**SQL JOIN QueriesV1**

## **Inner JOIN**

1. Customers and internet packages (Customers & Packages tables) –
   1. Write a query to display first name, last name, package number and internet speed for all customers.

SELECT FIRST\_NAME, LAST\_NAME, PACK\_ID, SPEED

FROM CUSTOMERS JOIN PACKAGES

USING PACK\_ID;

* 1. Write a query to display first name, last name, package number and internet speed for all customers whose package number equals 22 or 27. Order the query in ascending order by last name.

SELECT C.FIRST\_NAME, C.LAST\_NAME, P.PACK\_ID, P.SPEED

FROM CUSTOMERS C JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID

AND C.PACK\_ID IN (22,27);

1. Internet packages and sectors –
   1. Display the package number, internet speed, monthly payment and sector name for all packages (Packages and Sectors tables).

SELECT P.PACK\_ID, P.SPEED, P.MONTHLY\_PAYMENT, S.SECTOR\_NAME

FROM PACKAGES P JOIN SECTORS S

ON P.SECTOR\_ID =S.SECTOR\_ID;

* 1. Display the customer name, package number, internet speed, monthly payment and sector name for all customers (Customers, Packages and Sectors tables).

SELECT C.FIRST\_NAME||' '||C.LAST\_NAME CUSTOMER\_NAME,

P.PACK\_ID, P.SPEED, P.MONTHLY\_PAYMENT, S.SECTOR\_NAME

FROM CUSTOMERS C JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID

JOIN SECTORS S ON P.SECTOR\_ID = S.SECTOR\_ID;

* 1. Display the customer name, package number, internet speed, monthly payment and sector name for all customers in the business sector (Customers, Packages and Sectors tables).

SELECT C.FIRST\_NAME||' '||C.LAST\_NAME CUSTOMER\_NAME,

P.PACK\_ID, P.SPEED, P.MONTHLY\_PAYMENT, S.SECTOR\_NAME

FROM CUSTOMERS C JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID

JOIN SECTORS S ON P.SECTOR\_ID = S.SECTOR\_ID

WHERE UPPER(SECTOR\_NAME) = 'BUSINESS';

1. Display the last name, first name, join date, package number, internet speed and sector name for all customers in the private sector who joined the company in the year 2006.

SELECT C.LAST\_NAME, C.FIRST\_NAME, C.JOIN\_DATE , P.PACK\_ID, P.SPEED,

S.SECTOR\_NAME

FROM CUSTOMERS C JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID

JOIN SECTORS S

ON P.SECTOR\_ID = S.SECTOR\_ID

WHERE UPPER(S.SECTOR\_NAME) = 'PRIVATE' AND C.JOIN\_DATE BETWEEN '01-Jan-2006' AND '31-Dec-2006';

## **Non Equi Join**

1. Display the package number, internet speed, monthly payment and package grade for all packages (Packages and Pack\_Grades tables).

SELECT P.PACK\_ID, P.SPEED, P.MONTHLY\_PAYMENT, PG.GRADE\_NAME

FROM PACKAGES P JOIN PACK\_GRADES PG

ON P.MONTHLY\_PAYMENT BETWEEN PG.MIN\_PRICE AND PG.MAX\_PRICE;

## **Outer Join**

* 1. Customers and internet packages (Customers and Packages tables)
     1. Display the first name, last name, internet speed and monthly payment for all customers. Use INNER JOIN to solve this exercise.

SELECT C.FIRST\_NAME, C.LAST\_NAME, P.SPEED,

P.MONTHLY\_PAYMENT

FROM CUSTOMERS C INNER JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID;

* + 1. Modify last query to display all customers, including those without any internet package.

SELECT C.FIRST\_NAME, C.LAST\_NAME, P.SPEED,

P.MONTHLY\_PAYMENT

FROM CUSTOMERS C LEFT OUTER JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID;

* + 1. Modify last query to display all packages, including those without any customers.

SELECT C.FIRST\_NAME, C.LAST\_NAME, P.SPEED,

P.MONTHLY\_PAYMENT

FROM CUSTOMERS C RIGHT OUTER JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID;

* + 1. Modify last query to display all packages and all customers.

