SQL Assignment

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Q1. Converting relations into database schema

A1. TABLE CREATIONS AND POPULATION OF TABLES

```
create table category (
     category_code varchar(3) not null,
    category_name varchar(10) not null,
    primary key(category_code)
);
create table product (
     product_code varchar(3) not null,
    category_code varchar(3) not null,
    product_name varchar(10) not null,
    unit_price decimal(5, 2) not null,
    primary key(product_code)
);
create table customer (
     customer_id varchar(3) not null,
    location_code varchar(3) not null,
    name varchar(20) not null,
    date_born date not null,
    gender char(1) not null,
    mobile_no VARCHAR(10) not null,
    primary key(customer_id)
);
create table location (
     location_code varchar(3) not null,
```

```
    location_name varchar(10) not null,
    primary key(location_code)
);
create table sales_executive (
     sales_exec_id varchar(3) not null,
    name varchar(20) not null,
    date_born date,
    gender char(1) not null,
    primary key(sales_exec_id)
);
create table purchases (
     customer_id varchar(3) not null,
    product_code varchar(3) not null,
    sales_exec_id varchar(3) not null,
    purchase_date date not null,
    units integer not null,
    primary key(customer_id, product_code, sales_exec_id)
);
create table sale_locations (
     sales_exec_id varchar(3) not null,
    location_code varchar(3) not null,
    primary key(sales_exec_id, location_code)
);
alter table sales_executive modify date_born date not null;
alter table sales_executive modify mobile_no varchar(10) not
null;


alter table product add check (unit_price >= 0.0);
```

```
alter table customer add check (gender in ('M', 'F', 'O'));

alter table sales_executive add check (gender in ('M', 'F',
'O'));

alter table purchases add check (units > 0);


alter table product add foreign key (category_code) references
category(category_code);

alter table customer add foreign key (location_code)
references location(location_code);

alter table purchases add foreign key (customer_id) references
customer(customer_id);

alter table purchases add foreign key (product_code)
references product(product_code);

alter table purchases add foreign key (sales_exec_id)
references sales_executive(sales_exec_id);

alter table sale_locations add foreign key (sales_exec_id)
references sales_executive(sales_exec_id);

alter table sale_locations add foreign key (location_code)
references location(location_code);


insert into category values ('C01', 'Icecreams');

insert into category values ('C02', 'Chocolates');

insert into category values ('C03', 'Beverages');

insert into category values ('C04', 'Tiffin');


insert into product values ('P01', 'C01', 'Vanilla', 10.00);

insert into product values ('P02', 'C01', 'Choco', 15.00);

insert into product values ('P03', 'C04', 'Chapati', 5.00);

insert into product values ('P04', 'C03', 'Tea', 10.00);
```

```
insert into location values ('L01', 'Chennai');

insert into location values ('L02', 'Hyderabad');

insert into location values ('L03', 'Delhi');

insert into location values ('L04', 'Bangalore');


insert into customer values ('CU1', 'L01', 'Sreeram', '2000-
03-28', 'M', '9876543210');

insert into customer values ('CU2', 'L01', 'Sreeja', '1999-03-
28', 'F', '9776543210');

insert into customer values ('CU3', 'L04', 'Raiza', '2000-01-
28', 'F', '9875543210');

insert into customer values ('CU4', 'L01', 'Rohini', '1987-04-
19', 'M', '9876548210');

insert into customer values ('CU5', 'L02', 'Daniel', '2001-01-
26', 'M', '9886543219');


insert into sales_executive values ('S01', 'Roger', '2000-03-
01', 'M');

insert into sales_executive values ('S02', 'Gayatri', '1998-
02-28', 'F');

insert into sales_executive values ('S03', 'Johnny', '1977-03-
02', 'O');

insert into sales_executive values ('S04', 'Carol', '2000-03-
01', 'F');

insert into sales_executive values ('S05', 'Roger', '2000-03-
01', 'M');


insert into purchases values('CU1', 'P01', 'S02', '2021-01-
08', 5);

insert into purchases values('CU2', 'P01', 'S03', '2021-01-
09', 5);
```

```
insert into purchases values('CU3', 'P02', 'S02', '2021-01-
10', 10);

insert into purchases values('CU2', 'P01', 'S01', '2021-01-
09', 12);

insert into purchases values('CU2', 'P03', 'S02', '2020-12-
08', 11);


insert into sale_locations values ('S01', 'L01');

insert into sale_locations values ('S02', 'L01');

insert into sale_locations values ('S02', 'L02');

insert into sale_locations values ('S03', 'L01');

insert into sale_locations values ('S03', 'L02');
```

