KONGU ENGINEERING COLLEGE, PERUNDUARI- 638060

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DATABASE MANAGEMENT SYSTEMS LABORATORY

MODEL LAB

Instructions:

1. Primary Key (Roll_NO) should NOT be used in where condition to fetch record.
2. Fetch data using Age, City and other relevant columns in where condition
3. There will be multiple ways or options to get solutions. Feel free to give more than one solution for same problem.

Question :1

Table : Student

ROLLNO	NAME	AGE	BRANCH	CITY
101	ANU	22	CSE	MUMBAI
102	RAJU	21	ECE	DELHI
103	RANI	33	MSC	CHENNAI
104	PETER	26	CSE	DELHI
105	SEETHA	22	CSE	NOIDA
106	MANI	22	ECE	JAIPUR
107	BABU	23	MSC	RAMPUR

1. Write SQL statement to get below output

ROLLNO	NAME	AGE	BRANCH	CITY
102	RAJU	21	ECE	DELHI
104	PETER	26	CSE	DELHI

2. Write SQL statement to get below output

ROLLNO	NAME	AGE	BRANCH	CITY
104	PETER	26	CSE	DELHI

3. Write SQL statement to get below output

ROLLNO	NAME	AGE	BRANCH	CITY
104	PETER	26	CSE	DELHI
107	BABU	23	MSC	RAMPUR

4. Write SQL statement to get below output

ROLLNO	NAME	AGE	BRANCH	CITY
103	RANI	33	MSC	CHENNAI
104	PETER	26	CSE	DELHI

5. Write SQL statement to get below output (Add DOB column)

ROLLNO	NAME	AGE	BRANCH	CITY	DOB
101	ANU	22	CSE	MUMBAI	
102	RAJU	21	ECE	DELHI	
103	RANI	33	MSC	CHENNAI	
104	PETER	26	CSE	DELHI	
105	SEETHA	22	CSE	NOIDA	
106	MANI	22	ECE	JAIPUR	
107	BABU	23	MSC	RAMPUR	

6. Write SQL statement to get below output (Add DOB column)

ROLLNO	NAME	AGE	BRANCH	CITY	DOB
101	ANU	22	CSE	MUMBAI	
102	RAJU	21	ECE	DELHI	26-01-2000
103	RANI	33	MSC	CHENNAI	
104	PETER	26	CSE	DELHI	
105	SEETHA	22	CSE	NOIDA	
106	MANI	22	ECE	JAIPUR	
107	BABU	23	MSC	RAMPUR	

Question 2:

Table : Customers

Cus_id	Fname	Lname	Email	Address	City	State	zipcode
1	geetha	Washington	gwashing@usa.gov	1 rani st	Vernon	VA	22121
2	john	Adams	jadams@usa.gov	2 raja st	Quincy	MA	2169
3	thomas	Jeffryson	tjeffryson@usa.gov	3 vel st	Charlotte	VA	22902
4	james	Madison	jmadison@usa.gov	4 kambu st	Orange	VA	22960
5	james	Mongre	jmongre@usa.gov	5 north st	charlotte	VA	22902

Table : Orders

Ordered	Order_date	Amount	Cus_id
1	7-4-1776	234.56	1
2	8-14-1760	78.5	3
3	5-23-1784	124	2
4	9-3-1790	65.5	3
5	7-21-1795	25.5	10
6	11-27-1787	14.4	9

7. Write SQL statement to get below output

Fname	Lname	Order_date	Order_amount
geetha	Washington	7-4-1776	234.56
john	Adams	5-23-1784	124.00
thomas	Jeffryson	8-14-1760	78.50
thomas	Jeffryson	9-3-1790	65.50

8. **Write SQL statement to get below output**

Fname	Lname	Order_date	Order_amount
geetha	Washington	7-4-1776	234.56
john	Adams	5-23-1784	124.00
thomas	Jeffryson	8-14-1760	78.50
thomas	Jeffryson	9-3-1790	65.50
james	Madison	Null	Null
james	Mongre	Null	Null

