Lim Si Ni _ A22EC0070

Lab 3 Section 02

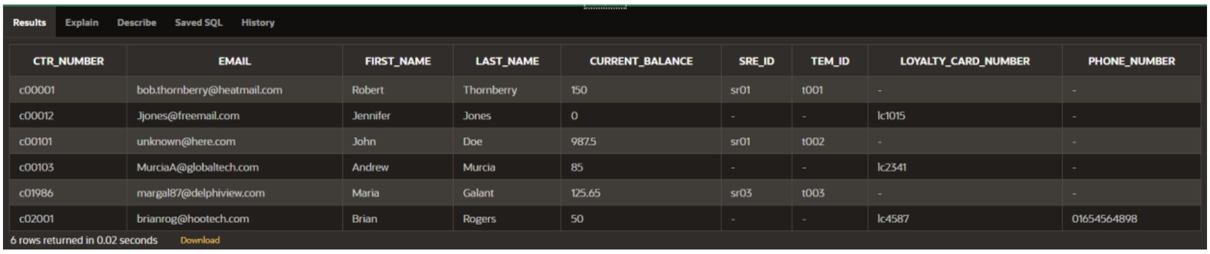
19/12/2023

Part 1: Retrieving all columns from a table.

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

1. customers.

SELECT * FROM customers;

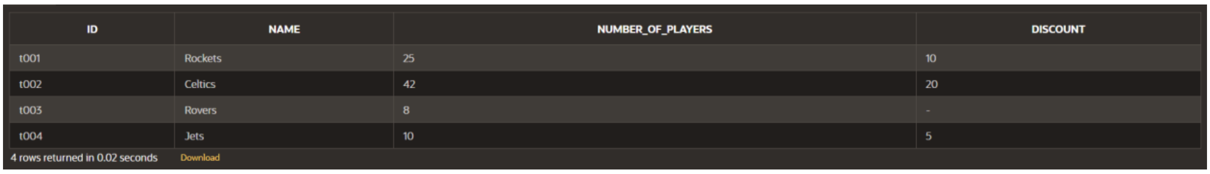


CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER	PHONE_NUMBER
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	150	sr01	t001	-	-
c00012	Jjones@freemail.com	Jennifer	Jones	0	-	-	lc1015	-
c00101	unknown@here.com	John	Doe	987.5	sr01	t002	-	-
c00103	MurciaA@globaltech.com	Andrew	Murcia	85	-	-	lc2341	-
c01986	margal87@delphiview.com	Maria	Galant	125.65	sr03	t003	-	-
c02001	brianrog@hootech.com	Brian	Rogers	50	-	-	lc4587	01654564898

6 rows returned in 0.02 seconds

2. teams.

SELECT * FROM teams;

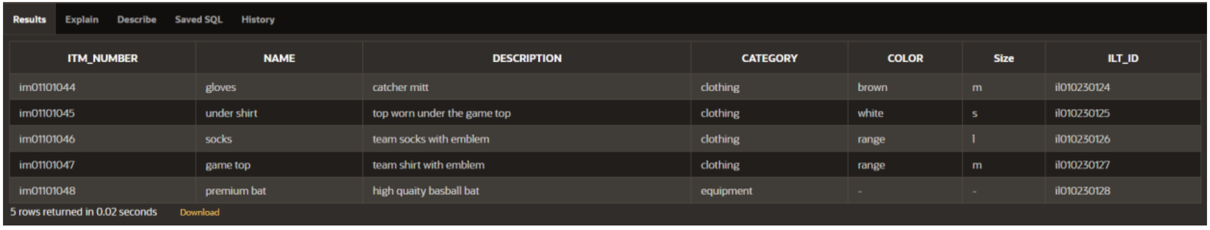


ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT
t001	Rockets	25	10
t002	Celtics	42	20
t003	Rovers	8	-
t004	Jets	10	5

4 rows returned in 0.02 seconds

3. items

SELECT * FROM items;



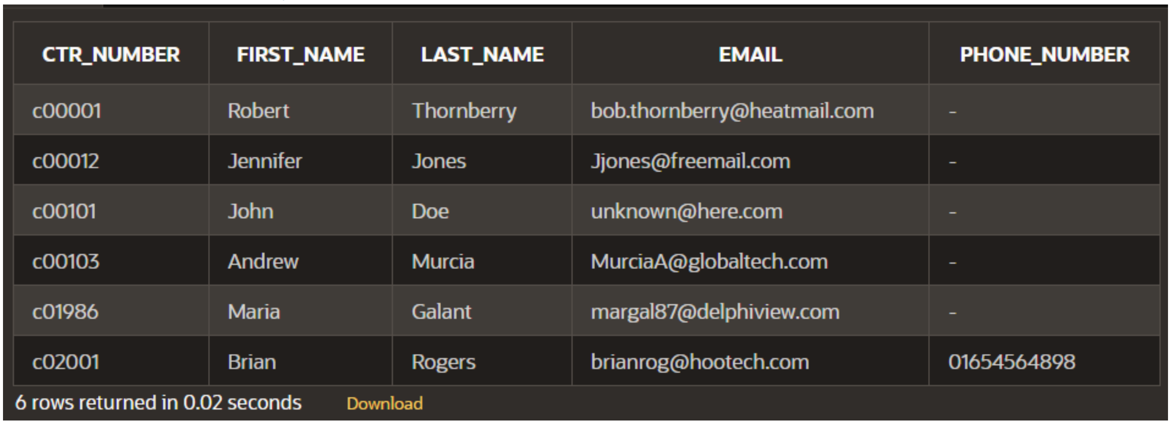
ITM_NUMBER	NAME	DESCRIPTION	CATEGORY	COLOR	Size	ILT_ID
im01101044	gloves	catcher mitt	clothing	brown	m	il010230124
im01101045	under shirt	top worn under the game top	clothing	white	s	il010230125
im01101046	socks	team socks with emblem	clothing	range	l	il010230126
im01101047	game top	team shirt with emblem	clothing	range	m	il010230127
im01101048	premium bat	high quaity basball bat	equipment	-	-	il010230128

