**Objective**

To familiarize with JOIN operations in SQL on the COMPANY database.

**Problem Statement**

Consider the Sample database given below and answer the queries as stated:

**Pack\_grades**

|  |  |  |  |
| --- | --- | --- | --- |
| Grade\_id | Grade\_name | Min\_price | Max\_price |

**Customers**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Customer\_id | First\_name | Last\_name | Birth\_date | Join\_date | City | Pack\_id | State |

**Packages**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pack\_id | Speed | Start\_date | Monthly\_payment | Sector\_id |

**Sectors**

|  |  |
| --- | --- |
| Sector\_id | Sector\_name |

1. Write a query to display first name, last name, package number and internet speed for all customers.
2. 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.
3. Display the package number, internet speed, monthly payment and sector name for all packages (*Packages* and *Sectors* tables).
4. Display the customer name, package number, internet speed, monthly payment and sector name for all customers (*Customers*, *Packages* and *Sectors* tables).
5. 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).
6. 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.
7. Display the package number, internet speed, monthly payment and package grade for all packages (*Packages* and *Pack\_Grades* tables).
8. Display the first name, last name, internet speed and monthly payment for all customers. Use INNER JOIN to solve this exercise.
9. 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).
10. 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).

**Create -**

**CREATE TABLE customers (**

**customer\_id INT NOT NULL PRIMARY KEY,**

**first\_name VARCHAR(255),**

**last\_name VARCHAR(255),**

**birth\_date DATE,**

**join\_date DATE,**

**city VARCHAR(255),**

**pack\_id INT,**

**state VARCHAR(255)**

**);**

**CREATE TABLE pack\_grades (**

**grade\_id INT NOT NULL PRIMARY KEY,**

**grade\_name VARCHAR(255),**

**min\_price DECIMAL(10,2),**

**max\_price DECIMAL(10,2)**

**);**

**CREATE TABLE packages (**

**pack\_id INT NOT NULL PRIMARY KEY,**

**speed INT,**

**start\_date DATE,**

**monthly\_payment DECIMAL(10,2),**

**sector\_id INT**

**);**

**CREATE TABLE sectors (**

**sector\_id INT NOT NULL PRIMARY KEY,**

**sector\_name VARCHAR(255)**

**);**

**Insert –**

**INSERT INTO customers (customer\_id, first\_name, last\_name, birth\_date, join\_date, city, pack\_id, state)**

**VALUES (1, 'John', 'Doe', '1990-01-15', '2021-03-20', 'Houston', 1, 'TX'),**

**(2, 'Jane', 'Smith', '1985-05-20', '2020-12-10', 'Dallas', 2, 'TX'),**

**(3, 'Michael', 'Johnson', '1988-09-10', '2022-01-05', 'Austin', 3, 'TX');**

**INSERT INTO pack\_grades (grade\_id, grade\_name, min\_price, max\_price)**

**VALUES (1, 'Basic', 20.00, 50.00),**

**(2, 'Premium', 50.00, 100.00),**

**(3, 'Ultimate', 100.00, 200.00);**

**INSERT INTO packages (pack\_id, speed, start\_date, monthly\_payment, sector\_id)**

**VALUES (1, 100, '2021-01-01', 30.00, 1),**

**(2, 200, '2021-02-01', 60.00, 2),**

**(3, 500, '2021-03-01', 100.00, 3);**

**INSERT INTO sectors (sector\_id, sector\_name)**

**VALUES (1, 'Residential'),**

**(2, 'Business'),**

**(3, 'Enterprise');**

1. SELECT c.first\_name, c.last\_name, c.pack\_id AS package\_number, p.speed AS internet\_speed

FROM customers c

JOIN packages p ON c.pack\_id = p.pack\_id;

2. SELECT c.first\_name, c.last\_name, c.pack\_id AS package\_number, p.speed AS internet\_speed

FROM customers c

JOIN packages p ON c.pack\_id = p.pack\_id

WHERE c.pack\_id IN (22, 27)

ORDER BY c.last\_name ASC;

3. SELECT p.pack\_id AS package\_number, p.speed AS internet\_speed, p.monthly\_payment, s.sector\_name

FROM packages p

JOIN sectors s ON p.sector\_id = s.sector\_id;

4. SELECT

c.first\_name,

c.last\_name,

c.pack\_id AS package\_number,

p.speed AS internet\_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;

5. SELECT

c.first\_name,

c.last\_name,

c.pack\_id AS package\_number,

p.speed AS internet\_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

s.sector\_name = 'Business';

6. SELECT

c.last\_name,

c.first\_name,

c.join\_date,

c.pack\_id AS package\_number,

p.speed AS internet\_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

s.sector\_name = 'Private'

AND YEAR(c.join\_date) = 2006;

7. SELECT

p.pack\_id AS package\_number,

p.speed AS internet\_speed,

p.monthly\_payment,

g.grade\_name AS package\_grade

FROM

packages p

JOIN

pack\_grades g ON p.pack\_id = g.grade\_id;

8. SELECT

c.first\_name,

c.last\_name,

p.speed AS internet\_speed,

p.monthly\_payment

FROM

customers c

INNER JOIN

packages p ON c.pack\_id = p.pack\_id;

9. SELECT

c.last\_name,

c.first\_name,

c.pack\_id AS package\_number

FROM

customers c

JOIN

customers a ON c.pack\_id = a.pack\_id

WHERE

a.first\_name = 'Amado' AND a.last\_name = 'Taylor';

10. SELECT

pack\_id AS package\_number,

speed AS internet\_speed

FROM

packages

WHERE

speed = (SELECT speed FROM packages WHERE pack\_id = 10);