SELECT C.FIRST\_NAME, C.LAST\_NAME, P.SPEED,

P.MONTHLY\_PAYMENT

FROM CUSTOMERS C FULL OUTER JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID;

## **Self-Join**

* + 1. Display the last name, first name and package number for all customers who have the same package number as customer named ‘Amado Taylor’ (Customers table).

SELECT C.LAST\_NAME, C.FIRST\_NAME, C.PACK\_ID

FROM CUSTOMERS C, CUSTOMERS C1

WHERE UPPER(C1.FIRST\_NAME) = 'AMADO' AND

UPPER(C1.LAST\_NAME) ='TAYLOR'

AND C.PACK\_ID = C1.PACK\_ID;

* + 1. Display the last name, first name and monthly discount for all customers whose monthly discount is lower than the monthly discount of employee number 103 (Customers table).

SELECT C.LAST\_NAME, C.FIRST\_NAME, C.MONTHLY\_DISCOUNT

FROM CUSTOMERS C JOIN CUSTOMERS C1

ON C.MONTHLY\_DISCOUNT < C1.MONTHLY\_DISCOUNT

AND C1.CUSTOMER\_ID = 103;

* + 1. Display the package number and internet speed for all packages whose internet speed is equal to the internet speed of package number 10 (Packages table).

SELECT P.PACK\_ID, P.SPEED

FROM PACKAGES P JOIN PACKAGES P1

ON P.SPEED = P1.SPEED

AND P1.PACK\_ID = 10;

**SQL Nested Queries V1**

## **Exercises:**

1. Display the first name, last name, city and state for all customers who live in the same state as customer number 170 (Customers table).

SELECT FIRST\_NAME, LAST\_NAME, CITY, STATE

FROM CUSTOMERS

WHERE STATE =

(SELECT STATE

FROM CUSTOMERS

WHERE CUSTOMER\_ID = 170);

1. Display the package number, internet speed and sector number for all packages whose sector number equals to the sector number of package number 10 (Packages table).

SELECT PACK\_ID, SPEED, SECTOR\_ID

FROM PACKAGES

WHERE SECTOR\_ID =

(SELECT SECTOR\_ID

FROM PACKAGES

WHERE PACK\_ID = 10);

1. Display the first name, last name and join date for all customers who joined the company after customer number 540 (Customers table).

SELECT FIRST\_NAME, LAST\_NAME, JOIN\_DATE

FROM CUSTOMERS

WHERE JOIN\_DATE >

(SELECT JOIN\_DATE

FROM CUSTOMERS

WHERE CUSTOMER\_ID = 540);

1. Display the first name, last name and join date for all customers who joined the company on the same month and on the same year as customer number 372 (Customers table)

SELECT FIRST\_NAME, LAST\_NAME, JOIN\_DATE

FROM CUSTOMERS

WHERE TO\_CHAR(JOIN\_DATE,'MON-YYYY') =

(SELECT TO\_CHAR(JOIN\_DATE,'MON-YYYY')

FROM CUSTOMERS

WHERE CUSTOMER\_ID = 372);

1. Display the first name, last name, city, state and package number for all customers whose internet speed is “5Mbps” (Customers and Packages table).

SELECT FIRST\_NAME, LAST\_NAME, CITY, STATE, PACK\_ID

FROM CUSTOMERS

WHERE PACK\_ID IN

(SELECT PACK\_ID

FROM PACKAGES

WHERE UPPER(SPEED) = '5MBPS');

1. Display the package number, internet speed and strt\_date (the date it became available) for all packages who became available on the same year as package number 7 (Packages table).

SELECT PACK\_ID, SPEED, STRT\_DATE

FROM PACKAGES

WHERE EXTRACT(YEAR FROM STRT\_DATE) IN

(SELECT EXTRACT(YEAR FROM STRT\_DATE)

FROM PACKAGES

WHERE PACK\_ID = 7);

1. Display the first name, monthly discount, package number, main phone number and secondary phone number for all customers whose sector name is Business (Customers, Packages and Sectors tables).