5 rows returned in 0.02 seconds

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;
```

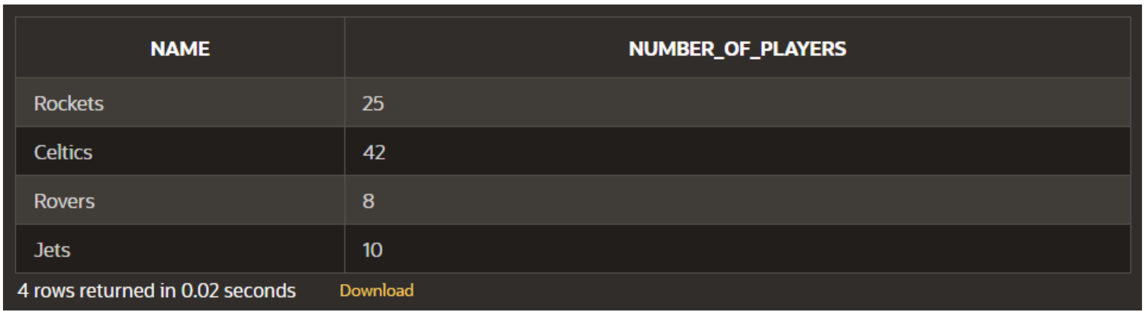


CTR_NUMBER	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER
c00001	Robert	Thornberry	bob.thornberry@heatmail.com	-
c00012	Jennifer	Jones	Jjones@freemail.com	-
c00101	John	Doe	unknown@here.com	-
c00103	Andrew	Murcia	MurciaA@globaltech.com	-
c01986	Maria	Galant	margal87@delphiview.com	-
c02001	Brian	Rogers	brianrog@hootech.com	01654564898

6 rows returned in 0.02 seconds

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

```
SELECT name, number_of_players
FROM teams;
```

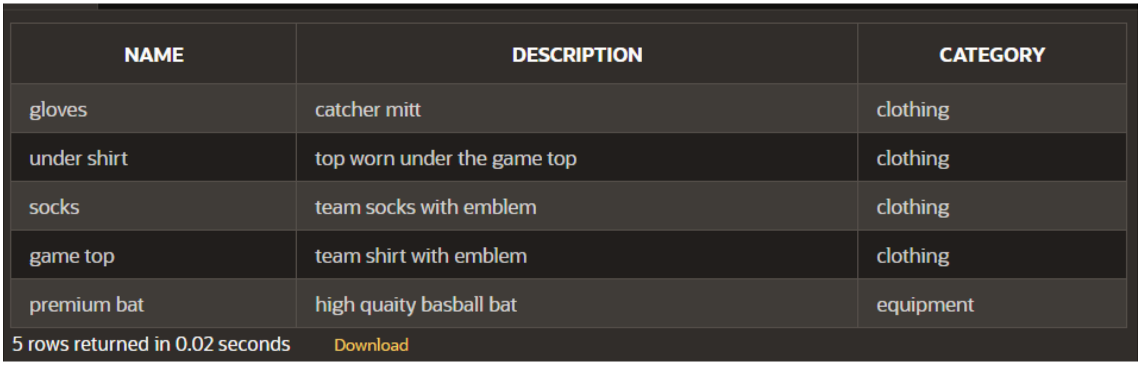


NAME	NUMBER_OF_PLAYERS
Rockets	25
Celtics	42
Rovers	8
Jets	10

4 rows returned in 0.02 seconds

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

```
SELECT name, description, category
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

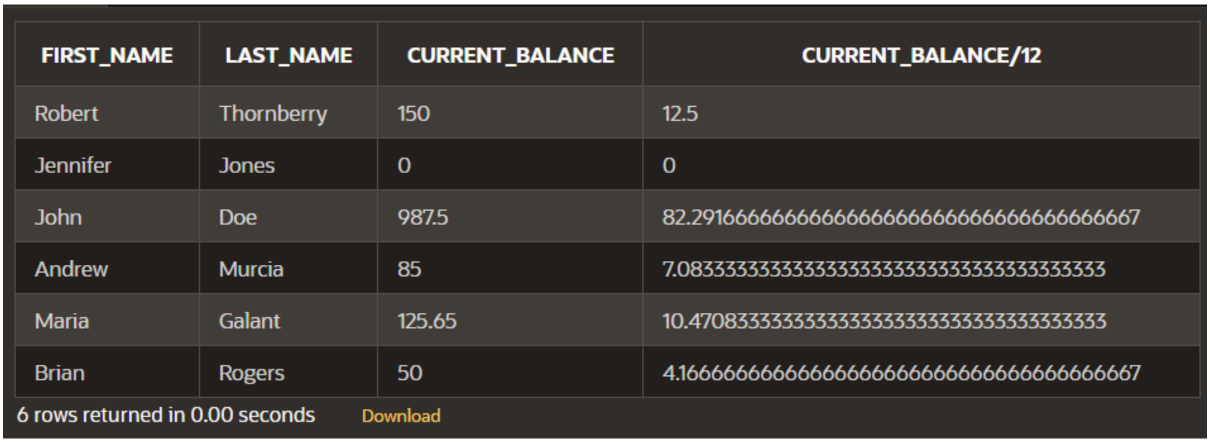
5 rows returned in 0.02 seconds

Section 6 Lesson 6 Exercise 2: Retrieving Data Using SELECT

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/12
FROM customers;

