MYSQL

1. Create a db called company consist of the following tables.

      1.Emp (eno,ename, job,hiredate,salary,commission,deptno,)

      2.dept(deptno,deptname,location)

      eno is primary key in emp

      deptno is primary key in dept

      Solve Queries by SQL

1. List the maximum salary paid to salesman
2. List name of emp whose name start with 'I'
3. List details of emp who have joined before '30-sept-81'
4. List the emp details in the descending order of their basic salary
5. List of no. of emp & avg salary for emp in the dept no '20'
6. List the avg salary, minimum salary of the emp hiredatewise for dept no '10'.
7. List emp name and its department
8. List total salary paid to each department
9. List details of employee working in 'Dev' department
10. Update salary of all employees in deptno 10 by 5 %.

2. **Create a database**

1. employee (employee name, street, city) ,employee name is primary key
2. works (employee name, company name, salary)
3. company (company name, city) ,company name is primary key
4. manages (employee name, manager name)

Give an expression in SQL for each of the following queries.

1. Find the names of all employees who work for First Bank Corporation.
2. Find all employees who do not work for First Bank Coorporation
3. Find the company that has most employees.
4. Find all companies located in every in which small bank corporation is located
5. Find details of employee having salary greater than 10,000.
6. Update salary of all employees who work for First Bank Corporation by 10%.
7. Find employee and their managers.
8. Find the names, street and cities of all employees who work for First Bank Corporation and earn more than 10,000.
9. Find those companies whose employees earn a higher salary,on average, than th average salary at First Bank Corporation

3. The following tables form part of a database held in a relational DBMS:

Hotel (HotelNo, Name, City) HotelNo is the primary key
Room (RoomNo, HotelNo, Type, Price)
Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)
Guest (GuestNo, GuestName, GuestAddress) GuestNo is primary key

Room contains room details for each hotel and (HotelNo, RoomNo) forms the primary key.Booking contains details of the bookings and the primary key comprises (HotelNo, GuestNo and DateFrom)

Solve following queries by SQL

1. List full details of all hotels.
2. How many hotels are there?
3. List the price and type of all rooms at the Grosvenor Hotel.
4. List the number of rooms in each hotel.
5. Update the price of all rooms by 5%.
6. List full details of all hotels in London.
7. What is the average price of a room?
8. List all guests currently staying at the Grosvenor Hotel.
9. List the number of rooms in each hotel in London.
10. Create one view on above database and query it.

4. The following tables form part of a database held in a relational DBMS:

Hotel (HotelNo, Name, City) HotelNo is primary key
Room (RoomNo, HotelNo, Type, Price)
Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)
Guest (GuestNo, GuestName, GuestAddress) GuestNo is primary key

Solve following queries by SQL

1. What is the total revenue per night from all double rooms?
2. List the details of all rooms at the Grosvenor Hotel, including the name of the guest staying in the room, if the room is occupied.
3. What is the average number of bookings for each hotel in April?
4. Create index on one of the field and show is performance in query.
5. List full details of all hotels.
6. List full details of all hotels in London.
7. Update the price of all rooms by 5%.
8. List the number of rooms in each hotel in London.
9. List all double or family rooms with a price below £40.00 per night, in ascending order of price.

5. The following tables form part of a database held in a relational DBMS:

    Hotel (HotelNo, Name, City) HotelNo is the primary key
    Room (RoomNo, HotelNo, Type, Price)
    Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)
    Guest (GuestNo, GuestName, GuestAddress)
    Solve following queries by SQL

1. List full details of all hotels.
2. How many hotels are there?
3. List the price and type of all rooms at the Grosvenor Hotel.
4. List the number of rooms in each hotel
5. List all guests currently staying at the Grosvenor Hotel.
6. List all double or family rooms with a price below £40.00 per night, in ascending order of price.
7. How many different guests have made bookings for August?
8. What is the total income from bookings for the Grosvenor Hotel today?
9. What is the most commonly booked room type for each hotel in London?
10. Update the price of all rooms by 5%.

6. The following tables form part of a database held in a relational DBMS:

    Hotel (HotelNo, Name, City)
    Room (RoomNo, HotelNo, Type, Price)
    Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)
    Guest (GuestNo, GuestName, GuestAddress)
    Solve following queries by SQL

1. List full details of all hotels.
2. List full details of all hotels in London.
3. List all guests currently staying at the Grosvenor Hotel.
4. List the names and addresses of all guests in London, alphabetically ordered by name.
5. List the bookings for which no date_to has been specified.
6. How many hotels are there?
7. List the rooms that are currently unoccupied at the Grosvenor Hotel.
8. What is the lost income from unoccupied rooms at each hotel today?
9. Create index on one of the field and show is performance in query.
10. Create one view on above database and query it.