9. **Write SQL statement to get below output**

Fname	Lname	Order_date	Order_amount
geetha	Washington	7-4-1776	234.56
thomas	Jeffryson	8-14-1760	78.50
john	Adams	5-23-1784	124.00
thomas	Jeffryson	9-3-1790	65.50
Null	Null	7-21-1795	25.5
Null	Null	11-27-1787	14.4

10. **Write SQL statement to get below output**

Fname	Lname	Order_date	Order_amount
geetha	Washington	7-4-1776	234.56
thomas	Jeffryson	8-14-1760	78.50
john	Adams	5-23-1784	124.00
thomas	Jeffryson	9-3-1790	65.50
Null	Null	7-21-1795	25.5
Null	Null	11-27-1787	14.4
James	Madison	Null	Null
James	Mongre	Null	Null

11. Write a SQL statement to delete the ONLY data inside a customers table
12. Write a SQL statement to remove customers table from existing database

Question 3:

Table: supplier

Supplier_id	Supplier_name
1000	Microsoft
2000	Oracle
3000	Apple
4000	Samsung

Table: orders

Order_id	Order_date	Supplier_id
1	1-aug-15	2000
2	1-aug-15	6000
3	2-aug-15	7000
4	3-aug-15	8000

13. Write SQL statement to get below output

1000
2000
2000
3000
4000
6000
7000
8000

14. Write SQL statement to get below output

1000
2000
3000
4000
6000
7000
8000

Question 4:

Table: employee

ID	NAME	AGE	ADDRESS	SALARY
1	RAMESH	32	AHMEDADAD	2000
2	RAMESH	25	DELHI	1500
3	KAUSIK	23	KOTA	2000
4	KAUSIK	25	MUMBAI	6500
5	HARNIS	27	BHOPAL	8500
6	KOMAL	22	MP	4500
7	MUFFY	24	INDORE	10000

15. Write SQL statement to get below output

NAME	SALARY
HARNIS	8500
KAUSIK	8500
KOMAL	4500
MUFFY	10000
RAMESH	3500

1.Consider the insurance database given below. The primary keys are made bold and the data types are specified.

PERSON(**driver_id**:string , name:string , address:string)

CAR(**regno**:string , model:string , year:int)

ACCIDENT(**report_number**:int , accd_date:date , location:string)

OWNS(**driver_id**:string , **regno**:string)

PARTICIPATED(**driver_id**:string , **regno**:string , **report_number**:int , damage_amount:int)

1)Create the above tables by properly specifying the primary keys and foreign keys.

2)Enter at least five tuples for each relation.

3)Demonstrate how you

a.Update the damage amount for the car with specific regno in the accident with report number 12 to 25000.

b.Add a new accident to the database.

4)Find the total number of people who owned cars that were involved in accidents in the year 2008.

5)Find the number of accidents in which cars belonging to a specific model were involved.

2.Consider the following relations for a order processing database application in a company.

CUSTOMER(**custno**:int , cname:string , city:string)

ORDER(**orderno**:int , odate:date , custno:int , ord_amt:int)

ORDER_ITEM(**orderno**:int , **itemno**:int , quantity:int)

ITEM(**itemno**:int , unitprice:int)

SHIPMENT(**orderno**:int , **warehouseno**:int , ship_date:date)

WAREHOUSE(**warehouseno**:int , city:string)

1)Create the above tables by properly specifying the primary keys and foreign keys.

2)Enter at least five tuples for each relation.

3)Produce a listing: custname , No_of_orders , Avg_order_amount , where the middle column is the total number of orders by the customer and the last column is the average order amount for that customer.

4)List the orderno for orders that were shipped from ***all*** the warehouses that the company has in a specific city.

5)Demonstrate the deletion of an item from the ITEM table and demonstrate a method of handling the rows in the ORDER_ITEM table that contains this particular item.