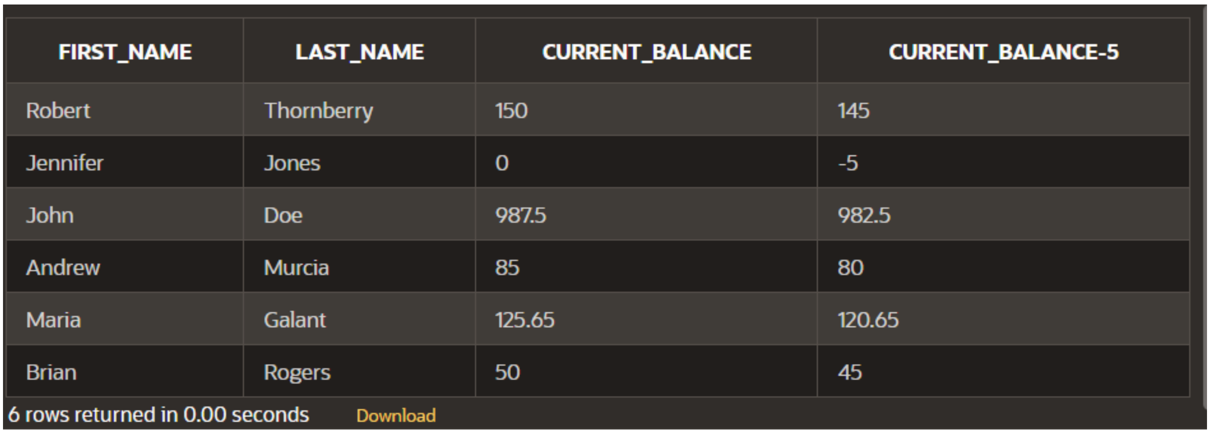


FIRST_NAME	LAST_NAME	CURRENT_BALANCE	CURRENT_BALANCE/12
Robert	Thornberry	150	12.5
Jennifer	Jones	0	0
John	Doe	987.5	82.29166666666666666666666666666666666667
Andrew	Murcia	85	7.0833333333333333333333333333333333333333
Maria	Galant	125.65	10.4708333333333333333333333333333333333
Brian	Rogers	50	4.1666666666666666666666666666666666666667

6 rows returned in 0.00 seconds Download

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.

SELECT first_name, last_name, current_balance-5
FROM customers;



FIRST_NAME	LAST_NAME	CURRENT_BALANCE	CURRENT_BALANCE-5
Robert	Thornberry	150	145
Jennifer	Jones	0	-5
John	Doe	987.5	982.5
Andrew	Murcia	85	80
Maria	Galant	125.65	120.65
Brian	Rogers	50	45

6 rows returned in 0.00 seconds Download

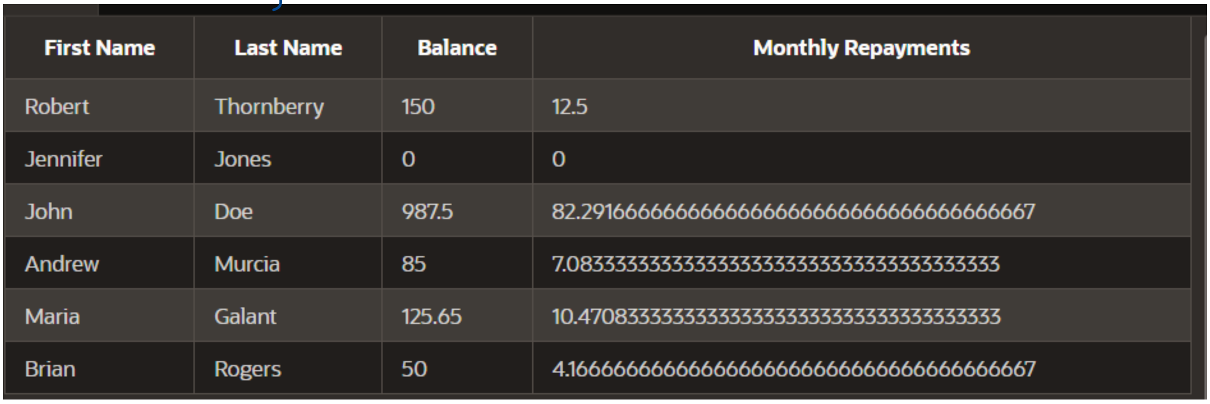
3. What would be the problem with implementing this scheme?

when current balance is zero, the 'current_balance-5' becomes -5 which is illogical in real world.

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).

