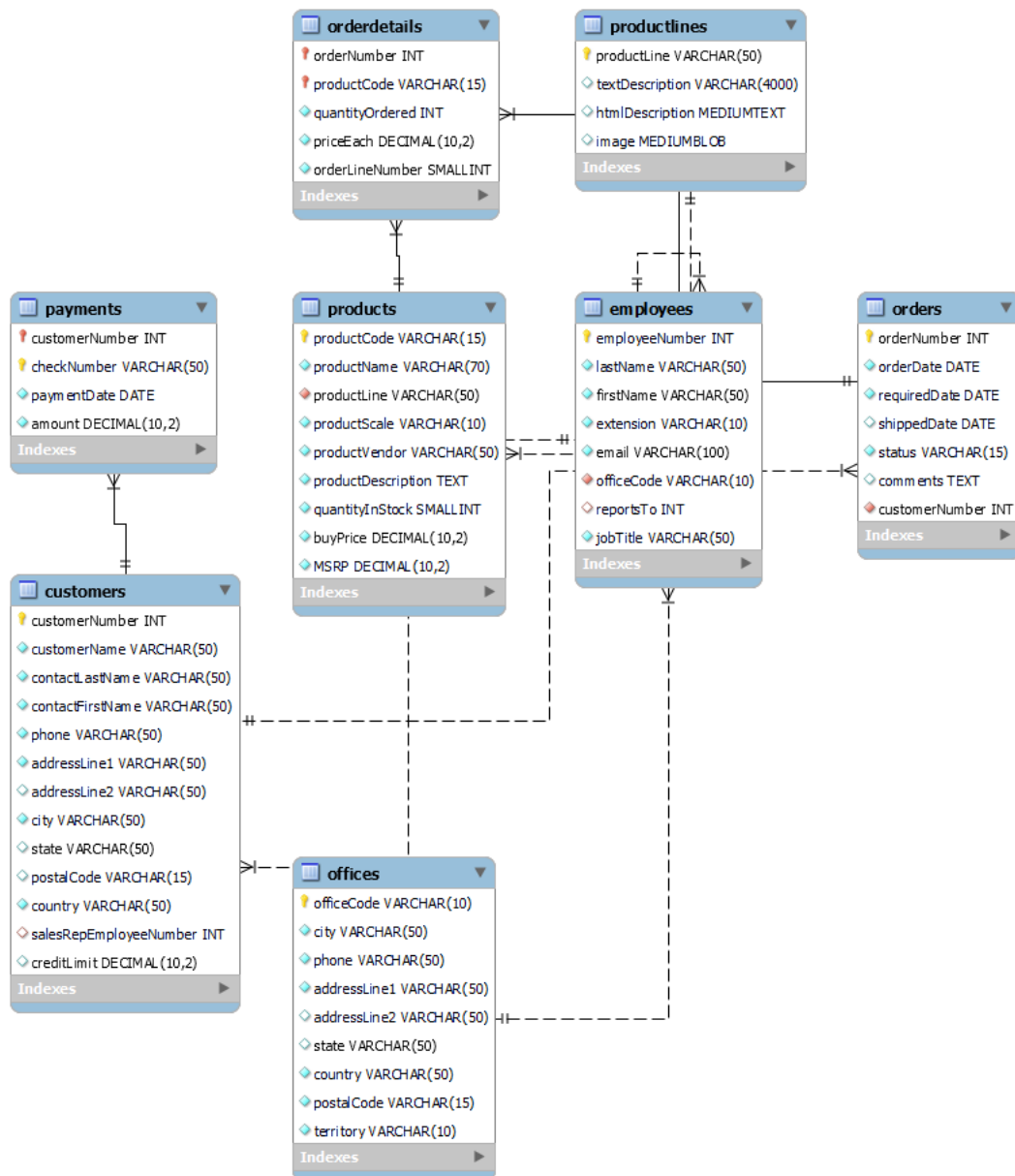


# 과제 1

32200327 김경민

1.

