

Chit 1

Use MySQL–(Joins and Subqueries)

Create Customer and Account table and add rows shown below

Customer Table

C_Id	Cname	City
1	John	Nashik
2	Seema	Aurangabad
3	Amita	Nagar
4	Rakesh	Pune
5	Samata	Nashik
6	Ankita	Chandwad
7	Bhavika	Pune
8	Deepa	Mumbai
9	Nitin	Nagpur
10	Pooja	Pune

Account Table

C_Id	Acc_Type	Amount
1	Current	5000
2	Saving	20000
3	Saving	70000
4	Saving	50000
6	Current	35000
7	Loan	30000
8	Saving	50000
9	Saving	90000
10	Loan	8000
11	Current	45000

1. Show the cname, Acc_Type, amount information of customer who is having an saving account.
2. Display the data using Natural, left and right join.
3. Display the information of customers living in the same city as of 'pooja'.
4. Display the information of account, having less amount than average amount throughout the bank.
5. Display the C_id having maximum amount in account.
6. Display the amount and acc_type of those customers whose amount is the minimum amount of that Acc_type.
7. Display the amount of those accounts whose amount is higher than amount of any saving account amount.

Chit 2

Unnamed PL/SQL code block: Use of Control structure and Exception handling is mandatory.

Write a PL/SQL block of code for the following requirements

1. Borrower(Rollin, Name, DateofIssue, NameofBook, Status)
2. 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.

Chit 3

Unnamed PL/SQL code block: Use of Control structure and Exception handling is mandatory. Write a PL/SQL block of code for the following requirements:-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".

Chit 4

Collection “city “ which contains the documents given as below format(Perform on Mongo Terminal)

```
{ city:”pune”,  
  type:”urban”,  
  state:”MH”,  
  population:”5600000”  
}
```

INSERT MORE THAN 10 DOCUMENTS HAVING ABOVE FORMAT

-using mapreduce, find statewise population

-using mapreduce, find citywise population

-using mapreduce, find typewise population.

-using mapreduce , find citywise count.

using mapreduce , find statewise count.

Chit 5

Create a cursor (Implicit and Explicit) which displays the name and salary of each employee in the EMPLOYEES table whose salary is less given value.

Chit 6

PL/SQL Stored Procedure.

Write a Stored Procedure namely proc_Grade for the categorization of student. If marks scored by students in examination is ≤ 1500 and $\text{marks} \geq 990$ then student will be placed in distinction category if marks scored are between 989 and 900 category is first class, if marks 899 and 825 category is Higher Second Class Write a PL/SQL block for using procedure created with above requirement. Stud_Marks(name, total_marks) Result(Roll,Name, Class).

Chit 7

PL/SQL Stored Function.

Write a Stored Procedure namely proc_Grade for the categorization of student. If marks scored by students in examination is ≤ 1500 and $\text{marks} \geq 990$ then student will be placed in distinction category if marks scored are between 989 and 900 category is first class, if marks 899 and 825 category is Higher Second Class Write a PL/SQL block for using procedure created with above requirement. Stud_Marks(name, total_marks) Result(Roll,Name, Class).

Chit 8

Implement Map reduces operation on Collection Student having fields (rno,name,subject,class,fees,marks) using MongoDB and show output of following queries.

1. Class wise total number of students
2. Class wise total fees
3. Subject wise total marks
4. Subject wise total students

Chit 9

Collection “orderinfo“ which contains the documents given as below(Perform on Mongo Terminal)

```
{  
  cust_id:123  
  cust_name: “abc”,  
  status: “A”,  
  price: 250  
}
```

- i. Find the total price for each customer and display in the order of total price.
- ii. Find the distinct customer names
- iii. Display the “price” of customers whose status is 'A'
- iv. Delete the customers whose status is 'A'

Chit 10

Use Java and MongoDB Connectivity with with MongoDB using any Java application. Write Java code for Institute Database (MongoDB) and perform following operations

1. Create Collection
2. Insert document.
3. Display Data.
4. Remove Document

Chit 11

Database Trigger (Row level, Before Trigger). Write a database trigger on Library 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 Library_Audit table.

Chit 12

Account(Acc_no, branch_name,balance)

branch(branch_name,branch_city,assets)

customer(cust_name,cust_street,cust_city)

Depositor(cust_name,acc_no)

Loan(loan_no,branch_name,amount)

Borrower(cust_name,loan_no)

Solve following query:

Create above tables with appropriate constraints like primary key, foreign key, check constraints, not null etc.