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



First Name	Last Name	Balance	Monthly Repayments
Robert	Thornberry	150	12.5
Jennifer	Jones	0	0
John	Doe	987.5	82.29166666666666666666666666666666666667
Andrew	Murcia	85	7.08333333333333333333333333333333333333
Maria	Galant	125.65	10.47083333333333333333333333333333333333
Brian	Rogers	50	4.16666666666666666666666666666666666667

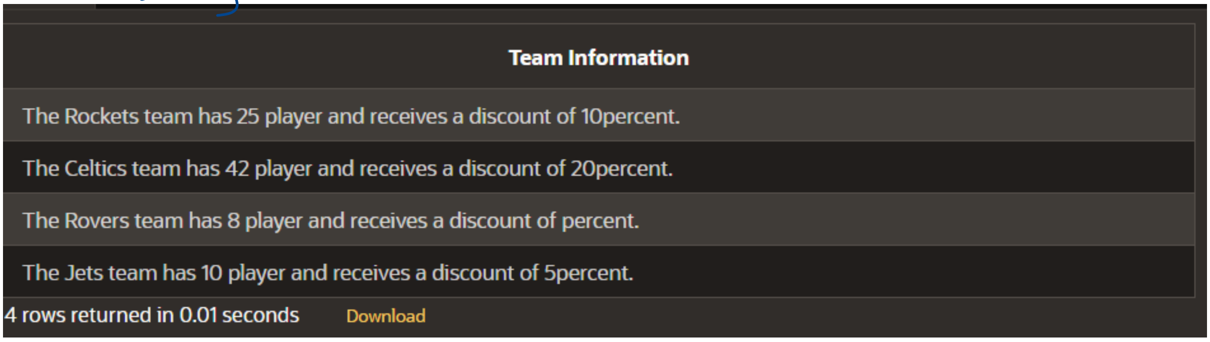
Part 3: Using Literal Character Strings

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 ||' player and receives
a discount of '|| discount ||' percent.' "Team Information"
FROM teams;
```



Team Information
The Rockets team has 25 player and receives a discount of 10percent.
The Celtics team has 42 player and receives a discount of 20percent.
The Rovers team has 8 player and receives a discount of percent.
The Jets team has 10 player and receives a discount of 5percent.

4 rows returned in 0.01 seconds Download

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

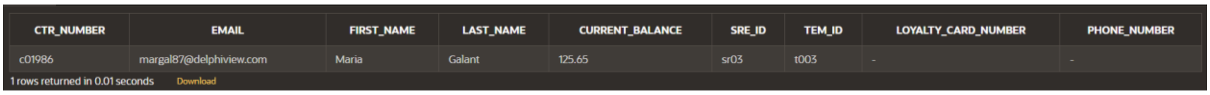
It is because the discount of the last team (Rovers) is null.

Section 6 Lesson 7 Exercise 1: Restricting Data Using WHERE

Part 1: Using the WHERE Clause.

1. Using the unique customer number in the where clause display all columns for Maria Galant

```
SELECT *
FROM customers
WHERE ctr_number = 'c01986';
```

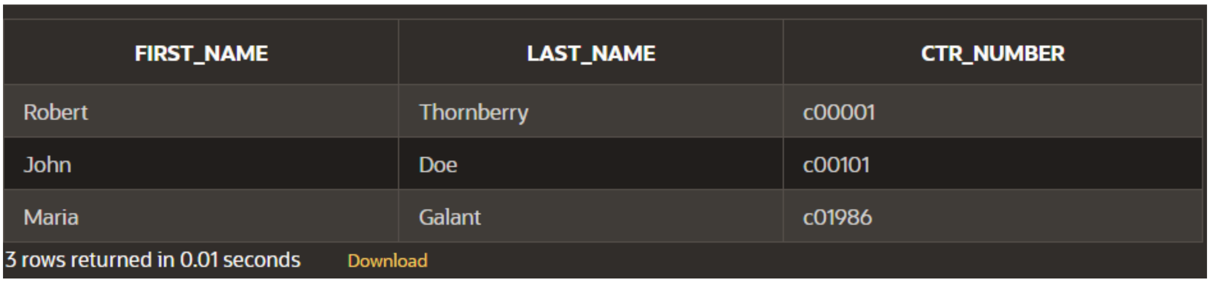


CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER	PHONE_NUMBER
c01986	margal87@delphiview.com	Maria	Galant	125.65	sr03	t003	-	-

1 rows returned in 0.01 seconds Download

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.

```
SELECT first_name, last_name, ctr_number
FROM customers
WHERE current_balance > 100;
```

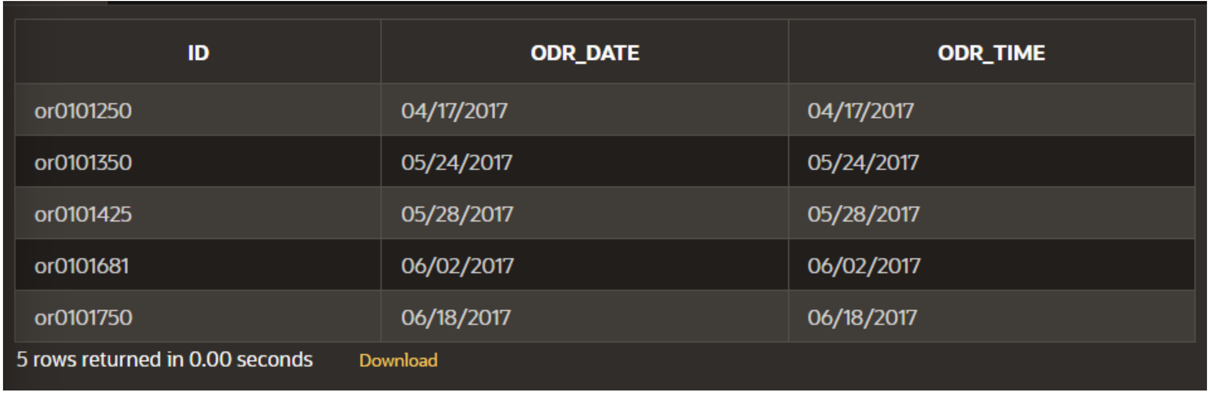


FIRST_NAME	LAST_NAME	CTR_NUMBER
Robert	Thornberry	c00001
John	Doe	c00101
Maria	Galant	c01986

3 rows returned in 0.01 seconds Download

3. Display the order id, date and time of all orders that were placed before the 28th of May 2019. Use an appropriate alias for your column headings.