SELECT FIRST\_NAME, MONTHLY\_DISCOUNT, C.PACK\_ID, MAIN\_PHONE\_NUM, SECONDARY\_PHONE\_NUM

FROM CUSTOMERS C JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID

WHERE P.SECTOR\_ID =

( SELECT SECTOR\_ID

FROM SECTORS

WHERE UPPER(SECTOR\_NAME) = 'BUSINESS');

1. Display the first name, monthly discount and package number for all customers whose monthly payment is greater than the average monthly payment (Customers and Packages table).

SELECT FIRST\_NAME, MONTHLY\_DISCOUNT, C.PACK\_ID

FROM CUSTOMERS C JOIN PACKAGES P

ON C.PACK\_ID = P.PACK\_ID

WHERE MONTHLY\_PAYMENT >

( SELECT AVG(MONTHLY\_PAYMENT)

FROM CUSTOMERS C1 JOIN PACKAGES P1

ON C1.PACK\_ID = P1.PACK\_ID);

1. Display the first name, city, state, birthdate and monthly discount for all customers who was born on the same date as customer number 179, and whose monthly discount is greater than the monthly discount of customer number 107 (Customers table)

SELECT FIRST\_NAME, CITY, STATE, BIRTH\_DATE, MONTHLY\_DISCOUNT

FROM CUSTOMERS

WHERE BIRTH\_DATE =

(SELECT BIRTH\_DATE

FROM CUSTOMERS

WHERE CUSTOMER\_ID = 179)

AND MONTHLY\_DISCOUNT >

(SELECT MONTHLY\_DISCOUNT

FROM CUSTOMERS

WHERE CUSTOMER\_ID = 107);

1. Display all the data from Packages table for packages whose internet speed equals to the internet speed of package number 30, and whose monthly payment is greater than the monthly payment of package number 7 (Packages table).

SELECT \*

FROM PACKAGES

WHERE SPEED =

(SELECT SPEED

FROM PACKAGES

WHERE PACK\_ID = 30)

AND MONTHLY\_PAYMENT >

(SELECT MONTHLY\_PAYMENT

FROM PACKAGES

WHERE PACK\_ID = 7);

1. Display the package number, internet speed, and monthly payment for all packages whose monthly payment is greater than the maximum monthly payment of packages with internet speed equals to “5Mbps” (Packages table).

SELECT PACK\_ID, SPEED, MONTHLY\_PAYMENT

FROM PACKAGES

WHERE MONTHLY\_PAYMENT >

(SELECT MAX(MONTHLY\_PAYMENT)

FROM PACKAGES

WHERE UPPER(SPEED) = '5MBPS');

1. Display  the package number, internet speed and monthly payment for all packages whose monthly payment is greater than the minimum monthly payment of packages with internet speed equals to “5Mbps” (Packages table).

SELECT PACK\_ID, SPEED, MONTHLY\_PAYMENT

FROM PACKAGES

WHERE MONTHLY\_PAYMENT >

(SELECT MIN(MONTHLY\_PAYMENT)

FROM PACKAGES

WHERE UPPER(SPEED) = '5MBPS');

1. Display the package number, internet speed and monthly payment for all packages whose monthly payment is lower than the minimum monthly payment of packages with internet speed equals to “5Mbps” (Packages table).

SELECT PACK\_ID, SPEED, MONTHLY\_PAYMENT

FROM PACKAGES

WHERE MONTHLY\_PAYMENT <

(SELECT MIN(MONTHLY\_PAYMENT)

FROM PACKAGES

WHERE UPPER(SPEED) = '5MBPS');

1. Display the first name, monthly discount and package number for all customers whose monthly discount is lower than the average monthly discount, and whose package number is the same as customer named “Kevin”

SELECT FIRST\_NAME, MONTHLY\_DISCOUNT, PACK\_ID

FROM CUSTOMERS

WHERE MONTHLY\_DISCOUNT <

(SELECT AVG(MONTHLY\_DISCOUNT)

FROM CUSTOMERS)

AND PACK\_ID =

(SELECT PACK\_ID

FROM CUSTOMERS

WHERE UPPER(FIRST\_NAME) = 'KEVIN');