3. Consider the following database of student enrollment in courses and books adopted for that course.

STUDENT(**regno**:string , name:string , major:string , bdate:date)

COURSE(**courseno**:int , cname:string , dept:string)

ENROLL(**regno**:string , **courseno**:int , **sem**:int , marks:int)

BOOK_ADOPTION(**courseno**:int , **sem**:int , book_isbn:int)

TEXT(**book_isbn**:int , book_title:string , publisher:string , author:string)

1)Create the above tables by properly specifying the primary keys and foreign keys.

2)Enter atleast five tuples for each relation.

3)Demonstrate how you add a new text book to the database and make this book to be adopted by some department.

4)Produce a list of text books (includes courseno , book_isbn , book_title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.

5)List any department that has ***all*** its books published by a specific publisher.

4.The following are maintained by a book dealer.
AUTHOR(**author_id**:int , name:string , city:string , country:string)
PUBLISHER(**publisher_id**:int , name:string , city:string , country:string)
CATALOG(**book_id**:int , title:string , author_id:int , publisher_id:int , category_id:int , year:int , price:int)
CATEGORY(**category_id**:int , description:string)
ORDER_DETAILS(**order_no**:int , **book_id**:int , quantity:int)
1)Create the above tables by properly specifying the primary keys and foreign keys.
2)Enter at least five tuples for each relation.
3)Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2000.
4)Find the author of the book that has maximum sales.
5)Demonstrate how you increase the price of books published by a specific publisher by 10%.

5. Consider the following database for a banking enterprise.
BRANCH(**branch_name**:string , branch_city:string , assets:real)
ACCOUNT(**accno**:int , branch_name:string , balance:real)
DEPOSITOR(**customer_name**:string , **accno**:int)
CUSTOMER(**customer_name**:string , customer_street:string , customer_city:string)
LOAN(**loan_number**:int , branch_name:string , amount:real)
BORROWER(**customer_name**:string , **loan_number**:int)
1)Create the above tables by properly specifying the primary keys and foreign keys.
2)Enter at least five tuples for each relation.
3)Find ***all*** the customers who have at least two accounts at the ***main*** branch.
4)Find all the customers who have an account at ***all*** the branches located in a specific city.
5)Demonstrate how you delete all account tuples at every branch located in a specific city.

6.Consider the schema for Movie Database:
ACTOR (*Act_id, Act_Name, Act_Gender*)
DIRECTOR (*Dir_id, Dir_Name, Dir_Phone*)
MOVIES (*Mov_id, Mov_Title, Mov_Year, Mov_Lang, Dir_id*)
MOVIE_CAST (*Act_id, Mov_id, Role*)
RATING (*Mov_id, Rev_Stars*)
Write SQL queries to
1. List the titles of all movies directed by 'Hitchcock'.
2. Find the movie names where one or more actors acted in two or more movies.
3. List all actors who acted in a movie before 2000 and also in a movie after 2015 (use JOIN operation).
4. Find the title of movies and number of stars for each movie that has at least one rating and find the highest number of stars that movie received. Sort the result by movie title.
5. Update rating of all movies directed by 'Steven Spielberg' to 5.

V. SUWATHI
17CSR208

24/25

DATABASE SYSTEMS LABORATORY

MODEL LAB - I

1) Table : Student

ROLLNO	NAME	AGE	BRANCH	CITY
101	ANU	22	CSE	MUMBAI
102	RAJU	21	ECE	DELHI
103	RANI	33	MSC	CHENNAI
104	PETER	26	CSE	DELHI
105	SEETHA	22	CSE	NOIDA
106	MANI	22	ECE	JAIPUR
107	BABU	23	MSC	RAMPUR.

