Dwarka International School

Class XII

My SQL Worksheet-1

(DDL – Database Related commands)

1.	If a database "Employee" exists, which MySql command helps you to start working in that database?
2.	Write MySql command will be used to open an already existing database "LIBRARY".
3.	Write MySql command to open an existing database.
4.	What does SQL stand for? What is MySQL?
5.	Write two examples of DBMS software.
6.	Sharmila wants to make the database named 'COMPANY' active. Write MySQL commands for it.
7.	What is MySQL ?
8.	What is the relationship between SQL and MySQL ?
9.	Mention any two example of common Database Management System.
10.	Suggest Archana suitable command for the following purpose: i. To display the list of the database already existing in MySQL. ii. To use the database named City. iii. To remove the pre-existing database named Clients.
	i. ii. iii.
11.	Write the command to display the name of the active database.
12.	Write the command to create a new database "School"

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My SQL Worksheet-2

(DDL – Table Related commands excluding Alter table)

1. Write an SQL query to create the table 'Menu' with the following structure:

Field	Type	Constraint
ItemCode	Varchar(5)	Primary Key
ItemName	Varchar(20)	
Category	Varchar(20)	
Price	Decimal(5,2)	

2. Can a table have multiple primary keys? Can it have multiple foreign keys?

3. In a Student table, out of Roll Number, Name, Address which column can be set as Primary key and why?

4. Ms. Mirana wants to remove the entire content of a table "BACKUP" alongwith its structure to release the storage space. What MySql statement should she use ?

5. Write MySql command to create the Table STOCK including its Constraints.
Table STOCK :

Name of Column	Type	Size	Constraint
Id	Decimal	4	Primary Key
Name	Varchar	20	
Company	Varchar	20	
Price	Decimal	8	Not Null

6. Write one similarity and one difference between CHAR and VARCHAR data types.

7. Saumya had previously created a table named 'Product' in a database using MySQL. Later on she forgot the table structure. Suggest her suitable MySQL command through which she can check the structure of the already created table.

8. Roli wants to list the names of all the tables in her database named 'Gadgets'. Which command (s) she should use to get the desired result.

9. Name the SQL commands used to :
(i) Physically delete a table from the database.
(ii) Display the structure of a table.

10. Write one similarity and one difference between UNIQUE and PRIMARY KEY constraints.

11. An attribute A of datatype varchar(20) has the value “Amit” . The attribute B of datatype char(20) has value ”Karanita” . How many characters are occupied in attribute A ? How many characters are occupied in attribute B?

12. Mrs. Sharma is the classteacher of Class ‘XII A’ She wants to create a table ‘Student’ to store details of her class.

i) Which of the following can be the attributes of Student table?

a) RollNo b) “Amit” c) Name d) 25

ii) Name the Primary key of the table ‘Student’. State reason for choosing it.

13. Write SQL query to create a table ‘Player’ with the following structure:

Field	Type	Constraint
playerid	Integer	Primary key
name	Varchar(50)	
height	Integer	
weight	Integer	
datebirth	Date	
teamname	Varchar(50)	

14. Anita has created the following table with the name ‘Order’.

Table : Order

Column Name	Constraint
OrderId	Primary Key
OrderDate	Not Null
OrderAmount	
StoreId	

One of the rows inserted is as follows :

OrderId	OrderDate	OrderAmount	StoreId
O101	2015-02-12	34000	S104

(i) What is the data type of columns OrderId and OrderDate in the table Order ?

(ii) Anita is now trying to insert the following row :

OrderId	OrderDate	OrderAmount	StoreId
O102	NULL	59000	S105

Will she be able to successfully insert it ? Give reason.

15. Write SQL query to create a table ‘Event’ with the following structure :

Field	Type	Constraint
EventId	Varchar(5)	PRIMARY KEY
EventName	Varchar(30)	NOT NULL
Location	Varchar(50)	

ClientID	Integer		
EventDate	Date		

16. Observe the given table carefully and answer the following questions:

PanNo	Name	Phoneno	Address
CIZPW123A	Rajesh Kumar	9599123456	WZ11 – Rajouri Garden, Delhi
ABWQ2341B	Hemant Kumar	9812345678	Modern Apartments, Pitampura, Delhi
DERA9786T	Naveen Sharma	7868654235	CA 22, Sector 21 Rohini,Delhi
PARD3457L	Sourabh Verma	8933217645	JD 61, Sector20,Gurgaon
GDTF8762P	Nishant Kumar	NULL	Modern Apartments, Pitampura, Delhi
MERT2376G	Hemant Kumar	9811110891	F40, Sector 19, Rohini, Delhi

i. Name the column that might have a Primary Key constraint. Justify your answer.
ii. Name the column that might have a Unique constraint. Justify your answer.

17. "ABC" Event Management Company requires data of events that are to be organized. Write SQL query to create a table 'Event' with the following structure :

Field	**Type**	**Constraint**
EventId	Integer	Primary key
Event	Varchar(50)	
DateEvent	Date	
NumPerformers	Integer	

18. suggest her suitable command for the following purpose:

iv. To display the list of the database already existing in MySQL.
v. To use the database named City.
vi. To remove the pre-existing database named Clients.
vii. To remove all the records of the table named "Club" at one go along with its structure permanently.