Q1. Find the names of all branches in loan relation.

Q2. Find all loan numbers for loans made at Akurdi Branch with loan amount > 12000.

Q3. Find all customers who have a loan from bank. Find their names,loan_no and loan amount.

Q4. List all customers in alphabetical order who have loan from Akurdi branch.

Q5. Find all customers who have an account or loan or both at bank.

Q6. Find average account balance at Akurdi branch.

Q7. Find the average account balance at each branch

Q8. Find no. of depositors at each branch.

Q9. Find the branches where average account balance > 12000.

Q10. Find number of tuples in customer relation.

Q11. Delete all loans with loan amount between 1300 and 1500

Chit 13

Write a SQL statement to create a table employees including columns employee_id, first_name, last_name, job_id, salary and make sure that, the employee_id column does not contain any duplicate value at the time of insertion, and the foreign key column job_id, referenced by the column job_id of jobs table, can contain only those values which are exists in the jobs table. The InnoDB Engine have been used to create the tables. The specialty of the statement is that, The ON DELETE NO ACTION and the ON UPDATE NO ACTION actions will reject the deletion and any updates.

Chit 14

Consider following structure for MongoDB collection and write a query for following requirements in MongoDB

Teachers (Tname,dno,Experience,Salary,Data_of_Joining)

Department (Dno,Dname)

Students(Sname,Roll_No,Class)

1. Write a query to create above collection insert some sample documents.
2. Find the information about all teachers of Dno=2 and having salary greater than or equal to 10,000/-
3. Find the student information having Roll_no=2 or Sname='xyz'
4. Update student name whose Roll_No=5
5. Delete all student whose Class is 'FE'
6. Find information of Teachers whose Experience is more than 10 years
7. Apply index on Students Collection

Chit 15

Use MongoDB

Create Institute Database and Create Student collection

1. RollNo 2. Student Name 3. Age 4. Branch 5. Address :{ City, State} 6. Hobbies (Array)

Perform following operations

1. Create database Institute.
2. Create collection Students.
3. Insert 10 documents with above mentioned structure.
4. Display all students' information.
5. Display Student information whose age is greater than 15.
6. Display Student information sorted on name field
7. Update student branch Computer of RollNo 3.
8. Remove document with RollNo 1
9. Display Student information whose name starts with A
10. Display the total numbers of documents available in collection.
11. Display only first 5 documents.
12. Display all documents instead of first 3.
13. Display the name of Students who live in Pune City.
14. Display the list of different cities from where students are coming.
15. Display the list of different cities with number of students from belonging to that city.
16. Display only Name of all students.
17. Display the hobbies of each student.
18. Drop Collection

Chit 16

Perform aggregation and Indexing using mongodb on below database

1. Create a database department
2. Create a collection as teacher with fields as name , department ,experience and salary
3. Display the department wise average salary.
4. Display the no. Of employees working in each department.
5. Display the department wise minimum salary.
6. Apply index and drop index

Chit 17

Consider the following schema for a LibraryDatabase:

BOOK (Book_id, Title, Publisher_Name, Pub_Year)

BOOK_AUTHORS (Book_id, Author_Name) PUBLISHER (Name, Address, Phone)

BOOK_COPIES (Book_id, Branch_id, Noof_Copies)

BOOK_LENDING (Book_id, Branch_id, Card_No, Date_Out, Due_Date)

LIBRARY_BRANCH (Branch_id, Branch_Name, Address)

Write SQL queries to

1. Retrieve details of all books in the library – id, title, name of publisher, authors, number of copies in each branch,etc.
2. Get the particulars of borrowers who have borrowed from Jan 2017 to Jun2017
3. Delete a book name “Databases” from BOOK table.
4. Print total number of books as yearwise.
5. Create a view of all books and its number of copies that are currently available in the Library

Chit 19

Use MySQL

Create a table emp with following fields and constraints

Eno –(Constraint:- primary key and apply sequence starts with 101) ,Ename –(Constraint :- not null)

Address —(Constraint :-default ‘Nashik’) ,Joindate,

After table creation add field - Post in the emp table.

Insert some data in emp table.Create Index on Ename field of employee table.

Make use of Autoincrement and Default constraint

Create View on employee table to show only Ename and Salary.