1. Select * from Student where city = 'DELHI';

2. Select * from Student where city = 'DELHI' and
Branch = 'CSE';

3. Select * from Student where age between 23 and 26;

4. Select * from Student where age between 26 and 33;

5. alter table Student add column DOB dati(20);

6. updati ~~table~~ Student set DOB = 26-01-2000
where name = 'RAJU';

2) table : customers

CUSID	customer NAME	CONTACT NAME	ADDRESS	CITY	POSTAL CODE	CO
1	Alfred	Maria Anders	Rani st	Berlin	12209	Germ
2	Ana	Ana	Gandhiji st	Mexico DF	5021	Mexi
3	Antonio	Antonio	Mataderos 2312	Mexico DF	5023	Mexi

table : orders

OrderID	CUSID	EMPID	OrderDate	ShipperID
10308	2	7	18-sep-96	3
10309	37	3	19-sep-96	1
10310	77	8	20-sep-96	2

7. Select * from customers ~~Left Outer~~ Natural Join orders on customers.CUSID = orders.CUSID;

8. Select * from customers Right Outer Join orders on customers.CUSID = orders.CUSID;

9. Select * from customers left outer join orders
on customers.cusID = orders.cusID;

10. Select * from customers ~~Natural~~ full outer join orders;

3)

Table : customers

cusid	Fname	Lname	Email	Address	city	Stat	zipcode
1	geetha	Washington		1st rani st	Vernon	VA	22121
2	John	Adams		2 raja st	Quincy	MA	2169
3	thomas	Jeffryson		3 vel st	Charlotte	VA	22902
4	James	Madison		4 kambu st	orange	VA	22960
5	janees	Mongre		5 north st	charlotte	VA	22902

email.
gwashing@usa.gov
jadams@usa.gov
tjeffryson@usa.gov
Jmadison@usa.gov
jmongre@usa.gov

Table : orders.

Table: orders.

ordered	order dati	Amount	cus_id
1	7-4-1776	234.56	1
2	8-14-1760	78.5	3
3	5-23-1784	124	2
4	9-3-1790	65.5	30
5	7-21-1795	25.5	10
6	11-27-1787	14.4	9

11.
```
Select Fname, Lname, order_dati, Amount
from customers, orders
where customer.cus_id = orders.cus_id;
```

12.
```
Select Fname, Lname, order_dat, Amout
from customers left outer Join orders
On customers.cus_id = Orders.cus_id;
```

13.
```
Select Fname, Lname, order_dat, Amount
from customer Right outer Join orders.
on customers.cus_id = Orders.cus_id;
```

14.
```
Select Fname, Lname, order_dat, Amount
from customers Full outer Join orders
on customers.cus_id = Orders.cus_id;
```

15. truncate table customers;

16. drop table customers;

4) Table : Supplier.

Supplier Id	Supplier Name
1000	Microsoft
2000	Oracle
3000	Apple
4000	Samsung.

Table : Orders

order id	order date	Supplier_id
1	1-aug-15	2000
2	1-aug-15	6000
3	2-aug-15	7000
4	3-aug-15	8000

17. Select supplierid
from supplier Join orders
order by supplier_id;

)

Table :

18) Select distinct Supplier_Id;
from Supplier Join order
orderby Supplier_Id (asc);

5)

Table : employee.

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000
2	Ramesh	25	Delhi	1500
3	kausik	23	kota	2000
4	kausik	25	Mumbai	6500
5	Harnie	27	Bhopal	8500
6	komal	22	MP	4500
7	Muffy	24	indore	10000

19) Select name, Salary
from employee {
where name NOT IN (Select distinct name, Sum (salary)
from employee
where name = 'Ramesh' an

6)

20) union :

union combines one or more tables without (or) with common attribute.

JOIN :

Join combines one or more tables only if it have common attributes.

eg: Select * from customers Join orders ;

21) Where clause is used to give conditions required for the table.

eg: Select * from employee where name='Peter

Having clause is also to give conditions but when the table is being group by a particular order.

```
eg: Select * from Students
    group by Branch
    Having age='22';
```

22) union combine one (or) more tables with or without common attribute.
union all combine regardless any conditions.

Q3. union combines all commons.
minus combines few table.
Intersect combines two table.