19. While creating a table named "Employee", Mr. Rishi got confused as which data type he should chose for the column "EName" out of char and varchar. Help him in choosing the right data type to store employee name. Give valid justification for the same.

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My SQL Worksheet-3

(DDL – Alter Table commands)

1. Sahil created a table in Mysql. Later on he found that there should have been another column in the table. Which command should he use to add another column to the table?

2. While creating a table 'Customer' Simrita forgot to set the primary key for the table. Give the statement which she should write now to set the column 'CustiD' as the primary key of the table?

3. Kuhu has already created a table 'Hospital' as shown below:

Patient_No	Patient_Name	Disease	Age	Charges
P001	Alya	Viral Fever	14	500
P002	Kavita	Lung Infection	16	1500
P003	Manya	Cough and Cold	20	500
P004	Amar	Bone Fracture	22	2500
P005	Deep	Viral Fever	15	500

Now she wants to add a new column 'Address' to the above given table. Suggest suitable MySQL command for the same.

4. Write SQL command to remove column named 'Hobbies' from a table named 'Student'.

5. While creating the table Student last week, Ms. Sharma forgot to include the column Game_Played. Now write a command to insert the Game_Played column with VARCHAR data type and 30 size into the Student table?

6. Kunal created the following table with the name 'Friends' :

Table : Friends

FriendCode	Name	Hobbies
F101	Bijoy	Swimming
F102	Abhinav	Reading books
F103	Jyotsna	Dancing

Now, Kunal wants to delete the 'Hobbies' column. Write the MySQL statement

7. Rashi wants to add another column 'Hobbies' with datatype and size as VARCHAR(50) in the already existing table 'Student'. She has written the following statement. However it has errors. Rewrite the correct statement.
MODIFY TABLE Student Hobbies VARCHAR;

8. Ms. Shalini has just created a table named "Employee" containing columns
Ename, Department, Salary.
After creating the table, she realized that she has forgotten to add a primary key column in the table. Help her in writing SQL command to add a primary key column empid. Also state the importance of Primary key in a table.

9.	While creating a table 'Customer' Simrita wrongly added a primary key constraint to the field “CUSTNAME”. Now she wants to remove the primary key constraint from the custname field. Help her in writing the correct command.
10.	Mr. Akshat have added a not null constraint to the “name” field in “employees” table. But now he wants to remove that not null constraint. Write the command to delete the not null constraint from name field.

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My SQL Worksheet-4

(DML – INSERT INTO commands)

1.	Rama is not able to change a value in a column to NULL. What constraint did she specify when she created the table?
2.	Consider the table RESULT given below. **Table : Result** **No** | **Name** | **Stipend** | **Subject** | **Average** | **Division** 1 | Sharon | 400 | English | 38 | THIRD Write command to insert a new row 6, "Mohan", 500, "English", 73, "Second"
3.	Consider the Table SHOPPE given below. Table **SHOPPE** : **Code** | **Item** | **Company** | **Qty** | **City** | **Price** 102 | Biscuit | Hide & Seek | 100 | Delhi | 10.00 To insert a new row in the table Shoppe '110', 'Pizza' , 'Papa Jones', 120, "Kolkata", 50.0
4.	How is NULL value different from 0 (Zero) value?
5.	Consider the following table named "GYM" **Table GYM:** **ICODE** | **INAME** | **PRICE** | **BRANDNAME** G101 | Power Fit Exerciser | 20000 | Power Gymea Add a new row for a new item in GYM with the details: "G107", "Vibro exerciser" ,21000, "GTCFitness"
6.	What is meant by NULL value in MySQL?
7.	Rewrite the following SQL statement after correcting error(s). Underline the corrections made. INSERT IN STUDENT(RNO,MARKS) VALUE (5,78.5);
8.	Rewrite the following SQL statement after correcting error(s). Underline the corrections made. INSERT IN EMP(EMPNO, SALES) VALUE (100, 20078.50);
9.	Charvi is inserting "Sharma" in the "LastName" column of the "Emp" table but an error is being displayed. Write the correct SQL statement. INSERT INTO Emp('Sharma')VALUES(LastName) ;
10.	Anita has created the following table with the name 'Order'.

Table : Order

Column Name	Constraint
OrderId	Primary Key
OrderDate	Not Null
OrderAmount	
StoreId	

One of the rows inserted is as follows :

OrderId	OrderDate	OrderAmount	StoreId
O101	2015-02-12	34000	S104

(i) What is the data type of columns OrderId and OrderDate in the table Order ?
(ii) Anita is now trying to insert the following row :

OrderId	OrderDate	OrderAmount	StoreId
O102	NULL	59000	S105

Will she be able to successfully insert it ? Give reason.