7. Consider the following database
Project(project_id,proj_name,chief_arch) , project_id is primary key
Employee(Emp_id,Emp_name) , Emp_id is primary key
Assigned-To(Project_id,Emp_id)

Find the SQL queries for the following:

1. Get the details of employees working on project C353
2. Get employee number of employees working on project C353
3. Obtain details of employees working on Database project
4. Get details of employees working on both C353 and C354
5. Get employee numbers of employees who do not work on project C453

8. Consider the following database
Employee(emp_no,name,skill,pay-rate) eno primary key
Position(posting_no,skill) posting_no primary key
Duty_allocation(posting_no,emp_no,day,shift)

Find the SQL queries for the following:
1. Get the duty allocation details for emp_no 123461 for the month of April 1986.
2. Find the shift details for Employee 'xyz'
3. Get employees whose rate of pay is more than or equal to the rate of pay of employee 'xyz'
4. Get the names and pay rates of employees with emp_no less than 123460 whose rate of pay is more than the rate of pay of at least one employee with emp_no greater than or equal to 123460.
5. Find the names of employees who are assigned to all positions that require a Chef's skill
6 .Find the employees with the lowest pay rate
7 .Get the employee numbers of all employees working on at least two dates.
8 .Get a list of names of employees with the skill of Chef who are assigned a duty
9 .Get a list of employees not assigned a duty
10.Get a count of different employees on each shift

9. Create the following tables. And Solve following queries by SQL

- Deposit (actno,cname,bname,amount,adate)
- Branch (bname,city)
- Customers (cname, city)
- Borrow(loanno,cname,bname, amount)

Add primary key and foreign key wherever applicable.

Insert data into the above created tables.

1. Display names of depositors having amount greater than 4000.
2. Display account date of customers Anil
3. Display account no. and deposit amount of customers having account opened between dates 1-12-96 and 1-5-97
4. Find the average account balance at the Perryridge branch.
5. Find the names of all branches where the average account balance is more than $1,200.
6. Delete depositors having deposit less than 5000
7. Create a view on deposit table.

10. Create the following tables. And Solve following queries by SQL

1. Deposit (actno,cname,bname,amount,adate)
2. Branch (bname,city)
3. Customers (cname, city)
4. Borrow(loanno,cname,bname, amount)

Add primary key and foreign key wherever applicable.

Insert data into the above created tables.

a. Display names of all branches located in city Bombay.
b. Display account no. and amount of depositors.
c. Update the city of customers Anil from Pune to Mumbai
d. Find the number of depositors in the bank
e. Calculate Min,Max amount of customers.
f. Create an index on deposit table
g. Create View on Borrow table.

11. Create the following tables. **Solve queries by SQL**
- Deposit (actno,cname,bname,amount,adate)
- Branch (bname,city)
- Customers (cname, city)
- Borrow(loanno,cname,bname, amount)

Add primary key and foreign key wherever applicable.
Insert data into the above created tables.

    a. Display account date of customers Anil.
    b. Modify the size of attribute of amount in deposit
    c. Display names of customers living in city pune.
    d. Display name of the city where branch KAROLBAGH is located.
    e. Find the number of tuples in the *customer* relation
    f. Delete all the record of customers Sunil
    g. Create a view on deposit table.

12. Create the following tables. **Solve queries by SQL**
- Deposit (actno,cname,bname,amount,adate)
- Branch (bname,city)
- Customers (cname, city)
- Borrow(loanno,cname,bname, amount)

Add primary key and foreign key wherever applicable.
Insert data into the above created tables.
Solve following queries by SQL

    1. Display customer name having living city Bombay and branch city Nagpur
    2. Display customer name having same living city as their branch city
    3. Display customer name who are borrowers as well as depositors and having living city Nagpur.
    4. Display borrower names having deposit amount greater than 1000 and loan amount greater than 2000
    5. Display customer name living in the city where branch of depositor sunil is located.
    6. Create an index on deposit table

13) Create the following tables.