```
SELECT id, odr_date, odr_time
FROM orders
WHERE odr_date < 'May-28-2019';
```



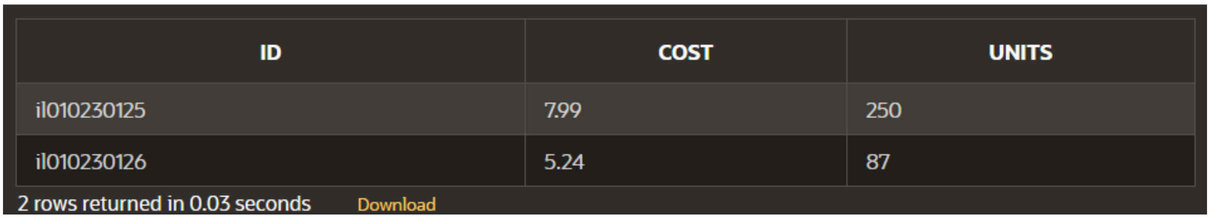
ID	ODR_DATE	ODR_TIME
or0101250	04/17/2017	04/17/2017
or0101350	05/24/2017	05/24/2017
or0101425	05/28/2017	05/28/2017
or0101681	06/02/2017	06/02/2017
or0101750	06/18/2017	06/18/2017

5 rows returned in 0.00 seconds Download

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.

```
SELECT *
FROM inventory_list
WHERE cost BETWEEN 3.00 AND 15.00;
```



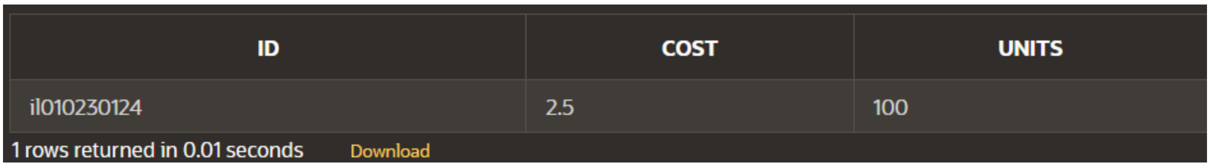
ID	COST	UNITS
il010230125	7.99	250
il010230126	5.24	87

2 rows returned in 0.03 seconds Download

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.

```
SELECT *
FROM inventory_list
WHERE units IN(50,100,150,200);
```



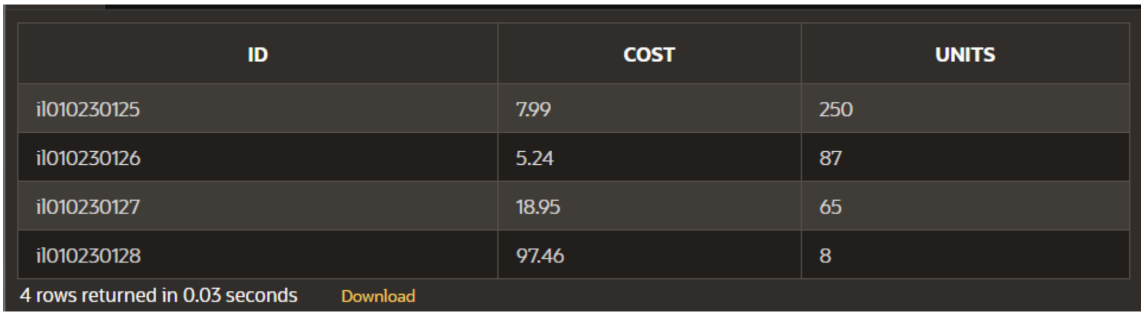
ID	COST	UNITS
il010230124	2.5	100

1 rows returned in 0.01 seconds Download

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.