11. In today's digitized world with a need to store data electronically, it is very important to store the data in the databases. SQL is used to interact with the Database Management System.
Classify the following commands according to their type :(DDL/DML)
i. INSERT INTO ii. ALTER TABLE

12. Is NULL and 0(zero) same? Jusify your answer.

13. Write the full forms of the following:
i. DDLii. DML

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My SQL Worksheet-5

(DML – UPDATE and DELETE commands)

1.	What is the purpose of DROP TABLE command in SOL? How is it different from DELETE command?
2.	In a database there are two tables "Product" as shown below : **Table : PRODUCT** **P_ID** | **ProductName** | **Manufacture** | **Price** P001 | Moisturiser | XYZ | 40 P002 | Sanitizer | LAC | 35 P003 | Bath Soap | COP | 25 P004 | Shampoo | TAP | 95 P005 | Lens Solution | COP | 350 Write the command To increase the Price of all the Products by 20.
3.	Write the UPDATE command to change “Sharma” to “Singh” in the “LastName” column in the Employee table.
4.	What is the use of UPDATE statement in SQL ? How is it different from ALTER statement?
5.	Consider the following table named "GYM" **Table GYM:** **ICODE** | **INAME** | **PRICE** | **BRANDNAME** G101 | Power Fit Exerciser | 20000 | Power Gymea G102 | Aquafit Hand Grip | 1800 | Reliable G103 | Cycle Bike | 14000 | Ecobike G104 | Protoner Extreme Gym | 30000 | Coscore G105 | Message Belt | 5000 | MessagExpert G106 | Cross Trainer | 13000 | GTCFitness Write command To change the Brandname to "Fit Trend India" of the item, whose ICODE as "G101 ".
6.	Write the UPDATE statement in MySQL to increase commission by 100.00 in the ‘‘Commission’’ column in the ‘Emp’ table.
7.	Write two examples of DML commands of SQL.
8.	In a database there are two tables ‘CD’ and ‘TYPE’ as shown below :

Table : CD

CODE	TITLE	DURATION	SINGER	CATEGORY
101	Sufi Songs	50 min	Zakir Faiz	12
102	Eureka	45 min	Shyama Mukherjee	12
103	Nagmey	23 min	Sonvi Kumar	77
104	Dosti	35 min	Bobby	1

Table : **TYPE**

CATEGORY	DESCRIPTION
1	Jazz
12	Classical
40	Country Side
78	Pop

Write SQL statement to change the name of Singer ''Sonvi Kumar'' to ''Sonvi Mehra'' in all the places wherever it occurs in CD table.

9. Consider the following table named "GARMENT".

Table : GARMENT

GCODE	GNAME	SIZE	COLOUR	PRICE
111	TShirt	XL	Red	1400.00
112	Jeans	L	Blue	1600.00
113	Skirt	M	Black	1100.00
114	Ladies Jacket	XL	Blue	4000.00
115	Trousers	L	Brown	1500.00
116	Ladies Top	L	Pink	1200.00

1) Write command To change the colour of garment with code as 116 to "Orange".
2) Write command to increase the price of all XL garments by 10%
3) Write command to delete the record with GCode "116"

10. In a Database, there are two tables given below :

Table : EMPLOYEE

EMPLOYEEID	NAME	SALES	JOBID
E1	SAMIT SINHA	1100000	102
E2	VIJAY SINGH TOMAR	1300000	101
E3	AJAY RAJPAL	1400000	103
E4	MOHIT RAMNANI	1250000	102
E5	SHAILJA SINGH	1450000	103

Table : JOB

JOBID	JOBTITLE	SALARY
101	President	200000
102	Vice President	125000
103	Administration Assistant	80000
104	Accounting Manager	70000
105	Accountant	65000
106	Sales Manager	80000

Write SQL command to change the JOBID to 104 of the Employee with ID as E4 in the table 'EMPLOYEE'.

11. In Marks column of 'Student' table, for Rollnumber 2, the Class Teacher entered the marks as 45. However there was a totaling error and the student has got her marks increased by 5. Which MySQL command should she use to change the marks in 'Student' table.

12. Chhavi has created a table named Orders, she has been asked to increase the value of a column named salesamount by 20. She has written the following query for the same.

	Alter table Orders Add salesamount =salesamount+20; Is it the correct query?Justify.
13.	Consider the following table: Table: PharmaDB

RxID	Drug ID	DrugName	Price	Pharmacy Name	PharmacyLocation
R1000	5476	Amlodipine	100.00	Rx Pharmacy	Pitampura, Delhi
R1001	2345	Paracetamol	15.00	Raj Medicos	Bahadurgarh, Haryana
R1002	1236	Nebistar	60.00	MyChemist	Rajouri Garden, Delhi
R1003	6512	VitaPlus	150.00	MyChemist	Gurgaon,Haryana
R1004	5631	Levocitrezine	110.00	RxPharmacy	South Extension,Delhi

Write commands in SQL to increase the price of “Amlodipine” by 50.