다음 웹 사이트(<http://www.mysqltutorial.org/>)는 MySQL 튜토리얼 사이트로 MySQL의 기초적인 사용법에 대해 상세히 설명하고 있다. 이 사이트의 예제 데이터베이스 생성 파일을 다운로드 받아서 MySQL 시스템에 classicmodels 이라는 데이터베이스를 설치하시오. 설치 후 E-R 다이어그램을 출력하고 E-R 다이어그램을 출력하여 제출하시오.



2.

다음 질의문들을 SQL 문으로 표현하고 그 실행 결과를 보이시오. SQL 문과 실행 결과를 제출하면 됩니다

(a) 영국(UK)에 있는 도시에 근무하는 직원들의 이름(firstName + lastName)을 보이시오.

SQL문

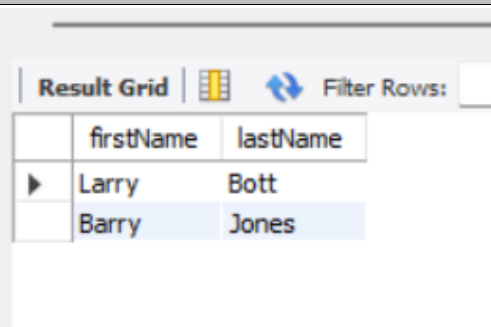
```
use classicmodels;
```

```
SELECT e.firstName, e.lastName
```

```
FROM employees e, offices o
```

```
WHERE e.officeCode = o.officeCode AND o.country = 'UK';
```

실행 결과 (캡처)



The screenshot shows a 'Result Grid' window with a 'Filter Rows' button. The grid contains two columns: 'firstName' and 'lastName'. There are two rows of data: 'Larry Bott' and 'Barry Jones'.

	firstName	lastName
▶	Larry	Bott
	Barry	Jones

(b) lastName이 'Patterson'인 직원이 담당하는 고객회사들의 이름(customerName)를 구하시오.

SQL문

```
use classicmodels;
```

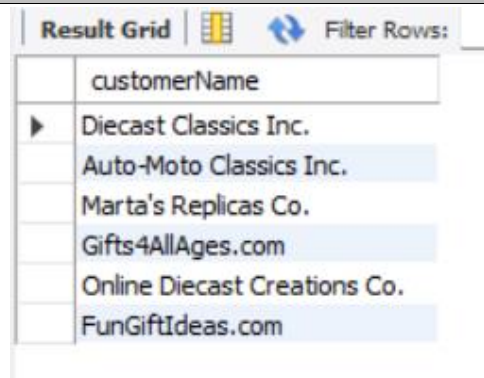
```
SELECT c.customerName
```

```
FROM employees e, customers c
```

```
WHERE c.salesRepEmployeeNumber = e.employeeNumber AND e.lastName =
```

'Patterson';

실행 결과 (캡처)



The screenshot shows a SQL Server Enterprise Manager interface. At the top, there is a 'Result Grid' tab and a 'Filter Rows' button. Below this, a table displays the results of a query. The table has one column labeled 'customerName'. The rows contain the following customer names: Diecast Classics Inc., Auto-Moto Classics Inc., Marta's Replicas Co., Gifts4AllAges.com, Online Diecast Creations Co., and FunGiftIdeas.com. The first row is highlighted with a mouse cursor.

customerName
Diecast Classics Inc.
Auto-Moto Classics Inc.
Marta's Replicas Co.
Gifts4AllAges.com
Online Diecast Creations Co.
FunGiftIdeas.com

(c) 담당 직원이 배정되지 않은 고객회사의 이름을 구하시오.

