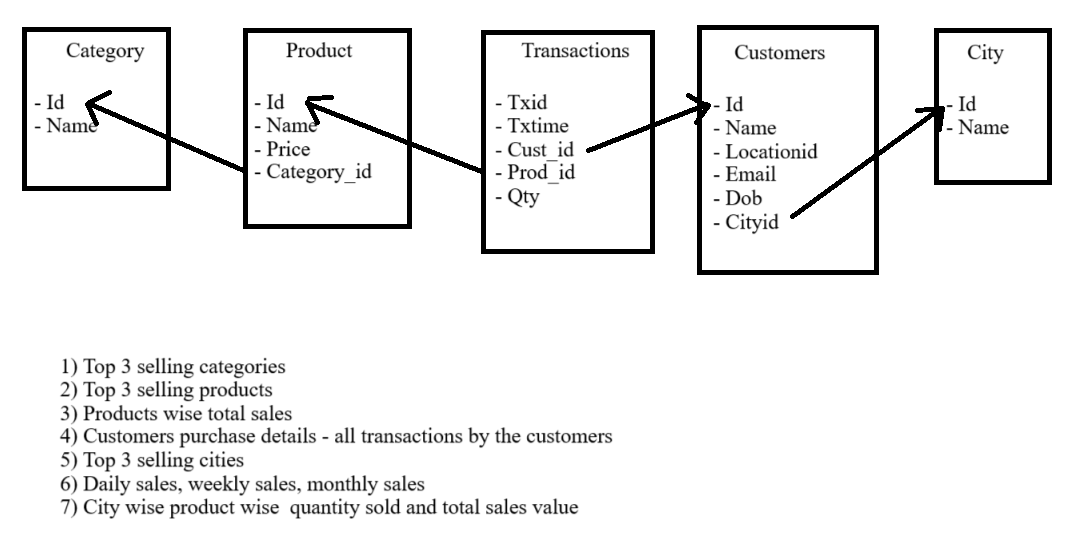
SQL Sales Schema



-------------------------------- Creating Tables ---------------------------------------

--1) ----------- Category ----------

CREATE TABLE Category (

id INT PRIMARY KEY,

name VARCHAR2(100)

);

insert into Category values(1, 'Kids');

insert into Category values(2, 'Men');

insert into Category values(3, 'Women');

insert into Category values(4, 'Sports');

insert into Category values(5, 'Electronics');

insert into Category values(6, 'Books');

insert into Category values(7, 'Shoes');

insert into Category values(8, 'Grocery');

insert into Category values(9, 'Cloths');

insert into Category values(10, 'Furniture');

insert into Category values(11, 'Sports');

insert into Category values(12, 'Shoes');

insert into Category values(13, 'Women');

insert into Category values(14, 'Electronics');

insert into Category values(15, 'Furniture');

insert into Category values(16, 'Books');

insert into Category values(17, 'Grocery');

insert into Category values(18, 'Cloths');

insert into Category values(19, 'Electronics');

insert into Category values(20, 'Cloths');

select \*

from Category;

--2)---------- City -----------

CREATE TABLE City (

id INT PRIMARY KEY,

name VARCHAR2(70)

);

insert into City values(1001, 'Mumbai');

insert into City values(1002, 'Thane');

insert into City values(1003, 'Nashik');

insert into City values(1004, 'Pune');

insert into City values(1005, 'Delhi');

insert into City values(1006, 'Patna');

insert into City values(1007, 'Bangalore');

insert into City values(1008, 'Gandhinagar');

insert into City values(1009, 'kolkata');

insert into City values(1010, 'London');

insert into City values(1011, 'Lonavala');

insert into City values(1012, 'New York');

insert into City values(1013, 'New Delhi');

insert into City values(1014, 'Navi Mumbai');

insert into City values(1015, 'Dahanu');

insert into City values(1016, 'Panji');

insert into City values(1017, 'Varanasi');

insert into City values(1018, 'Lucknow');

insert into City values(1019, 'Ratnagiri');

insert into City values(1020, 'Dhule');

select \*

from City;