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My SQL Worksheet-6

(DML – SELECT command)

1. Pooja, a students of class XI, created a table "Book". Price is a column of this table. To find the details of books whose prices have not been entered she wrote the following query:
Select * from Book where Price = NULL;

2. The LastName column of a table "Directory" is given below:

LastName
Batra
Sehgal
Bhatia
Sharma
Mehta

Based on this information, find the output of the following queries:
a) SELECT lastname FROM Directory WHERE lastname like "_a%";

b)SELECT lastname FROM Directory WHERE lastname not like "%a";

3. Consider the table TEACHER given below. Write commands in SQL for (1) to (3) and output for (4)

ID	Name	Department	Hiredate	Category	Gender	Salary
1	Tanya Nanda	SocialStudies	1994-03-17	TGT	F	25000
2	Saurabh Sharma	Art	1990-02-12	PRT	M	20000
3	Nandita Arora	English	1980-05-16	PGT	F	30000
4	James Jacob	English	1989-10-16	TGT	M	25000
5	Jaspreet Kaur	Hindi	1990-08-01	PRT	F	22000
6	Disha Sehgal	Math	1980-03-17	PRT	F	21000
7	Siddharth Kapoor	Science	1994-09-02	TGT	M	27000
8	Sonali Mukherjee	Math	1980-11-17	TGT	F	24500

i. To display all information about teachers of PGT category.
ii. To list the names of female teachers of Hindi department.
iii. To list names, departments and date of hiring of all the teachers in ascending order of date of joining
iv. SELECT DISTINCT(category) FROM teacher;

4. The Item_No and Cost columna of a table "ITEMS" are given below:

IITEM_NO	COST
101	5000
102	NULL
103	4000
104	6000
105	NULL

Based on this information, find the output of the following queries:
a) SELECT COST +100 FROM ITEMS WHERE ITEM_NO > 103;

5. Consider the table Projects given below. Write commands in SOL for i) to iii) and output for iv)

PROJECTS

ID	ProjName	ProjSize	StartDate	EndDate	Cost
1	Payroll-MMS	Medium	2006-03-17	2006-09-16	60000
2	Payroll-ITC	Large	2008-02-12	2008-01-11	500000
3	IDMgmt-LITL	Large	2008-06-13	2009-05-21	300000
4	Recruit-LITL	Medium	2008-03-18	2008-06-01	50000
5	IDMgmt-MTC	Small	2007-01-15	2007-01-29	20000
6	Recruit-ITC	Medium	2007-03-01	2007-06-28	50000

i. To display all information about projects of"Medium" ProjSize
ii. To list the ProjSize of projects whose ProjName ends with LITL.

iii. To list ID, Name, Size, and Cost of all the projects in descending order of StartDate.
iv. SELECT DISTINCT ProjSize FROM projects

6. The Mname Column of a table Members is given below :

Mname
Aakash
Hirav
Vinayak
Sheetal
Rajeev

Based on the information, find the output of the following queries :
(i) Select Mname from members where mname like "%v" ;
(ii) Select Mname from members where mname like "%e%";

7. Sarthya, a student of class XI, created a table "RESULT". Grade is one of the column of this table. To find the details of students whose Grades have not been entered, he wrote the following MySql query, which did not give the desired result.
SELECT * FROM Result WHERE Grade= "Null";
Help Sarthya to run the query by removing the errors from the query and write the correct Query.

8. **Table : Result**

No	Name	Stipend	Subject	Average	Division
1	Sharon	400	English	38	THIRD
2	Amal	680	Mathematics	72	FIRST
3	Vedant	500	Accounts	67	FIRST
4	Shakeer	200	Informatics	55	SECOND
5	Anandha	400	History	85	FIRST
6	Upasna	550	Geography	45	THIRD

Consider the table RESULT given below. Write commands in MySql for (i) to (ii)

(i) To list the names of those students, who have obtained Division as FIRST in the ascending order of NAME.
(ii) To display a report listing NAME, SUBJECT and Annual stipend received assuming that the stipend column has monthly stipend.

9. Mr. Janak is using a table with following columns :
Name , Class , Course_Id, Course_name
He needs to display names of students, who have not been assigned any stream or have been assigned Course_name that ends with "economics". He wrote the following command, which did not give the desired result.
SELECT Name, Class FROM Students WHERE Course name = NULL OR Course name="%economics";
Help Mr. J anak to run the query by removing the error and write the correct query.

10. Table **SHOPPE** :

Code	Item	Company	Qty	City	Price
102	Biscuit	Hide & Seek	100	Delhi	10.00
103	Jam	Kissan	110	Kolkata	25.00
101	Coffee	Nestle	200	Kolkata	55.00
106	Sauce	Maggi	56	Mumbai	55.00
107	Cake	Britannia	72	Delhi	10.00
104	Maggi	Nestle	150	Mumbai	10.00
105	Chocolate	Cadbury	170	Delhi	25.00

Consider the Table SHOPPE given below. Write command in MySql for (i) to (ii)

(i) To display names of the items whose name starts with 'C' in ascending order of Price.
(ii) To display Code, Item name and City of the products whose quantity is less than 100.

11. What is used in the SELECT clause to return all the columns in the table?

12. In MySQL, Sumit and Fauzia are getting the following outputs of ItemCodes for SELECT statements used by them on a table named ITEM.(Both have used the SELECT statements on the same table ITEM).

Sumit's Output

101
102
101
105
101
107

Fauzia's Output

101
102
105
107

Which extra keyword has Fauzia used with SELECT statement to get the above output?