SQL문

```
use classicmodels;
```

```
SELECT customerName
```

```
FROM customers
```

```
WHERE customers.salesRepEmployeeNumber is NULL;
```

실행 결과 (캡처)

Result Grid		Filter Rows:
	customerName	
▶	Havel & Zbyszek Co	
	Porto Imports Co.	
	Asian Shopping Network, Co	
	Natürlich Autos	
	ANG Resellers	
	Messner Shopping Network	
	Franken Gifts, Co	
	BG&E Collectables	
	Schuyler Imports	
	Der Hund Imports	
	Cramer Spezialitäten, Ltd	
	Asian Treasures, Inc.	
	SAR Distributors, Co	
	Kommission Auto	
	Lisboa Souvenirs, Inc	
	Stuttgart Collectable Excha...	
	Feuer Online Stores, Inc	
	Warburg Exchange	
	Anton Designs, Ltd.	
	Mit Vergnügen & Co.	
	Kremlin Collectables, Co.	
	Raanan Stores, Inc	

(d) 고객 회사들에 대해 매출 성향을 분석하려고 한다. 각 고객 회사에 대해 회사명, 주문 회수, 평균 주문 금액, 최대 주문 금액을 구하시오.

SQL문

use classicmodels;

```
SELECT c.customerName, count(p.amount) As '주문 횟수' , avg(p.amount) As '평균 주문금액', max(p.amount) As '최대 주문금액'
FROM payments p join customers c on p.customerNumber = c.customerNumber
GROUP BY c.customerName;
```

실행 결과 (캡처)

	customerName	주문 횟수	평균 주문 금액	최대 주문 금액
▶	Atelier graphique	3	7438.120000	14571.44
	Signal Gift Stores	3	26726.993333	33347.88
	Australian Collectors, Co.	4	45146.267500	82261.22
	La Rochelle Gifts	3	38983.226667	49523.67
	Baane Mini Imports	4	26056.197500	50218.95
	Mini Gifts Distributors Ltd.	9	64909.804444	111654.40
	Blauer See Auto, Co.	4	18984.440000	33820.62
	Mini Wheels Co.	3	22236.853333	26248.78
	Land of Toys Inc.	3	35879.980000	50025.35
	Euro+ Shopping Channel	13	55056.844615	120166.58
	Volvo Model Replicas, Co	2	21840.325000	36005.71
	Danish Wholesale Imports	4	26861.625000	53959.21
	Saveley & Henriot, Co.	3	43435.116667	49614.72
	Dragon Souvenirs, Ltd.	4	39062.757500	105743.00
	Muscle Machine Inc	4	44478.487500	58841.35
	Diecast Classics Inc.	2	49254.625000	63357.13
	Technics Stores Inc.	4	26136.305000	50743.65
	Handji Gifts& Co	3	35140.190000	44160.92
	Herkku Gifts	2	48781.235000	85024.46
	Daedalus Designs Imports	2	30890.850000	42783.81
	La Corne D'abondance, Co.	3	28851.173333	51209.58
	Cambridge Collectables Co.	2	16099.345000	20355.24
	Gift Depot Inc.	3	31808.210000	42044.77
	Osaka Souvenirs Co.	2	31180.610000	47177.59
	Vitachrome Inc.	3	24165.880000	44400.50
	Toys of Finland, Co.	3	31848.820000	37602.48
	AV Stores, Co.	3	49470.030000	52825.29
	Clover Collections, Co.	2	24949.135000	32538.74
	Auto-Moto Classics Inc.	3	7184.753333	9658.74
	UK Collectables, Ltd.	2	30583.590000	37258.94
	Canadian Gift Exchange ...	2	35061.095000	36527.61
	Online Mini Collectables	2	27788.630000	51152.86
	Toys4GrownUps.com	3	31267.766667	50342.74
	Mini Caravy	3	25286.440000	36069.26
	King Kong Collectables, Co.	1	45480.790000	45480.79
	Enaco Distributors	3	22840.156667	40473.86
	Boards & Toys Co.	2	3959.300000	4465.85
	Heintze Collectables	2	44954.900000	53745.34
	Québec Home Shopping ...	3	22992.556667	29070.38
	Collectable Mini Designs ...	1	80375.240000	80375.24
	giftsbymail.co.uk	2	35891.875000	46788.14
	Alpha Cognac	3	20161.120000	33818.34
	Amica Models & Co.	2	41111.615000	48298.99
	Lyon Souvenirs	3	22553.063333	26311.63
	Auto Associés & Cie.	2	29438.205000	53116.99
	Toms Spezialitäten, Ltd	2	44611.570000	61234.67
	Royal Canadian Collecta...	2	33406.000000	37527.58