--3)-------- Product ---------

CREATE TABLE Product (

id INT PRIMARY KEY,

prodname VARCHAR2(100) NOT NULL,

price NUMBER(6,0),

category\_id INT,

FOREIGN KEY (category\_id) REFERENCES Category(id)

);

insert into Product values (10, 'Toys', 1000, 1);

insert into Product values (20, 'Man matters', 1500, 2);

insert into Product values (30, 'Makeup', 2000, 3);

insert into Product values (40, 'Cricket', 2400, 4);

insert into Product values (50, 'TV', 77000, 5);

insert into Product values (60, 'Rhymes', 100, 6);

insert into Product values (70, 'Adidas', 40000, 7);

insert into Product values (80, 'Oil', 500, 8);

insert into Product values (90, 'T-shirt', 700, 9);

insert into Product values (100, 'Bed', 6000, 10);

insert into Product values (110, 'Foot ball', 200, 11);

insert into Product values (120, 'Nike', 3000, 12);

insert into Product values (130, 'Purse', 3000, 13);

insert into Product values (140, 'Refrigerator', 1000, 14);

insert into Product values (150, 'Door', 5000, 15);

insert into Product values (160, 'Story', 200, 16);

insert into Product values (170, 'Foods', 500, 17);

insert into Product values (180, 'Shirts', 350, 18);

insert into Product values (190, 'Mobile', 25000, 19);

insert into Product values (200, 'Jeans', 500, 20);

select \*

from Product;

--4) ---------- Customers -----------

CREATE TABLE Customers (

id INT PRIMARY KEY,

name VARCHAR2(50),

locationid NUMBER(5),

email VARCHAR2(60),

DOB DATE,

city\_id INT,

FOREIGN KEY (city\_id) REFERENCES City(id)

);

insert into Customers values(1101, 'Shani', 1501, 'ab@gmail.com', TO\_DATE('10-03-2002', 'DD-MM-YYYY'),1001 );

insert into Customers values(1102, 'Nikita', 1502, 'nikita@gmail.com', TO\_DATE('20-06-2005', 'DD-MM-YYYY'), 1002 );

insert into Customers values(1103, 'Amit', 1503, 'amit@gmail.com', TO\_DATE('30-04-2004', 'DD-MM-YYYY'), 1003 );

insert into Customers values(1104, 'Ratan', 1504, 'ratan@gmail.com', TO\_DATE('13-03-2001', 'DD-MM-YYYY'), 1004 );

insert into Customers values(1105, 'Ritu', 1505, 'ritu@gmail.com', TO\_DATE('10-07-2003', 'DD-MM-YYYY'), 1005 );

insert into Customers values(1106, 'Pravin', 1506, 'pravin@gmail.com', TO\_DATE('15-07-2000', 'DD-MM-YYYY'), 1006 );

insert into Customers values(1107, 'Piyush', 1507, 'piyush@gmail.com', TO\_DATE('30-07-2003', 'DD-MM-YYYY'), 1007 );

insert into Customers values(1108, 'pinku', 1508, 'pinku@gmail.com', TO\_DATE('30-07-2003', 'DD-MM-YYYY'), 1008 );

insert into Customers values(1109, 'Gaurav', 1509, 'Gaurav@gmail.com', TO\_DATE('10-07-1999', 'DD-MM-YYYY'), 1009 );

insert into Customers values(1110, 'Ravina', 1510, 'ravina@gmail.com', TO\_DATE('30-07-2003', 'DD-MM-YYYY'), 1010 );

insert into Customers values(1111, 'Sachin', 1511, 'sachin@gmail.com', TO\_DATE('18-12-2003', 'DD-MM-YYYY'), 1011 );