```
SELECT *
FROM inventory_list
WHERE units NOT IN(50,100,150,200);
```



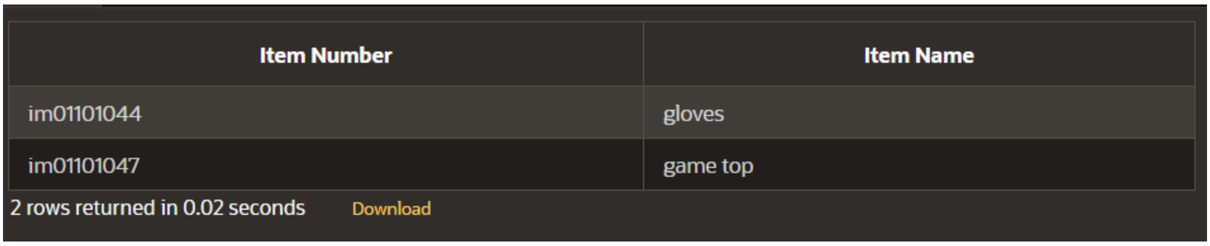
ID	COST	UNITS
il010230125	7.99	250
il010230126	5.24	87
il010230127	18.95	65
il010230128	97.46	8

4 rows returned in 0.03 seconds Download

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.

SELECT itm number "Item Number" , name "Item Name"
FROM items
WHERE name LIKE 'g%';



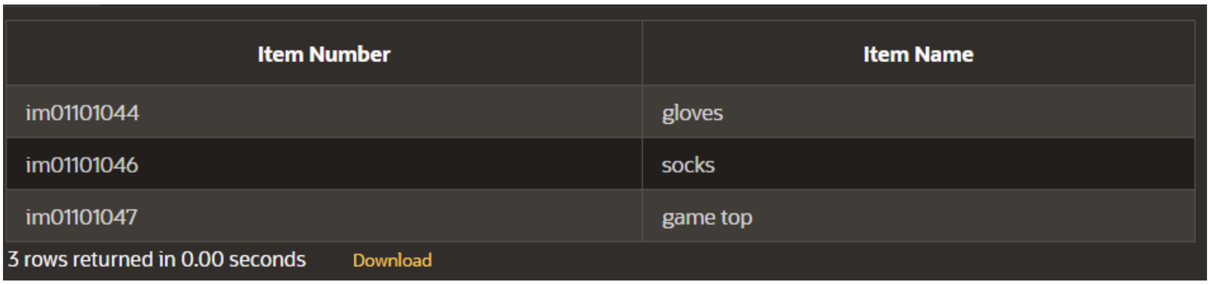
Item Number	Item Name
im01101044	gloves
im01101047	game top

2 rows returned in 0.02 seconds Download

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.

SELECT itm number "Item Number" , name "Item Name"
FROM items
WHERE name LIKE '%o%';



Item Number	Item Name
im01101044	gloves
im01101046	socks
im01101047	game top

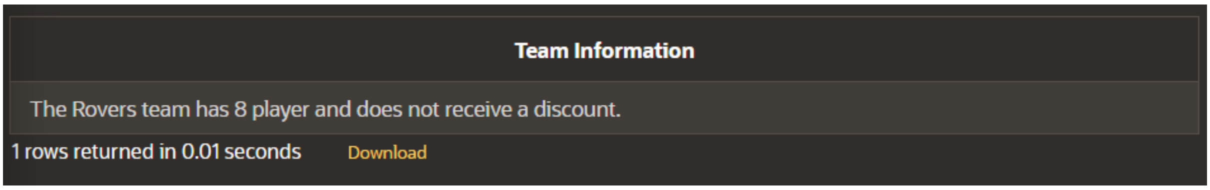
3 rows returned in 0.00 seconds Download

Section 6 Lesson 7 Exercise 2: Restricting Data Using WHERE

Part 1: Using the NULL Conditions

1. 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.

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

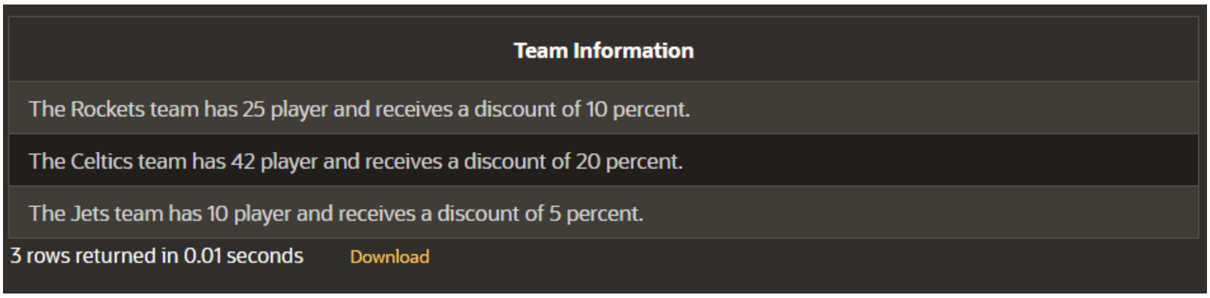


Team Information
The Rovers team has 8 player and does not receive a discount.

1 rows returned in 0.01 seconds

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.

```
SELECT 'The '|| name ||' team has '|| number_of_players ||' player and receives
a discount of '|| discount ||' percent.' "Team Information"
FROM teams
WHERE discount IS NOT NULL;
```



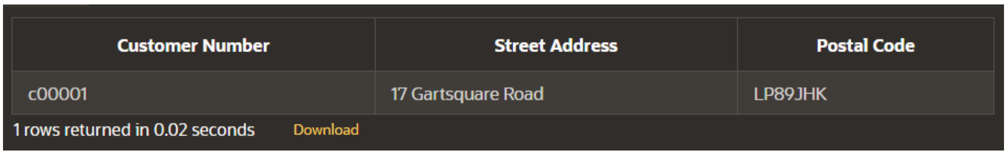
Team Information
The Rockets team has 25 player and receives a discount of 10 percent.
The Celtics team has 42 player and receives a discount of 20 percent.
The Jets team has 10 player and receives a discount of 5 percent.

3 rows returned in 0.01 seconds

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.

