

# LAB MANUAL

CS2231: Database Management System

LAB 07

**Instructor**

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**Schema**

Doctors (docid, docname, docdept, docfee)

Patients (patid, patname, patage, pathistory)

Visits (docid, patid, no\_of\_visits)

**Step1:** Create above tables with appropriate constraints.

**Step2:** Insert 10 records each in the doctors and patients tables and 20 records in the visits table.

**Step3:** Display all records inserted in the three tables.

SELECT \* FROM doctors;

SELECT \* FROM patients;

SELECT \* FROM visits;

**Step4:** Apply projection over a table. [See specific columns from a table]

SELECT docid, docname FROM doctors;

SELECT patname, pathistory FROM patients;

**Step5:** Use expressions while displaying the records.

SELECT docname, docfee \* 2 FROM doctors;

**Step6:** Assign alias to the expression to make the title of the column meaningful.

SELECT docname, docfee \* 2 Special\_Fee FROM doctors;

**Step7:** Display the records in a sorted order.

SELECT \* FROM doctors

ORDER BY docname;

SELECT \* FROM doctors

ORDER BY docfee;

**Step8:** Display records in descending order.

[In the following query, records will be sorted in ascending order of patid and descending order of patage]

SELECT \* FROM patients

ORDER BY patid , patage desc;

**Step9:** Column position can also be used for sorting instead of column name.

[Column position refers to position of the column in the selected columns and not the position of the column in the table.]

SELECT patid, patname, no\_of\_visits FROM visits

ORDER BY 3;

**Step10:** If not easy with the position, use alias instead.

SELECT docname, docfee \* 2 Special\_Fee FROM doctors

ORDER BY Special\_Fee;

**Step11**: Do Conditional Selection from tables.

SELECT patid FROM patients

WHERE patname = ‘Arshad’;

SELECT docname FROM doctors

WHERE docfee > 500;

SELECT patname FROM patients

WHERE patage > 30

AND pathistory = ‘TB’;

**Step12:** Don’t want to see duplicate values.

SELECT DISTINCT patname FROM patients;

**Step13:** Display all records with column values between a specified range

SELECT patid, docid, no\_of\_visits FROM visits

WHERE no\_of \_visits BETWEEN 5 AND 10;

**Step14:** Display a record with column value matches a value in a given list.

SELECT patid, docid, no\_of\_visits FROM visits

WHERE no\_of \_visits IN (5, 10);

**Step15:** Don’t know the exact value to be picked, just provide a pattern or at least a character as a hint.

SELECT docname, docfee FROM doctors

WHERE docname LIKE “%Ali%”;

SELECT docname, docdept FROM doctors

WHERE docdept LIKE “\_a%”; // Here, the 2nd character in the dept name was known

**Step16:** Check for null entries.

SELECT patname FROM patients

WHERE patage IS NULL;

**LAB ACTIVITY:**

1. Write Queries to display the data as per the provided requirements.
2. List the doctors whose names contain letter ‘m’ and are from cardiology department.
3. List the patients who are teenagers and are affected from malaria.
4. List the patients who have visited a specific doctor (check for any doctor) only once.
5. List the patients who are affected from either malaria or hepatitis and their age falls between 30 and 40. Also list the patients in descending order of their ages.
6. List, in ascending order, the patients who have visited 2 specific doctors (check for any 2 doctors) twice or more.
7. List the name of the doctors, who take fee in hundreds.
8. What else can be extracted from the tables? In other words, what are the other possible dimensions to view the data? List at least 3 valid queries that may be asked over the available data. As complex the query is, as many marks will be assigned.