insert into Customers values(1112, 'Rina', 1512, 'rina@gmail.com', TO\_DATE('10-07-2003', 'DD-MM-YYYY'), 1012 );

insert into Customers values(1113, 'Rekha', 1513, 'Rekha@gmail.com', TO\_DATE('10-07-2003', 'DD-MM-YYYY'), 1013 );

insert into Customers values(1114, 'David', 1514, 'david@gmail.com', TO\_DATE('10-02-2001', 'DD-MM-YYYY'), 1014 );

insert into Customers values(1115, 'Nancy', 1515, 'nancy@gmail.com', TO\_DATE('12-07-2005', 'DD-MM-YYYY'), 1015 );

insert into Customers values(1116, 'manu', 1516, 'manu@gmail.com', TO\_DATE('13-07-2005', 'DD-MM-YYYY'), 1016 );

insert into Customers values(1117, 'Rakesh', 1517, 'rakesh@gmail.com', TO\_DATE('10-07-1998', 'DD-MM-YYYY'), 1017 );

insert into Customers values(1118, 'Ishan', 1518, 'ishan@gmail.com', TO\_DATE('15-08-1994', 'DD-MM-YYYY'), 1018 );

insert into Customers values(1119, 'Trisha', 1519, 'trisha@gmail.com', TO\_DATE('23-07-1997', 'DD-MM-YYYY'), 1019 );

insert into Customers values(1120, 'Piya', 1520, 'piya@gmail.com', TO\_DATE('10-03-2005', 'DD-MM-YYYY'), 1020 );

insert into Customers values(1121, 'Shelli', 1521, 'shelli@gmail.com', TO\_DATE('17-12-1970', 'DD-MM-YYYY'), 1021 );

insert into Customers values(1122, 'Kevin', 1522, 'kevin@gmail.com', TO\_DATE('10-07-1990', 'DD-MM-YYYY'), 1022 );

insert into Customers values(1123, 'Riya', 1523, 'riya@gmail.com', TO\_DATE('10-01-2003', 'DD-MM-YYYY'), 1023 );

insert into Customers values(1125, 'James', 1525, 'james@gmail.com', TO\_DATE('10-11-2004', 'DD-MM-YYYY'), 1025 );

insert into Customers values(1126, 'Jay', 1526, 'jay@gmail.com', TO\_DATE('20-09-2003', 'DD-MM-YYYY'), 1026 );

insert into Customers values(1127, 'Prakash', 1527, 'prakash@gmail.com', TO\_DATE('10-12-1992', 'DD-MM-YYYY'), 1027 );

insert into Customers values(1128, 'Ki', 1528, 'ki@gmail.com', TO\_DATE('19-07-2000', 'DD-MM-YYYY'), 1028 );

insert into Customers values(1129, 'pritam', 1529, 'pitam@gmail.com', TO\_DATE('30-07-2003', 'DD-MM-YYYY'), 1029 );

insert into Customers values(1130, 'DJ', 1530, 'dj@gmail.com', TO\_DATE('15-10-1989', 'DD-MM-YYYY'), 1030 );

insert into Customers values(1131, 'PK', 1531, 'pk@gmail.com', TO\_DATE('05-12-1989', 'DD-MM-YYYY'), 1031 );

insert into Customers values(1132, 'Munna', 1532, 'mn@gmail.com', TO\_DATE('13-11-1999', 'DD-MM-YYYY'), 1032 );

insert into Customers values(1133, 'PSS', 1533, 'ps@gmail.com', TO\_DATE('02-01-1979', 'DD-MM-YYYY'), 1033 );

insert into Customers values(1134, 'Kie', 1534, 'kie@gmail.com', TO\_DATE('12-03-2000', 'DD-MM-YYYY'), 1034 );

insert into Customers values(1135, 'Li', 1535, 'li@gmail.com', TO\_DATE('09-07-2002', 'DD-MM-YYYY'), 1035 );