13. Consider the table 'PERSONS' given below. Write commands in SQL for (i) to (iv) and write output for (v).

Table : PERSONS

PId	Surname	Firstname	Gender	City	PinCode	BasicSalary
1	Sharma	Geeta	F	Udhamwara	182141	50000
2	Singh	Surinder	M	Kupwara Nagar	193222	75000
3	Jacob	Peter	M	Bhawani	185155	45000
4	Alvis	Thomas	M	Ahmed Nagar	380025	50000
5	Mohan	Garima	M	Nagar Coolangatta	390026	33000
6	Azmi	Simi	F	New Delhi	110021	40000
7	Kaur	Manpreet	F	Udhamwara	182141	42000

(i) Display the SurNames, FirstNames and Cities of people residing in Udhamwara city.
(ii) Display the Person Ids (PID), cities and Pincodes of persons in descending order of Pincodes.
(iii) Display the First Names and cities of all the females getting Basic salaries above 40000.
(iv) Display First Names and Basic Salaries of all the persons whose firstnames starts with "G".
(v) SELECT Surname FROM Persons Where BasicSalary>=50000;

14. Mr. Tondon is using table EMP with the following columns.
ECODE,DEPT,ENAME,SALARY
He wants to display all information of employees (from EMP table) in ascending order of ENAME and within it in ascending order of DEPT. He wrote the following command, which did not show the desired output.
SELECT * FROM EMP ORDER BY NAME DESC,DEPT;
Rewrite the above query to get the desired output.

15. Consider the following table named "GYM" with details about fitness items being sold in the store. Write command of SQL for (i) to (ii).

Table GYM:

ICODE	INAME	PRICE	BRANDNAME
G101	Power Fit Exerciser	20000	Power Gymea
G102	Aquafit Hand Grip	1800	Reliable
G103	Cycle Bike	14000	Ecobike
G104	Protoner Extreme Gym	30000	Coscore
G105	Message Belt	5000	MessagExpert
G106	Cross Trainer	13000	GTCFitness

(i) To display the names of all the items whose name starts with "A".
(ii) To display ICODEs and INAMEs of all items, whose Brandname is Reliable or Coscore.

16. Consider the following table named 'SBOP" with details of account holders. Write commands of MySql for (i) to (ii) and output for (iii).

Table : SBOP

Accountno	Name	Balance	DateOfopen	Transaction
SB-1	Mr.Anil	15000.00	2011-02-24	7
SB-2	Mr.Amit	23567.89		8
SB-3	Mrs.Sakshi	45000.00	2012-02-04	5
SB-4	Mr.Gopal	23812.35	2013-09-22	
SB-5	Mr.Dennis	63459.80	2009-11-10	15

(i) To display Accountno, Name and DateOfopen of account holders having transactions more than 8.
(ii) To display all information of account holders whose transaction value is not mentioned.
(iii) SELECT NAME,BALANCE FROM SBOP WHERE NAME LIKE "%i";

17. When using the LIKE clause, which wildcard symbol represents any sequence of none, one or more characters ?

18. Consider the table FLIGHT given below. Write commands in SQL for (i) to (iv) and output for (v).

Table : FLIGHT

FLCODE	START	DESTINATION	NO_STOPS	NO_FLIGHTS
IC101	DELHI	AGARTALA	1	5
IC102	MUMBAI	SIKKIM	1	3
IC103	DELHI	JAIPUR	0	7
IC105	KANPUR	CHENNAI	2	2
IC107	MUMBAI	KANPUR	0	4
IC431	INDORE	CHENNAI	3	2
IC121	DELHI	AHMEDABAD	2	6

(i) Display details of all flights starting from Delhi.
(ii) Display details of flights that have more than 4 number of flights operating.
(iii) Display flight codes, starting place, destination, number of flights in descending order of number of flights.
(iv) Display destinations along with flight codes of all the destinations starting with 'A'.
(v) SELECT DISTINCT(NO_STOPS) FROM FLIGHT;

19.

EmpId	EName	Salary
A001	Bob	5600
A002	John	NULL
A003	Tom	5000

What will be the output of the following queries on the basis of Employee table:

(i) Select Salary+100 from Employee where EmpId='A002';

20.

S_No	Name	Age	City	Country	Email_id
1	Alice	14	Washington	USA	alice@gmail.com
2	Charles	12	Copenhagen	Denmark	harles@yahoo.com
3	Angel	16	Chicago	USA	angel@gmail.com
4	Jasmine	15	Sydney	Australia	jasmine@yahoo.com
5	Raj	14	New Delhi	India	raj@gmail.com
6	Jette	13	Nykobing	Denmark	jette@gmail.com
7	Alexender	15	Melbourne	Australia	NULL
8	Shashank	16	Banglore	India	NULL

Pranay, who is an Indian, created a table named "Friends" to store his friend's detail.
Table "Friends" is shown below. Write commands in SQL for (i) to (iii) and output for (iv).

i. To display list of all foreigner friends.
ii. To list name, city and country in descending order of age.
iii. To list name and city of those friends who don't have an email id.

iv. Select name,country from friends where age>12 and name like 'A%';