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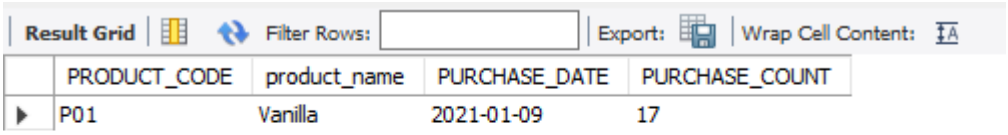
Q2.

Write a query to retrieve the most sold product per day in a specific location (take any location) in last week.

```
select MAX_SALE.PRODUCT_CODE, PROD.product_name,
MAX_SALE.PURCHASE_DATE, MAX_SALE.PURCHASE_COUNT

from (

select *

from

(

     select *

     from (

          select PU.product_code as PRODUCT_CODE,
PU.purchase_date as PURCHASE_DATE, sum(PU.units) as
PURCHASE_COUNT

          from purchases PU

          inner join sale_locations S

          on PU.sales_exec_id = S.sales_exec_id

          where S.location_code = "L01"

          group by PU.product_code, PU.purchase_date

     ) as PROD_SALES

     where PURCHASE_DATE

     BETWEEN '2021-01-07' AND '2021-01-13'

) as PROPER_SALES

order by PURCHASE_COUNT DESC

limit 1

) as MAX_SALE

inner join product as PROD

ON MAX_SALE.PRODUCT_CODE = PROD.product_code;
```

SCREENSHOT:



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	PRODUCT_CODE	product_name	PURCHASE_DATE	PURCHASE_COUNT
▶	P01	Vanilla	2021-01-09	17

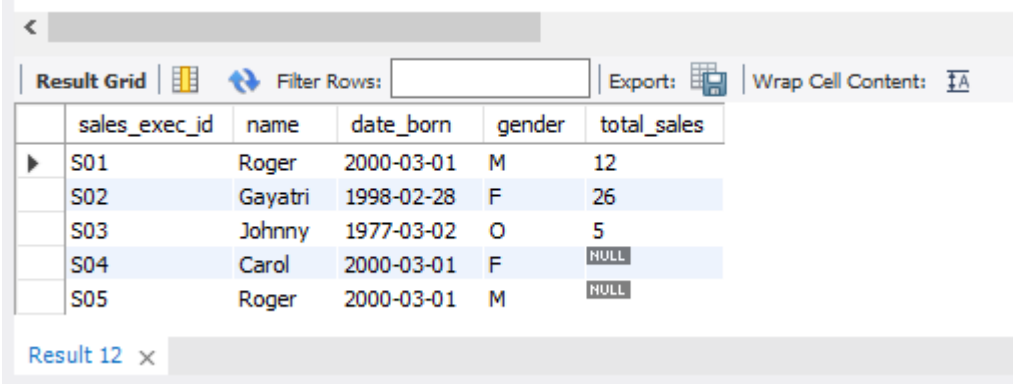
Q3.

Write a query to list all the sales persons details along with the count of products sold by them (if any) till current date.

(solved assuming no records with dates of the future are present)

```
select S.sales_exec_id, S.name, S.date_born, S.gender,
COUNT_OF_SALES.total_sales

from

(

select sales_exec_id as SE_ID, sum(units) as total_sales

from purchases

group by sales_exec_id

) as COUNT_OF_SALES

right join sales_executive as S

ON S.sales_exec_id = COUNT_OF_SALES.SE_ID;
```

SCREENSHOT:



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	sales_exec_id	name	date_born	gender	total_sales
▶	S01	Roger	2000-03-01	M	12
	S02	Gayatri	1998-02-28	F	26
	S03	Johnny	1977-03-02	O	5
	S04	Carol	2000-03-01	F	NULL
	S05	Roger	2000-03-01	M	NULL

Result 12