```
SELECT ctr_number "Customer Number", address_line_1 "Street Address", zip_code "Postal Code"
FROM customers_addresses
WHERE city = 'Liverpool' AND address_line_2 = 'Starford';
```



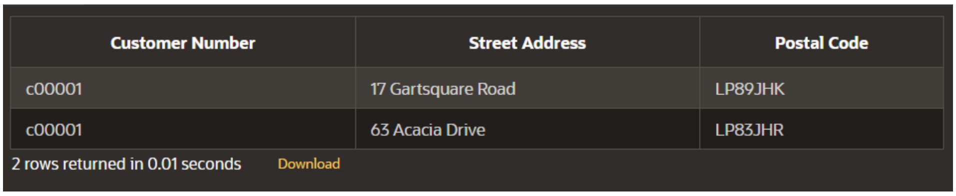
Customer Number	Street Address	Postal Code
c00001	17 Gartsquare Road	LP89JHK

1 rows returned in 0.02 seconds Download

Part 3: Logical Operators: OR

1. 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.

```
SELECT ctr_number "Customer Number", address_line_1 "Street Address", zip_code "Postal Code"
FROM customers_addresses
WHERE city = 'Liverpool' OR address_line_2 = 'Starford';
```



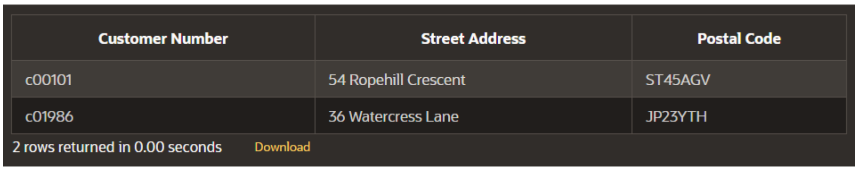
Customer Number	Street Address	Postal Code
c00001	17 Gartsquare Road	LP89JHK
c00001	63 Acacia Drive	LP83JHR

2 rows returned in 0.01 seconds Download

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.

```
SELECT ctr_number "Customer Number", address_line_1 "Street Address", zip_code "Postal Code"
FROM customers_addresses
WHERE city <> 'Liverpool'
```



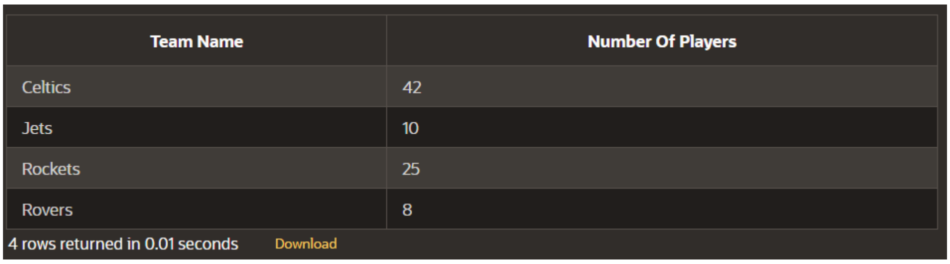
Customer Number	Street Address	Postal Code
c00101	54 Ropehill Crescent	ST45AGV
c01986	36 Watercress Lane	JP23YTH

2 rows returned in 0.00 seconds Download

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

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

```
SELECT name "Team Name", number_of_players "Number of Players"
FROM teams
ORDER BY name;
```

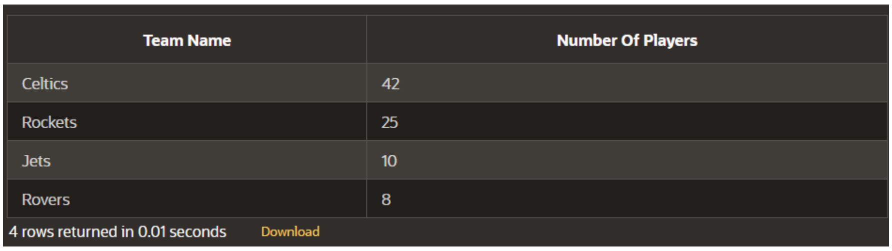


Team Name	Number Of Players
Celtics	42
Jets	10
Rockets	25
Rovers	8

4 rows returned in 0.01 seconds Download

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

```
SELECT name "Team Name", number_of_players "Number of Players"
FROM teams
ORDER BY number_of_players DESC;
```

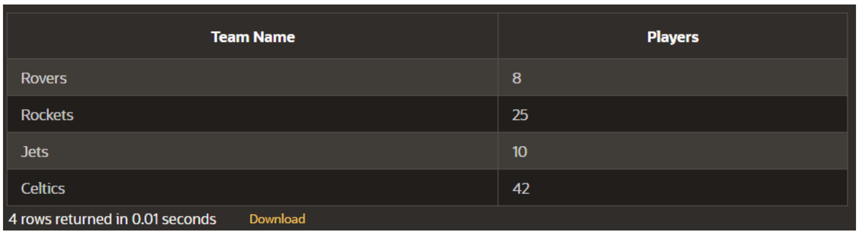


Team Name	Number Of Players
Celtics	42
Rockets	25
Jets	10
Rovers	8

4 rows returned in 0.01 seconds Download

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.

