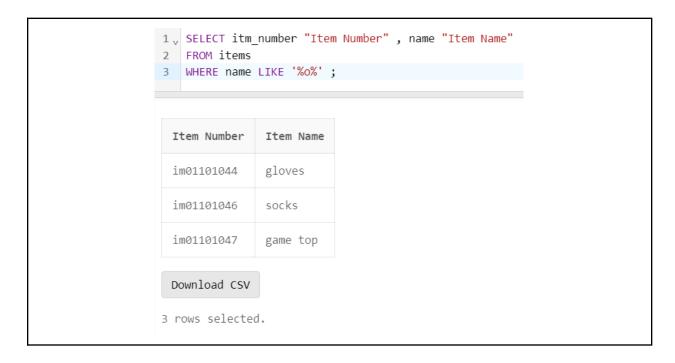
#### Part 5: Pattern Matching: LIKE Operator

1. Display item number and name of all items that have a name that begins with g. Use an appropriate alias for your column headings.



# Part 6: Pattern Matching: Combining Wildcard Characters with the LIKE Operator

1. Display item number and name of all items that have a name that contain a lowercase o. Use an appropriate alias for your column headings.



# Section 6 Lesson 7 Exercise 2: Restricting Data Using WHERE

# Limit rows using WHERE (S6L7 Objective 1)

In this exercise you will refine the data that is returned in your query by adding a WHERE clause to your SELECT statement.

#### Part 1: Using the NULL Conditions

Write a query that will display information for teams that don't receive a discount in the following format:
 The Rovers team has 25 players and does not receive a discount.

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

2. Write a query that will display information for only teams that receive a discount in the following format:

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

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

```
1.

SELECT ' The ' || name || ' team has ' || number_of_players ||
' player and does not receive a discount.' "Team Information"
FROM teams
WHERE discount is NULL;

Team Information

The Rovers team has 8 player and does not receive a discount.

Download CSV
```



#### Part 2: Logical Operators: AND

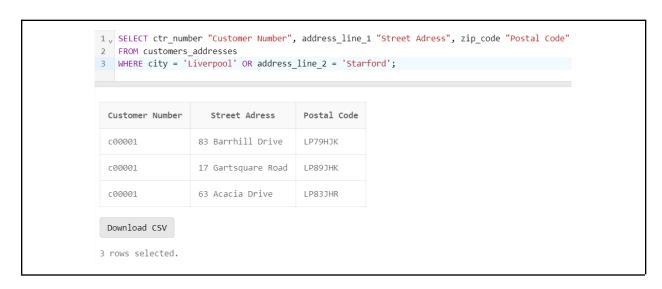
1. Write a query that will display the customer number, address line 1 and postal code for customers that live in the starford area of Liverpool. Use Customer Number, Street Address and Postal Code as the column aliases.



#### Part 3: Logical Operators: OR

 Write a query that will display the customer number, address line 1 and postal code for customers that live in either starford or Liverpool in general. Use Customer Number, Street Address and Postal Code as the column aliases.

#### Answer:



#### Part 4: Logical Operators: NOT Equal To

1. Write a query that will display the customer number, address line 1 and postal code for customers that do not live in Liverpool. Use Customer Number, Street Address and Postal Code as the column aliases.

#### 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.







# Section 6 Lesson 8 Exercise 2: Sorting Data Using ORDER BY

#### Part 1: TOP-N-ANALYSIS (S6L8 Objective 3)

1. The customers are numbered sequentially with each new customer being assigned a higher customer number. Use TOP-N-ANALYSIS to only show the First and last name of the first three customers. Show the customers first and last name in the same column using Customer Name as the column alias.



# Part 2: Using a Substitution Variable (S6L8 Objective 4)

1. Use a substitution variable that will allow you to enter the commission rate for the sales representatives. The first and last names should be displayed to screen for any sales representatives that earn that commission rate and the output should be ordered by their last name. Use an appropriate alias for your column headings.