21. Consider the following table named "GARMENT". Write command of SQL for (i) to (iv) and output for (v) to (vii).

Table : GARMENT

GCODE	GNAME	SIZE	COLOUR	PRICE
111	TShirt	XL	Red	1400.00
112	Jeans	L	Blue	1600.00
113	Skirt	M	Black	1100.00
114	Ladies Jacket	XL	Blue	4000.00
115	Trousers	L	Brown	1500.00
116	Ladies Top	L	Pink	1200.00

(i) To display names of those garments that are available in 'XL' size.
(ii) To display codes and names of those garments that have their names starting with 'Ladies'.
(iii) To display garment names, codes and prices of those garments that have
price in the range 1000.00 to 1500.00 (both 1000.00 and 1500.00 included).
(iv) SELECT GNAME FROM GARMENT WHERE SIZE IN ('M', 'L') AND PRICE > 1500;

22. Consider the table 'empsalary'.

ID	Salary
101	43000
102	NULL
104	56000
107	NULL

To select tuples with some salary ,Siddharth has written the following erroneous SQL
statement:
SELECT ID, Salary FROM empsalary WHERE Salary = something;

23. Consider the table 'Employee'.

Name	Location
Gurpreet	Mumbai
Jatinder	Chennai
Deepa	Mumbai
Harsh	Chennai
Simi	New Delhi
Anita	Bengaluru

Write the SQL command to obtain the following output :

Location
Mumbai
Chennai
New Delhi
Bengaluru

24. Table "Emp" is shown below. Write commands in SQL for (i) to (iii) and output for (iv) and (v) and (vi)

ID	NAME	AGE	ADDRESS	SALARY	PHONE
1	Siddharth	25	A-4, Ashok Vihar, Delhi	62000	98110766656
2	Chavi	23	B-21, Model Town, Mumbai	71000	99113423989
3	Karan	26	KC-24, North Avenue, Bhopal	65000	98105393578
4	Raunaq	22	A-152, Gomti Nagar, Lucknow	89000	99101393576
5	Kunal	27	B-5/45, Uday Park, Delhi	80000	97653455654

i. To display list of all employees below 25 years old.
ii. To list names and respective salaries in descending order of salary.
iii. To list names and addresses of those persons who have 'Delhi' in their address.
iv. SELECT Name, Salary FROM Emp where salary between 50000 and 70000;

v. SELECT Name, phone from emp where phone like '99%';

25. Mrs. Sen entered the following SQL statement to display all Salespersons of the cities "Chennai" and 'Mumbai' from the table 'Sales'.

Scode	Name	City
101	Aakriti	Mumbai
102	Aman	Chennai
103	Banit	Delhi
104	Fauzia	Mumbai

```
SELECT * FROM Sales WHERE
City='Chennai' AND City='Mumbai';
```

Rewrite the correct statement, if wrong or write statement is correct.

26. Write commands in SQL for (i) to (iii) and output for (iv).

Table : Store

StoreId	Name	Location	City	NoOfEmployees	DateOpened	SalesAmount
S101	Planetfashion	KarolBagh	Delhi	7	2015-10-16	300000
S102	Trends	Nehru Nagar	Mumbai	11	2015-08-09	400000
S103	Vogue	Vikas Vihar	Delhi	10	2015-06-27	200000
S104	Superfashion	Defence Colony	Delhi	8	2015-02-18	450000
S105	Rage	Bandra	Mumbai	5	2015-09-22	600000

(i) To display name, location, city, SalesAmount of stores in descending order of SalesAmount.
(ii) To display names of stores along with SalesAmount of those stores that have 'fashion' anywhere in their store names.
(iii) To display Stores names, Location and Date Opened of stores that were opened before 1st March, 2015.
(iv) SELECT distinct city FROM store;

27. Which clause would you use with Select to achieve the following:
i.To select the values that match with any value in a list of specified values.
ii.Used to display unrepeated values of a column from a table.

28. Consider the following table:
Table: PharmaDB

RxID	Drug ID	DrugName	Price	Pharmacy Name	PharmacyLocation
R1000	5476	Amlodipine	100.00	Rx Pharmacy	Pitampura, Delhi
R1001	2345	Paracetamol	15.00	Raj Medicos	Bahadurgarh, Haryana
R1002	1236	Nebistar	60.00	MyChemist	Rajouri Garden, Delhi
R1003	6512	VitaPlus	150.00	MyChemist	Gurgaon,Haryana
R1004	5631	Levocitrezine	110.00	RxPharmacy	South Extension,Delhi

Write commands in SQL for (i) to (iii) and output for (iv):
i. To increase the price of "Amlodipine" by 50.
ii. To display all those medicines whose price is in the range 100 to 150.
iii. To display the Drug ID, DrugName and Pharmacy Name of all the records in descending order of their price.
iv. SELECT RxID, DrugName, Price from PharmaDB where PharmacyName IN ("Rx Parmacy", "Raj Medicos");

29. Write SQL statement that gives the same output as the following SQL statement but uses 'IN' keyword.
SELECT NAME FROM STUDENT WHERE STATE = 'VA' ;