Anna's Decorations, Ltd	4	34258.555000	41554.73
Rovelli Gifts	3	42509.896667	52151.81
Souvenirs And Things Co.	3	30551.870000	35806.73
Marta's Replicas Co.	2	45272.685000	47411.33
Vida Sport, Ltd	2	54388.960000	61402.00
Norway Gifts By Mail, Co.	2	34529.520000	36798.88
Oulu Toy Supplies, Inc.	3	31902.050000	46770.52
Petit Auto	2	31126.925000	45352.47
Mini Classics	2	39216.080000	42339.76
Mini Creations Ltd.	3	33957.506667	52548.49
Corporate Gift Ideas Co.	2	66170.390000	85559.12
Down Under Souvenirs,...	4	38655.520000	75020.13
Stylish Desk Decors, Co.	3	26852.243333	37455.77
Tekni Collectables Inc.	2	19140.755000	31102.85
Australian Gift Network, Co	3	18396.720000	23936.53
Suominen Souvenirs	3	34632.246667	45785.34
Classic Gift Ideas, Inc	2	28969.670000	34606.28
CAF Imports	2	23375.570000	31428.21
Men 'R' US Retailers, Ltd.	2	20753.095000	21053.69
Marseille Mini Autos	3	23849.176667	50824.66
Reims Collectables	4	31745.797500	49705.52
GiftsForHim.com	2	28331.190000	36442.34
Gifts4AllAges.com	2	16766.735000	18473.71
Online Diecast Creations ...	3	38816.430000	55425.77
Collectables For Less Inc.	3	24511.216667	32680.31
Royale Belge	4	7304.295000	14379.90
Salzburg Collectables	3	28353.333333	42813.83
Cruz & Sons Co.	3	29156.100000	51001.22
L'ordine Souvenirs	2	45071.655000	51619.02
Tokyo Collectables, Ltd	4	26387.182500	48927.64
Auto Canal + Petit	3	28812.323333	49165.16
Extreme Desk Decoratio...	2	33352.470000	35034.57
Bavarian Collectables Im...	1	31310.090000	31310.09
Classic Legends Inc.	3	23071.443333	25505.98
Gift Ideas Corp.	3	16655.926667	26304.13
Scandinavian Gift Ideas	2	38388.220000	48809.90
The Sharp Gifts Warehouse	1	59551.380000	59551.38
Mini Auto Werke	3	17019.996667	27121.90
Super Scale Inc.	2	35189.325000	38139.18
Microscale Inc.	2	14615.215000	27550.51
Corrida Auto Replicas, Ltd	3	37480.030000	57131.92
FunGiftIdeas.com	3	29542.496667	48355.87
Australian Collectables, Ltd	2	22460.380000	35505.63
Frau da Collezione	2	12679.160000	17746.26
West Coast Collectables ...	2	21874.360000	36070.47
Iberia Gift Imports, Corp.	2	25493.925000	47513.19
Motor Mint Distributors Inc.	3	25908.863333	45994.07
Signal Collectibles Ltd.	2	21285.185000	29997.09
Double Decker Gift Store...	2	14793.075000	22275.73
Diecast Collectables	2	32770.870000	59265.14
Kelly's Gift Shop	3	38165.730000	52166.00



(e) 가장 많은 주문 금액의 주문의 고객회사 명, 주문 날짜, 주문금액을 구하시오.

