

# CSCI3287 Database Systems

## Homework # 3 – SQL

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### Problem 1

select productLine from productlines;

productLine
Classic Cars
Motorcycles
Planes
Ships
Trains
Trucks and Buses
Vintage Cars

### Problem 2

select employeeNumber, lastname, firstname, extension  
from employees where officecode = 1;

employeeNumber	lastname	firstname	extension
1002	Murphy	Diane	x5800
1056	Patterson	Mary	x4611
1076	Firrelli	Jeff	x9273
1143	Bow	Anthony	x5428
1165	Jennings	Leslie	x3291
1166	Thompson	Leslie	x4065

### Problem 3

select ProductCode, ProductName, ProductVendor, quantityinstock  
from products  
where quantityinstock between 1000 and 5000  
and productline = "Vintage Cars";

ProductCode	ProductName	ProductVendor	quantityinstock
S18_1749	1917 Grand Touring Sedan	Welly Diecast Productions	2724
S18_2949	1913 Ford Model T Speedster	Carousel DieCast Legends	4189

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S18_3140	1903 Ford Model A	Unimax Art Galleries	3913
S18_3856	1941 Chevrolet Special Deluxe Cabriolet	Exoto Designs	2378
S24_2022	1938 Cadillac V-16 Presidential Limousine	Classic Metal Creations	2847
S24_3420	1937 Horch 930V Limousine	Autoart Studio Design	2902
S24_3969	1936 Mercedes Benz 500k Roadster	Red Start Diecast	2081
S24_4258	1936 Chrysler Airflow	Second Gear Diecast	4710

### Problem 4

```
select Productcode, ProductName, productvendor, buyprice, MSRP
from products
where MSRP = (
    select min(msrp) from products)
```

Productcode	ProductName	productvendor	buyprice	MSRP
S24_1937	1939 Chevrolet Deluxe Coupe	Motor City Art Classics	22.57	33.19

### Problem 5

```
select ProductName, MSRP - BuyPrice as PROFIT
from products
order by profit desc limit 1;
```

ProductName	PROFIT
1952 Alpine Renault 1300	115.72

### Problem 6

```
Select distinct country, count(*) as customers
from customers
group by country
having count(*) between 4 and 12
order by 2 desc;
```

country	customers
France	12
Spain	7

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Australia	5
UK	5
Italy	4
New Zealand	4

### Problem 7

Select p.productcode, productname, count(ordernumber) as OrderCount  
from products p join orderdetails o  
on p.productcode = o.productcode  
group by productcode, productname  
order by 3 desc limit 1;

productcode	productname	total
S18_3232	1992 Ferrari 360 Spider red	53

### Problem 8

Select employeenumber, concat(firstname, " ", lastname) as name  
from employees  
where reportsto in ('1002', '1102');

employeenumber	name
1056	Mary Patterson
1076	Jeff Firrelli
1337	Loui Bondur
1370	Gerard Hernandez
1401	Pamela Castillo
1501	Larry Bott
1504	Barry Jones
1702	Martin Gerard

### Problem 9

Select employeenumber, lastname, firstname  
from employees

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where reportsto is null;

employeenumber	lastname	firstname
1002	Murphy	Diane

### Problem 10

Select productname  
from products  
where productline = "Vintage Cars"  
and productname like "193%"  
order by productname;

productname
1930 Buick Marquette Phaeton
1932 Alfa Romeo 8C2300 Spider Sport
1932 Model A Ford J-Coupe
1934 Ford V8 Coupe
1936 Chrysler Airflow
1936 Mercedes Benz 500k Roadster
1936 Mercedes-Benz 500K Special Roadster
1937 Horch 930V Limousine
1937 Lincoln Berline
1938 Cadillac V-16 Presidential Limousine
1939 Cadillac Limousine
1939 Chevrolet Deluxe Coupe

### Problem 11

select count(ordernumber), monthname(orderdate) as ordermonth  
from orders  
where extract(year from orderdate) = '2003'  
group by ordermonth  
order by 1 desc limit 1;

count (ordernumber)	ordermonth
30	November

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### Problem 12

```
select lastname, firstname
from employees e left outer join customers c
on e.employeenumber = c.salesrepemployeenumber
where customername is null
and jobtitle = "Sales Rep";
```

lastname	firstname
King	Tom
Kato	Yoshimi

### Problem 13

```
select customername , country
from customers c left outer join orders o
on c.customernumber = o.customernumber
where o.customernumber is null
and not country = 'Germany';
```

customername	country
Havel & Zbyszek Co	Poland
American Souvenirs Inc	USA
Porto Imports Co.	Portugal
Asian Shopping Network, Co	Singapore
ANG Resellers	Spain
BG&E Collectables	Switzerland
Schuyler Imports	Netherlands
Asian Treasures, Inc.	Ireland
SAR Distributors, Co	South Africa
Lisboa Souvenirs, Inc	Portugal
Precious Collectables	Switzerland
Anton Designs, Ltd.	Spain
Kremlin Collectables, Co.	Russia
Raanan Stores, Inc	Israel

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### Problem 14

```
select customername, sum(quantityordered) as totalq
from customers c
    join orders o
        on c.customernumber = o.customernumber
    join orderdetails d
        on o.ordernumber = d.ordernumber
group by customername
having totalq < 400;
```

customername	totalq
Atelier graphique	270
Cambridge Collectables Co.	357
Auto-Moto Classics Inc.	287
Boards & Toys Co.	102
Royale Belge	278
Microscale Inc.	381
Frau da Collezione	272
Double Decker Gift Stores, Ltd	357

### Problem 15

```
create table if not exists TopCustomers (
    Customernumber int not null,
    ContactDate DATE not null,
    OrderTotal decimal(9,2) not null default 0,
    constraint PKTopCustomers primary key (CustomerNumber)
);
```

No answer set

### Problem 16

```
insert into TopCustomers
select c.customernumber, CURRENT_date, SUM(priceEach * Quantityordered)
from Customers c, Orders o, OrderDetails d
where c.Customernumber = o.Customernumber
and o.Ordernumber = d.Ordernumber
group by c.Customernumber
having SUM(priceEach * Quantityordered) > 140000;
```

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No answer set

### Problem 17

select \* from topcustomers order by 3 desc;

Customernumber	ContactDate	OrderTotal
141	2/22/19	820689.54
124	2/22/19	591827.34
114	2/22/19	180585.07
151	2/22/19	177913.95
119	2/22/19	158573.12
148	2/22/19	156251.03
323	2/22/19	154622.08
131	2/22/19	149085.15
187	2/22/19	148410.09
450	2/22/19	143536.27

### Problem 18

alter table topcustomers  
add column OrderCount integer ;

No answer set

### Problem 19

update topcustomers  
set ordercount = floor((rand()\*18));

No answer set

### Problem 20

select \* from topcustomers  
order by 4 desc;

(NOTE: dates and ordercount will vary...)

Customernumber	ContactDate	OrderTotal	OrderCount
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141	2/22/19	820689.54	16
187	2/22/19	148410.09	13
124	2/22/19	591827.34	12
323	2/22/19	154622.08	8
131	2/22/19	149085.15	7
148	2/22/19	156251.03	7
151	2/22/19	177913.95	7
450	2/22/19	143536.27	4
114	2/22/19	180585.07	2
119	2/22/19	158573.12	0

### Problem 21

Drop table topcustomers;

No answer set