30. Which one of the following SQL queries will display all Employee records containing the word "Amit", regardless of case (whether it was stored as AMIT, Amit, or amit etc.) ?
(i) SELECT * from Employees WHERE EmpName like UPPER '%AMIT%';
(ii) SELECT *from Employees WHERE EmpName like '%AMIT%' or '%AMIT%' OR '%amit%';
(iii) SELECT * from Employees WHERE UPPER (EmpName) like '%AMIT%';

31. Write Answer to (i). Write SQL queries for (ii) to (vii).

(Table : Salesperson)

SID	Name	Phone	DOB	Salary	Area
S101	Amit Kumar	98101789654	1967-01-23	67000.00	North
S102	Deepika Sharma	99104567834	1992-09-23	32000.00	South
S103	Vinay Srivastav	98101546789	1991-06-27	35000.00	North
S104	Kumar Mehta	88675345789	1967-10-16	40000.00	East
S105	Rashmi Kumar	98101567434	1972-09-20	50000.00	South

Note : Columns SID and DOB contain Sales Person Id and Data of Birth respectively.
(i) Write the data types of SID and DOB columns.
(ii) Display names of Salespersons and their Salaries who have salaries in the range 30000.00 to 40000.00
(iii) To list Names, Phone numbers and DOB (Date of Birth) of Salespersons who were born before 1st November, 1992.
(iv) To display Names and Salaries of Salespersons in descending order of salary.
(v) To display areas in which Salespersons are working. Duplicate Areas should not be displayed.
(vi) To display SID, Names along with Salaries increased by 500. (Increase of 500 is only to be displayed and not to be updated in the table)
(vii) To display Names of Salespersons who have the word 'Kumar' anywhere in their names.

32. Write the following statement using 'OR' logical operator :
SELECT first_name, last_name, subject FROM studentdetailsWHERE subject IN ('Maths', 'Science');

33. Consider the Table "Gym" shown below. Write commands in SQL for (i) to (vi) :

Table : Gym

Mcode	Mname	Gender	Age	FeeGiven	Type	DtAdmit
1	Amit	Male	35	6000	Monthly	2016-01-23
2	Rashmi	Female	25	8000	Monthly	2016-09-23
3	George	Male	42	24000	Yearly	2011-06-27
4	Fawad	Male	27	12000	Quarterly	2012-10-16
5	Samit	Male	54	6000	Monthly	2015-09-20
6	Lakshmi	Female	43	4500	Monthly	2016-01-15
7	Samita	Female	22	500	Guest	2017-01-23
8	Michael	Male	51	24000	Yearly	2013-07-18
9	DayaChand	Male	44	100000	Life	2012-09-08
10	Ajit	Male	33	12000	Quarterly	2015-06-26

(i) To display Mname, Age, FeeGiven of those members whose fee is above 12,000.
(ii) To display Mcode, Mname, Age of all female members of the Gym with age in descending order.
(iii) To list names of members and their date of admission of those members who joined after 31st December, 2015.
iv) To display the Mname, FeeGiven of all those members of the Gym whose age is less than 40 and are monthly type members of the Gym.
(v) To display names of members who have 'mit' anywhere in their names. For example : Amit, Samit.
(vi) To display types of memberships available. Duplicate values should not be displayed.

34. Consider the following table:

Student

Admn	Name	Stream	Optional	Average
1001	Shrishti	Science	CS	90
1002	Ashi	Humanities	Maths	80
1003	Aditya	Commerce	IP	60
1004	Ritu Raj	Science	IP	65
1005	Sonali	Commerce	Maths	60
1006	Saumya	Science	IP	65
1007	Ashutosh	Science	IP	95
1008	Prashant	Commerce	P.ED	80
1009	Aman	Commerce	IP	70
1010	Rishabh	Humanities	P.ED	85

Write commands in SQL for (i) to (iv) and output for (v):
i. To display the details of all those students who have IP as their optional subject.
ii. To display name, stream and optional of all those students whose name starts with 'A'.
iii. To give an increase of 3 in the average of all those students of humanities section who have Maths as their optional subject.
iv. To display a name list of all those students who have average more than 75.
v. Select name from students where optional IN ('CS','IP');

Informatics Practices
My SQL Worksheet-7
(Single Row Functions)

1. Write the output of the following SQL queries:
a) SELECT ROUND(6.5675, 2);
b) SELECT TRUNCATE(5.3456, 1);
c) SELECT DAYOFMONTH('2009-08-25');
d) SELECT MID('Class 12', 2,3);

2. Write the output of the following SQL queries :
(i) SELECT INSTR('UNICODE','CO');
(ii) SELECT RIGHT('Informatics',3);

3. State difference between date functions NOW( ) and SYSDATE( ) of MySql.

4. Name a function of MySql which is used to remove trailing and leading spaces from a string.

5. Consider the following table named 'SBOP" with details of account holders. Write output

(i) SELECT ROUND(Balance,-3) FROM SBOP WHERE AccountNo="SB-5";

Table : SBOP

Accountno	Name	Balance	DateOfopen	Transaction
SB-1	Mr.Anil	15000.00	2011-02-24	7
SB-2	Mr.Amit	23567.89		8
SB-3	Mrs.Sakshi	45000.00	2012-02-04	5
SB-4	Mr.Gopal	23812.35	2013-09-22	
SB-5	Mr.Dennis	63459.80	2009-11-10	15