SQL문

```
use classicmodels;
```

```
SELECT od.orderNumber, o.orderDate, sum(od.priceEach)
```

```
FROM orders o, orderdetails od
```

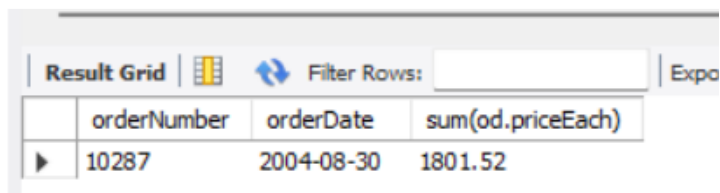
```
WHERE o.orderNumber = od.orderNumber
```

```
group by od.orderNumber
```

```
order by sum(od.priceEach) DESC
```

```
limit 1;
```

실행 결과 (캡처)



The screenshot shows a database interface with a 'Result Grid' tab selected. It displays a single row of data with three columns: 'orderNumber', 'orderDate', and 'sum(od.priceEach)'. The values in the row are 10287, 2004-08-30, and 1801.52 respectively. There are also buttons for 'Filter Rows' and 'Export' visible in the interface.

	orderNumber	orderDate	sum(od.priceEach)
▶	10287	2004-08-30	1801.52

3.

2 의 (d)를 View 로 구현하고 View 에 대한 조회의 예를 보이시오.View 의 정의와 조회 결과를 출력해서 제출하시오.

정의 : 하나 혹은 여러 개의 기본 테이블이나 다른 뷰를 이용하여 생성되는 가상테이블로 특정 사용자나 조직의 관점에 서데이터를 바라볼 수 있도록 해주는 것

View 생성 SQL문

```

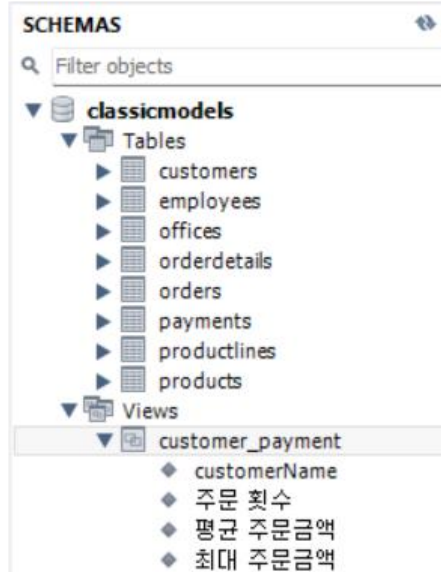
CREATE VIEW customer_payment
AS SELECT c.customerName, count(p.amount) As '주문 횟수' , avg(p.amount) As '평균
주문금액', max(p.amount) As '최대 주문금액'

FROM payments p join customers c on p.customerNumber =
c.customerNumber

GROUP BY c.customerName;

```

생성된 View (캡처)



조회 결과

예시 1)

```
use classicmodels;
```

```
SELECT * FROM customer_payment;
```



Result Grid   Filter Rows:   Export:   Wrap Cell Content:				
	customerName	주문 횟수	평균 주문 금액	최대 주문 금액
▶	Atelier graphique	3	7438.120000	14571.44
	Signal Gift Stores	3	26726.993333	33347.88
	Australian Collectors, Co.	4	45146.267500	82261.22
	La Rochelle Gifts	3	38983.226667	49523.67
	Baane Mini Imports	4	26056.197500	50218.95
	Mini Gifts Distributors Ltd.	9	64909.804444	111654.40
	Blauer See Auto, Co.	4	18984.440000	33820.62
	Mini Wheels Co.	3	22236.853333	26248.78
	Land of Toys Inc.	3	35879.980000	50025.35
	Euro+ Shopping Channel	13	55056.844615	120166.58
	Volvo Model Replicas, Co	2	21840.325000	36005.71
	Danish Wholesale Imports	4	26861.625000	53959.21
	Saveley & Henriot, Co.	3	43435.116667	49614.72
	Dragon Souvenirs, Ltd.	4	39062.757500	105743.00
	Muscle Machine Inc	4	44478.487500	58841.35
	Diecast Classics Inc.	2	49254.625000	63357.13
	Technics Stores Inc.	4	26136.305000	50743.65
	Handji Gifts & Co	3	35140.190000	44160.92