```
SELECT name "Team Name", number_of_players "Players"
FROM teams
ORDER BY name DESC;
```



Team Name	Players
Rovers	8
Rockets	25
Jets	10
Celtics	42

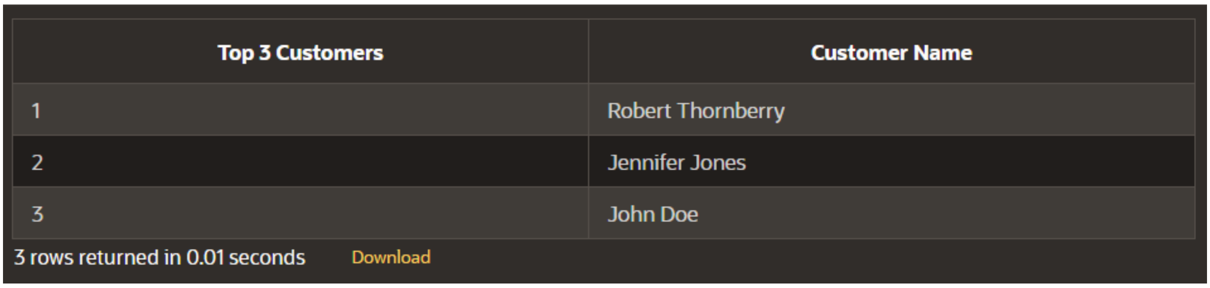
4 rows returned in 0.01 seconds Download

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.

```
SELECT ROWNUM "Top 3 Customers", first_name || ' ' || last_name "Customer Name"
FROM
     (SELECT first_name, last_name
      FROM customers
      ORDER BY ctr_number)
  WHERE ROWNUM <=3;
```



Top 3 Customers	Customer Name
1	Robert Thornberry
2	Jennifer Jones
3	John Doe

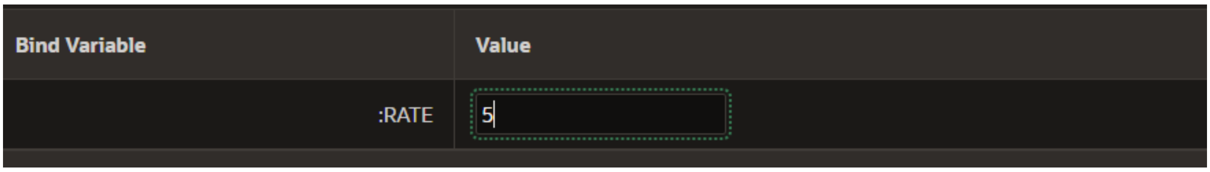
3 rows returned in 0.01 seconds

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

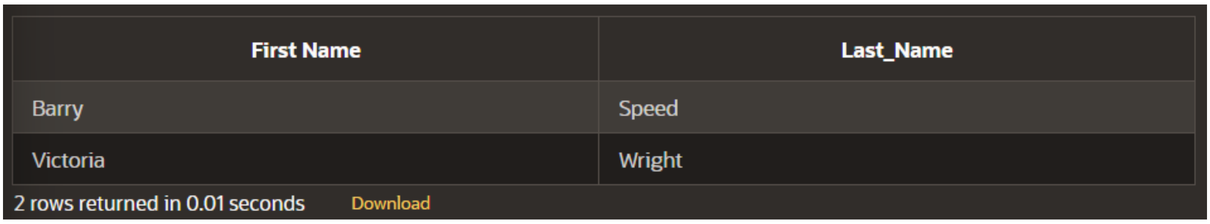
1. Use a substitution variable that will allow you to enter the commission rate for the sales representatives. The first and last names should be displayed to screen for any sales representatives that earn that commission rate and the output should be ordered by their last name. Use an appropriate alias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

```
SELECT first_name "First Name" , last_name "Last Name")
 FROM sales_representatives
 WHERE commision_rate = :rate
 ORDER BY last_name ;
```

FIND rate = 5;



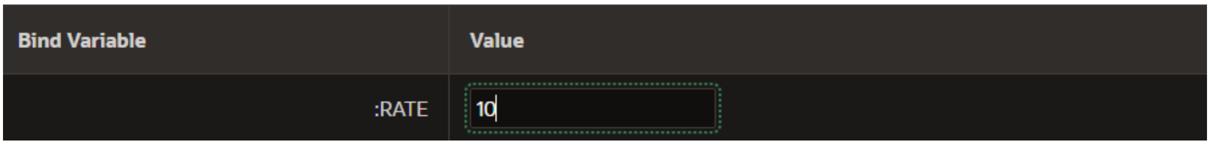
Bind Variable	Value
:RATE	5



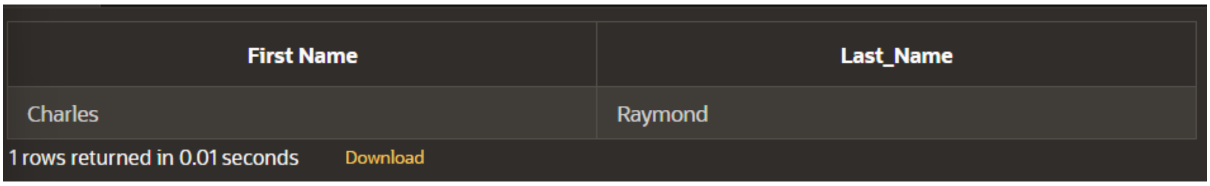
First Name	Last_Name
Barry	Speed
Victoria	Wright

2 rows returned in 0.01 seconds

Find rate =10;



Bind Variable	Value
:RATE	10



First Name	Last_Name
Charles	Raymond

1 rows returned in 0.01 seconds