1)PUBLISHER(PID , PNAME ,ADDRESS ,STATE ,PHONE ,EMAILID);
2)BOOK(ISBN ,BOOK_TITLE , CATEGORY , PRICE , COPYRIGHT_DATE , YEAR ,PAGE_COUNT ,PID);
3) AUTHOR(AID,ANAME,STATE,CITY ,ZIP,PHONE,URL)
4) AUTHOR_BOOK(AID,ISBN);
5) REVIEW(RID,ISBN,RATING);

Solve following queries by SQL

1. Retrieve city, phone, url of author whose name is 'CHETAN BHAGAT'.

2. Retrieve book title, reviewable id and rating of all books.

3. Retrieve book title, price, author name and url for publishers 'MEHTA'.

4. In a PUBLISHER relation change the phone number of 'MEHTA' to 123456

5. Calculate and display the average, maximum, minimum price of each publisher.

6. Delete details of all books having a page count less than 100.

7. Retrieve details of all authors residing in city Pune and whose name begins with character 'C'.

8. Retrieve details of authors residing in same city as 'Korth'.

9. Create a procedure to update the value of page count of a book of given ISBN.

10. Create a function that returns the price of book with a given ISBN.

PL/SQL

14.

a) Consider table Stud(Roll, Att,Status)

Write a PL/SQL block for following requirement and handle the exceptions. Roll no. of student will be entered by user. Attendance of roll no. entered by user will be checked in Stud table. If attendance is less than 75% then display the message "Term not granted" and set the status in stud table as "D". Otherwise display message "Term granted" and set the status in stud table as "ND"

b) Write a PL/SQL block for following requirement using user defined exception handling. The account_master table records the current balance for an account, which is updated whenever, any deposits or withdrawals takes place. If the withdrawal attempted is more than the current balance held in the account. The user defined exception is raised, displaying an appropriate message. Write a PL/SQL block for above requirement using user defined exception handling.

15.

a) Write an SQL code block these raise a user defined exception where business rule is voilated. BR for client_ master table specifies when the value of bal_due field is less than 0 handle the exception.

b) Write an SQL code block
Borrow(Roll_no, Name, DateofIssue, NameofBook, Status)
Fine(Roll_no,Date,Amt)
Accept roll_no & name of book from user. Check the number of days (from date of issue), if days are between 15 to 30 then fine amount will be Rs 5per day. If no. of days>30, per day fine will be Rs 50 per day & for days less than 30, Rs. 5 per day. After submitting the book, status will change from I to R. If condition of fine is true, then details will be stored into fine table. Also handles the exception by named exception handler or user define exception handler.

16. Cursor (Any Two)

a) The bank manager has decided to activate all those accounts which were previously marked as inactive for performing no transaction in last 365 days. Write a PL/SQ block (using implicit cursor) to update the status of account, display an approximate message based on the no. of rows affected by the update. (Use of %FOUND, %NOTFOUND, %ROWCOUNT)

b)Organization has decided to increase the salary of employees by 10% of existing salary, who are having salary less than average salary of organization, Whenever such salary updates takes place, a record for the same is maintained in the increment_salary table.

c) Write PL/SQL block using explicit cursor for following requirements: College has decided to mark all those students detained (D) who are having attendance less than 75%. Whenever such update takes place, a record for the same is maintained in the D_Stud table. create table stud21(roll number(4), att number(4), status varchar(1));

17. Cursor (Any Two)

a) The bank manager has decided to activate all those accounts which were previously marked as inactive for performing no transaction in last 365 days. Write a PL/SQ block (using implicit cursor) to update the status of account, display an approximate message based on the no. of rows affected by the update. (Use of %FOUND, %NOTFOUND, %ROWCOUNT)

b)Write a PL/SQL block of code using parameterized Cursor, that will merge the data available in the newly created table N_RollCall with the data available in the table O_RollCall. If the data in the first table already exist in the second table then that data should be skipped. output:

c) Write the PL/SQL block for following requirements using parameterized Cursor: Consider table EMP(e_no, d_no, Salary), department wise average salary should be inserted into new table dept_salary(d_no, Avg_salary)

18. Trigger

a) Write a update, delete trigger on clientmstr table. The System should keep track of the records that ARE BEING updated or deleted. The old value of updated or deleted records should be added in audit_trade table. (separate implementation using both row and statement triggers).

b) Write a before trigger for Insert, update event considering following requirement: Emp(e_no, e_name, salary) I) Trigger action should be initiated when salary is tried to be inserted is less than Rs. 50,000/- II) Trigger action should be initiated when salary is tried to be updated for value less than Rs. 50,000/- Action should be rejection of update or Insert operation by displaying appropriate error message. Also the new values expected to be inserted will be stored in new table Tracking(e_no, salary).

Mongodb

19.