insert into Customers values(1136, 'Prince', 1536, 'pr@gmail.com', TO\_DATE('18-03-2000', 'DD-MM-YYYY'), 1036 );

insert into Customers values(1137, 'Lee', 1537, 'lee@gmail.com', TO\_DATE('19-02-2000', 'DD-MM-YYYY'), 1037 );

insert into Customers values(1138, 'Sling', 1538, 'sgi@gmail.com', TO\_DATE('16-08-2000', 'DD-MM-YYYY'), 1038 );

insert into Customers values(1139, 'King', 1539, 'kn@gmail.com', TO\_DATE('12-07-2002', 'DD-MM-YYYY'), 1039 );

insert into Customers values(1140, 'tat', 1540, 'ta@gmail.com', TO\_DATE('17-09-2001', 'DD-MM-YYYY'), 1040 );

select \*

from Customers;

-- 5) ----------- Transactions ------------

CREATE TABLE Transactions (

txid INT PRIMARY KEY,

txtime TIMESTAMP NOT NULL,

cust\_id INT,

prod\_id INT,

qty NUMBER(6) CHECK (qty > 0), -- Added CHECK constraint

FOREIGN KEY (prod\_id) REFERENCES Product(id),

FOREIGN KEY (cust\_id) REFERENCES Customers(id)

);

insert into transactions values(101, TO\_TIMESTAMP('10-aug-2024 01:20:09','DD-MON-YYYY HH24:MI:SS'), 1101, 10, 207 );

insert into transactions values(102, TO\_TIMESTAMP('29-apr-2024 02:50:39','DD-MON-YYYY HH24:MI:SS'), 1102, 20, 649 );

insert into transactions values(103, TO\_TIMESTAMP('15-jun-2024 10:20:10','DD-MON-YYYY HH24:MI:SS'), 1103, 30, 1203 );

insert into transactions values(104, TO\_TIMESTAMP('01-sep-2024 05:30:12','DD-MON-YYYY HH24:MI:SS'), 1104, 40, 1145 );

insert into transactions values(105, TO\_TIMESTAMP('17-feb-2024 01:20:09','DD-MON-YYYY HH24:MI:SS'), 1105, 50, 232 );

insert into transactions values(106, TO\_TIMESTAMP('19-may-2024 03:50:39','DD-MON-YYYY HH24:MI:SS'), 1106, 60, 63 );

insert into transactions values(107, TO\_TIMESTAMP('15-jul-2024 11:20:10','DD-MON-YYYY HH24:MI:SS'), 1107, 70, 190 );

insert into transactions values(108, TO\_TIMESTAMP('18-jul-2024 12:30:12','DD-MON-YYYY HH24:MI:SS'), 1108, 80, 143 );

insert into transactions values(109, TO\_TIMESTAMP('10-aug-2024 01:20:09','DD-MON-YYYY HH24:MI:SS'), 1109, 90, 832 );

insert into transactions values(110, TO\_TIMESTAMP('19-aug-2024 09:50:39','DD-MON-YYYY HH24:MI:SS'), 1110, 100, 800 );

insert into transactions values(111, TO\_TIMESTAMP('03-sep-2024 12:20:10','DD-MON-YYYY HH24:MI:SS'), 1111, 110, 1793 );

insert into transactions values(112, TO\_TIMESTAMP('21-sep-2024 07:30:12','DD-MON-YYYY HH24:MI:SS'), 1112, 120, 2241 );

insert into transactions values(113, TO\_TIMESTAMP('02-oct-2024 07:50:12','DD-MON-YYYY HH24:MI:SS'), 1113, 130, 2241 );

insert into transactions values(114, TO\_TIMESTAMP('22-nov-2024 08:30:19','DD-MON-YYYY HH24:MI:SS'), 1114, 140, 2201 );

insert into transactions values(115, TO\_TIMESTAMP('23-nov-2024 09:30:13','DD-MON-YYYY HH24:MI:SS'), 1115, 150, 741 );

select \*

from Transactions;

------------------------------------ Joining The Tables ----------------------------------

select \*

from (Category) c, (Product) p, (Transactions) t, (Customers) cu, (City) ct

where c.id = p.category\_id and p.id = t.prod\_id and t.cust\_id = cu.id and cu.city\_id = ct.id;

------------------------------------ Questions ------------------------------------

--1) Find a top 3 selling Category.