예시2)

use classicmodels;

SELECT \* FROM customer\_payment WHERE `주문 횟수` = 3;

Result Grid   Filter Rows:   Export:   Wrap Cell Content:				
	customerName	주문 횟수	평균 주문 금액	최대 주문 금액
▶	Atelier graphique	3	7438.120000	14571.44
	Signal Gift Stores	3	26726.993333	33347.88
	La Rochelle Gifts	3	38983.226667	49523.67
	Mini Wheels Co.	3	22236.853333	26248.78
	Land of Toys Inc.	3	35879.980000	50025.35
	Saveley & Henriot, Co.	3	43435.116667	49614.72
	Handji Gifts & Co	3	35140.190000	44160.92
	La Corne D'abondance, Co.	3	28851.173333	51209.58
	Gift Depot Inc.	3	31808.210000	42044.77
	Vitachrome Inc.	3	24165.880000	44400.50
	Toys of Finland, Co.	3	31848.820000	37602.48
	AV Stores, Co.	3	49470.030000	52825.29
	Auto-Moto Classics Inc.	3	7184.753333	9658.74

#### 4.

적당한 고객 회사 정보를 입력하고 이 회사의 주문 내역을 입력하시오. 주문 내역은 일련의 SQL 문으로 Orders 와 orderdetails 테이블들에 대한 입력 내용을 포함해야 합니다.주문 내역을 나타내는 SQL 문들과 이들의 실행 결과가 반영된 테이블의 내용을 출력해서 제출하시오.

## SQL문

use classicmodels;

```
insert into orders(orderNumber, orderDate, requiredDate, shippedDate, status, comments,
customerNumber)
```

```
value('10426', '2022-09-15', '2022-09-20', '2022-09-17', 'shipped', null, '201');
```

```
insert into orderdetails(orderNumber, productCode, quantityOrdered, priceEach, orderLineNumber)
```

```
values ('10426', 'S18_1749', '30', '136.00', '3'),
```

```
('10426', 'S18_2248', '50', '55.09', '2'),
```

```
('10426', 'S24_1937', '42', '32.53', '3');
```

## 실행 결과 (캡처)

orderNumber	orderDate	requiredDate	shippedDate	status	comments	customerNumber
10419	2005-05-17	2005-05-28	2005-05-19	Shipped	NULL	382
10420	2005-05-29	2005-06-07	NULL	In Proc...	NULL	282
10421	2005-05-29	2005-06-06	NULL	In Proc...	Custom shipping instructions were sent to ware...	124
10422	2005-05-30	2005-06-11	NULL	In Proc...	NULL	157
10423	2005-05-30	2005-06-05	NULL	In Proc...	NULL	314
10424	2005-05-31	2005-06-08	NULL	In Proc...	NULL	141
10425	2005-05-31	2005-06-07	NULL	In Proc...	NULL	119
10426	2022-09-15	2022-09-20	2022-09-17	shipped	NULL	201
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid | Filter Rows:  | Edit: | Export

orderNumber	productCode	quantityOrdered	priceEach	orderLineNumber
10425	S24_2840	31	31.82	5
10425	S32_1268	41	83.79	11
10425	S32_2509	11	50.32	6
10425	S50_1392	18	94.92	2
10426	S18_1749	30	136.00	3
10426	S18_2248	50	55.09	2
10426	S24_1937	42	32.53	3
NULL	NULL	NULL	NULL	NULL

orderdetails1 ▾