Chit 18

Use MySQL Create Employee table, Project table and add rows shown below

Employee table

Eid	EName	Address	Salary	Commision
1	Amit	Pune	35000	5000
2	Sneha	Pune	25000	
3	Savita	Nasik	28000	2000
4	Pooja	Mumbai	19000	
5	Sagar	Mumbai	25000	3000

Project table

PrNo	Addr
10	Mumbai
20	Pune
30	Jalgaon

1. Find different locations from where employees belong to?
2. What is maximum and minimum salary?
3. Display the content of employee table according to the ascending order of salary amount.
4. Find the name of employee who lived in Nasik or Pune city.
5. Find the name of employees who does not get commission.
6. Change the city of Amit to Nashik.
7. Find the information of employees whose name starts with 'A'.
8. Find the count of staff from Mumbai.
9. Find the count of staff from each city
10. Find the address from where employees are belonging as well as where projects are going on.
11. Find city wise minimum salary.
12. Find city wise maximum salary having maximum salary greater than 26000
13. Delete the employee who is having salary greater than 30,000.

Chit 20

Use MongoDB

Indexing

1. Create Collection
2. Insert some Documents
3. Create Single Index,
4. Create Compound Index,
5. Create Unique on Collection
6. Show Index Information
7. Remove Index

Aggregation

Collection creation Student and insert following data in that:

Rollno:1,name:'Navin',subject:'DMSA',marks:78

Rollno:2,name:'anusha',subject:'OSD',marks:75

Rollno:3,name:'ravi',subject:'TOC',marks:69

Rollno:4,name:'veena',subject:'TOC',marks:70

Rollno:5,name:'Pravini',subject:'OSD',marks:80

Rollno:6,name:'Reena',subject:'DMSA',marks:50

Rollno:7,name:'Geeta',subject:'CN',marks:90

Rollno:8,name:'Akash',subject:'CN',marks:85

1. Write aggregate function to find Max marks of Each Subject.
2. Write aggregate function to find Min marks of Each Subject.
3. Write aggregate function to find Sum of marks of Each Subject.
4. Write aggregate function to find Avg marks of Each Subject.
5. Write aggregate function to find first record Each Subject.
6. Write aggregate function to find Last record of Each Subject.
7. Write aggregate function to find count number of records of each subject
8. Write aggregate function to find count number of records of each subject

Chit 21: Write a program to implement MongoDB database connectivity with PHP/ Python/Java Implement Database navigation operations (add, delete, edit etc.) using ODBC/JDBC

Chit 22: Implement MYSQL/Oracle database connectivity with PHP/ python/Java Implement Database navigation operations (add, delete, edit,) using ODBC/JDBC

Chit 23:

Consider the following database schema:

Physician(reg_no,name,tel_no,city) Patient(p_name,street,city)

Visit(p_name,reg_no,date_of_visit,fee)

Design SQL queries for below

- 1) Find the name and city of patients who visited a physician on 13 July 2017.
- 2) Get the name of the physician and the total no. of Patients visited him. Give the details of date wise fees collected at clinic.
- 3) Show details of all visitors details.
- 4) Create view for visitor who visited in year 2021 to 2022.
- 5) Create index on p_name

Chit 24:

Collection “movies” which contains the documents given as below {name: “Movie1”, type: “action”, budget: 1000000 producer :{ name: “producer1”, address:”PUNE” } }

- i. Find the name of the movie having budget greater than 1,00,000.
- ii. Find the name of producer who lives in Pune
- iii. Update the type of movie “action” to “horror”
- iv. Find all the documents produced by name “producer1” with their address
- v. write any query using aggregate function

Chit 25:

Consider the following Relations. It defines the schema of the database application for a bank. It manages the branches and customers of the bank. Customers take loans (borrow money) or open accounts (deposit money) at one or more branches.

Branch (B_No, B_name, B_city, asset),

Customer (C_No, C_Name, C_city, Street),

Loan (Loan_no, B_name, amount),

Account (Acc_No, B_name, Balance),

Borrower (C_No, Loan_No),

Depositor (C_No, Acc_No)

Write SQL Queries for following questions

1. Find loan data, ordered by decreasing amounts, then increasing loan numbers.
2. Find the pairs of names of different customers who live at the same address but have accounts at different branches.
3. Find the names and address of customers who have a loan for an amount exceeding 3 times their current balance.