Create Database DYPIT using MongoDB
Create following Collections
    Teachers(Tname,dno,dname,experience,salary,date_of_joining)
    Students(Sname,roll_no,class)

1. Find the information about all teachers
2. Find the information about all teachers of computer department
3. Find the information about all teachers of computer,IT,and e&TC department
4. Find the information about all teachers of computer,IT,and E&TC department having salary greate than or equl to 10000/-
5. Find the student information having roll_no = 2 or Sname=xyz
6. Update the experience of teacher-praveen to 10years, if the entry is not available in database consider the entry as new entry.
7. Update the deparment of all the teachers working in IT deprtment to COMP
8. find the teachers name and their experience from teachers collection
9. Using Save() method insert one entry in department collection
10. Using Save() method change the dept of teacher Rajesh to IT
11. Delete all the doccuments from teachers collection having IT dept.
12. display with pretty() method, the first 3 doccuments in teachers collection in ascending order

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1. Create Database DYPIT
2. Create following Collections

       Teachers(Tname,dno,dname,experience,salary,date_of_joining)
       Students(Sname,roll_no,class)

3. Find the information about two teachers
4. Find the information about all teachers of computer department
5. Find the information about all teachers of computer,IT,and e&TC department
6. Find the information about all teachers of computer,IT,and E&TC department having salary greate than or equl to 25000/-
7. Find the student information having roll_no = 25 or Sname=xyz
8. Update the experience of teacher-praveen to 10years, if the entry is not available in database consider the entry as new entry.
9. Update the deparment of all the teachers working in IT deprtment to COMP
10. find the teachers name and their experience from teachers collection
11. Using Save() method insert one entry in department collection
13. Delete all the doccuments from teachers collection having IT dept.
14. display with pretty() method, the first 5 documents in teachers collection in ascending order

21. Create Database DYPIT using MongoDB
Create following Collections

       Teachers(Tname,dno,dname,experience,salary,date_of_joining)
       Students(Sname,roll_no,class)

1. Find the information about all teachers
2. Find the average salary teachers of computer department
3. Find the minimum and maximum salary of e&TC department teachers
4. Find the information about all teachers of computer,IT,and E&TC department having salary greate than or equl to 10000/-
5. Find the student information having roll_no = 2 or Sname=xyz
6. Update the experience of teacher-praveen to 10years, if the entry is not available in database consider the entry as new entry.
7. Update the deparment of all the teachers working in IT deprtment to COMP
8. find the teachers name and their experience from teachers collection
9. Using Save() method insert one entry in department collection
10. Find the total salary all teachers.

22. Create Database DYPIT using MongoDB
Create following Collections
   Teachers(Tname,dno,dname,experience,salary,date_of_joining)
   Students(Sname,roll_no,class)
   1. Display the department wise average salary
   2. display the no. Of employees working in each department
   3. Display the department wise total salary of departments having total salary greater than or equals to 50000/-
   4. Write the queries using the different operators like max, min. Etc.
   5. Create unique index on any field for above given collections
   6. Create compound index on any fields for above given collections
   7. Show all the indexes created in the database DYPIT
   8. Show all the indexes created in above collections.

23. Create index and fire queries with MongoDB

   1. Import zip.json.

   2. Create single field, composite and multikey indexes.

   3. Fire queries given below again and write your analysis.

      1. Display all cities having population above 1600.

      2. Display all cities in state "KS".

      3. Display location of city "TIMKEN"

24. Design and Implement following query using MongoDB
   1. Create a collection called 'games'.
   2. Add 5 games to the database. Give each document the following properties: name, gametype, rating (out of 100)
   3. Write a query that returns all the games
   4. Write a query that returns the 3 highest rated games.
   5. Update your two favourite games to have two achievements called 'Game Master' and 'Speed Demon'.
   6. Write a query that returns all the games that have both the 'Game Maser' and
   7. the 'Speed Demon' achievements.
   8. Write a query that returns only games that have achievements.

25. Using MapReduce in mongodb solve following queries on given below collection.

```
{
"id" : 0,
"name" : "Leanne Flinn",
"email" : "leanne.flinn@unilogic.com",
"work" :"Unilogic" ,
 "age" :27
"gender" :"Male"
"Salary" :16660
"hobbies":"Acrobatics,Photography,Papier-Mache"
}
```

     1.   Get the count of Males and Females

     2.   Count the number of users in each hobby

26. Using MapReduce in mongodb solve following queries on given below collection.
1. Import zip.json.

2. Find total population in each state.

27.Create a database called 'library', create a collection called 'books'.find the number of books having pages less 250 pages and consider ad small book and greater than 250 consider as Big book using Map Reduce function.