-- Method A) In method A dense\_rank is used for indexing

select \*

from (select catename, total\_sales, (dense\_rank() over (order by total\_sales desc)) Top\_3

from (select c.name catename, sum(p.price\*t.qty) total\_sales

from Category c, Product p, Transactions t

where c.id = p.category\_id and p.id = t.prod\_id

group by c.name

order by 2))

where Top\_3 <= 3;

-- Method B) In method B fetch method is used for getting top 3 category.

select c.name categoryname, sum(p.price\*t.qty) total\_sales

from (Category) c, (Product) p, (Transactions) t

where c.id = p.category\_id and p.id = t.prod\_id

group by c.name

order by total\_sales desc

fetch first 3 rows only;

--2) Find a top 3 selling Products.

--Ans. It is sales wise top 3 selling products.

select \*

from ( select pname, total\_sales2, (dense\_rank() over (order by total\_sales2 desc)) top\_3

from ( select p.prodname pname, sum(t.qty\*p.price) total\_sales2

from (Product) p, (Transactions) t

where p.id = t.prod\_id

group by p.prodname

order by 2))

where top\_3 <=3;

--3) Find a Product wise total sales.

--Ans. This is a product wise total sales of all products.

select p.prodname, sum(t.qty\*p.price) total\_sales

from (Product) p, (Transactions) t

where p.id = t.prod\_id

group by p.prodname

order by 2;

--4) Customers purchase details - all transaction by the customers.

--Ans. Below query shows the customers purchasing details and all transactions of customers and also shows the customers details.

select p.prodname products, t.txid, t.txtime trans\_time, cu.name customers, cu.email emails, (t.qty\*p.price) transactions

from (Product) p, (Transactions) t, (Customers) cu

where p.id = t.prod\_id and t.cust\_id = cu.id

order by customers;

--5) Find a top 3 selling cities.

select \*

from (select city\_name, total\_sale, (dense\_rank() over (order by total\_sale desc)) top3\_cities

from (select ct.name city\_name, (t.qty\*p.price) total\_sale

from (Product) p, (Transactions) t, (Customers) cu, (City) ct

where p.id = t.prod\_id and t.cust\_id = cu.id and cu.city\_id = ct.id))

where top3\_cities <=3;

--6) Find the Daily sales, weekly sales and monthly sales.

--A) Daily sales

select to\_char(t.txtime, 'DD-MM-YYYY') sales\_date, p.prodname product, p.price, t.qty, (t.qty\*p.price) Total\_sales

from (Product) p, (Transactions) t

where p.id = t.prod\_id;

--B) Weekly sales

select to\_char(t.txtime, 'IW') weekly\_sales, p.prodname products, p.price, t.qty, (t.qty\*p.price) Total\_sales

from (Product) p, (Transactions) t

where p.id = t.prod\_id

order by 1;

--C) Monthly sales

select to\_char(t.txtime, 'MM') monthly\_sales, p.prodname products, p.price, t.qty, (t.qty\*p.price) Total\_sales

from (Product) p, (Transactions) t

where p.id = t.prod\_id

order by 1;

--7) Find city wise product wise quantity sold and total sales value.

select ct.name city\_name, p.prodname product, t.qty quantity, sum(t.qty\*p.price) total\_sale

from (Product) p, (Transactions) t, (Customers) cu, (City) ct

where p.id = t.prod\_id and t.cust\_id = cu.id and cu.city\_id = ct.id

group by ct.name , p.prodname , t.qty

order by 1,2;