6. Write the output of the following SQL queries :
(i) SELECT RIGHT('software', 2);
(ii) SELECT INSTR('twelve','lv');
(iii) SELECT DAYOFMONTH('2014-03-01');
(iv) SELECT ROUND(76.987, 2);

7. Write the output of the following SQL queries:
i. SELECT INSTR('INTERNATIONAL', 'NA');
ii. SELECT LENGTH(CONCAT('NETWORK','ING'));
iii.SELECT ROUND(563.345,-2);
iv. SELECT DAYOFYEAR('2014-01-30');

8. Pranay, who is an Indian, created a table named "Friends" to store his friend's detail.
Table "Friends" is shown below. Write output for (i) and (ii).

S_No	Name	Age	City	Country	Email_id
1	Alice	14	Washington	USA	alice@gmail.com
2	Charles	12	Copenhagen	Denmark	harles@yahoo.com
3	Angel	16	Chicago	USA	angel@gmail.com
4	Jasmine	15	Sydney	Australia	jasmine@yahoo.com
5	Raj	14	New Delhi	India	raj@gmail.com
6	Jette	13	Nykobing	Denmark	jette@gmail.com
7	Alexender	15	Melbourne	Australia	NULL
8	Shashank	16	Banglore	India	NULL

i. Select ucase(concat(name,"*",city)) from friends where country like 'Denmark';
ii. Select mid(name,1,4) as "UID" from friends where country like 'USA';

9. Write the output of the following SQL queries:
i) SELECT TRUNCATE(8.975,2);
ii) SELECT MID('HONESTY WINS',3,4);

iii) SELECT RIGHT(CONCAT('PRACTICES','INFORMATICS'),5);
iv) SELECT DAYOFMONTH('2015-01-16');

10. Write the output of the following SQL queries :
(i) SELECT MID('BoardExamination',2,4);
(ii) SELECT ROUND(67.246,2);
(iii) SELECT INSTR('INFORMATION FORM','FOR');
(iv) SELECT DAYOFYEAR('2015-01-10');

11. Write output.

Table : Store

StoreId	Name	Location	City	NoOfEmployees	DateOpened	SalesAmount
S101	Planetfashion	KarolBagh	Delhi	7	2015-10-16	300000
S102	Trends	Nehru Nagar	Mumbai	11	2015-08-09	400000
S103	Vogue	Vikas Vihar	Delhi	10	2015-06-27	200000
S104	Superfashion	Defence Colony	Delhi	8	2015-02-18	450000
S105	Rage	Bandra	Mumbai	5	2015-09-22	600000

(i) SELECT Name, length (name), left (name, 3) FROM Store where NoOfEmployees<3;

12. Write the output of the following SQL queries:
SELECT POW(INSTR('My_Database','_'),2);

13. Consider the table given below :
Write output.

(Table : Salesperson)

SID	Name	Phone	DOB	Salary	Area
S101	Amit Kumar	98101789654	1967-01-23	67000.00	North
S102	Deepika Sharma	99104567834	1992-09-23	32000.00	South
S103	Vinay Srivastav	98101546789	1991-06-27	35000.00	North
S104	Kumar Mehta	88675345789	1967-10-16	40000.00	East
S105	Rashmi Kumar	98101567434	1972-09-20	50000.00	South

(i) SELECT Name, LENGTH(Name) FROM Salesperson;

14. Identify Single Row functions of MySQL amongst the following :
TRIM(), MAX(), COUNT(*), ROUND()

15. Consider the Table "Gym" and write output

Table : Gym

Mcode	Mname	Gender	Age	FeeGiven	Type	DtAdmit
1	Amit	Male	35	6000	Monthly	2016-01-23
2	Rashmi	Female	25	8000	Monthly	2016-09-23
3	George	Male	42	24000	Yearly	2011-06-27
4	Fawad	Male	27	12000	Quarterly	2012-10-16
5	Samit	Male	54	6000	Monthly	2015-09-20
6	Lakshmi	Female	43	4500	Monthly	2016-01-15
7	Samita	Female	22	500	Guest	2017-01-23
8	Michael	Male	51	24000	Yearly	2013-07-18
9	DayaChand	Male	44	100000	Life	2012-09-08
10	Ajit	Male	33	12000	Quarterly	2015-06-26

(i) SELECT MID(Mname,1,2)from Gym;

16.

File_No	Cust_Name	PhoneNo	Loan_Amt	Bank	Cheque_Dt
619095	Ms. Roshni	9899965430	809876	HBDC Ltd.	2017-06-15
234252	Mr. Rajesh	8654327890	745738	ICUCI Ltd.	2017-07-22
543613	Mrs. Sapna	8883546354	NULL	NBI Ltd.S	2017-07-24
435467	Mr. Navneet	9764747474	647484	ICUCI Ltd.	2017-08-13
263427	Ms. Puja	8746454742	546373	HBDC Ltd.	2017-08-30

Observe the given table named "Loan" carefully and predict the output of the following queries:
i. SELECT concat(left(file_no,2), right(cust_name,2)) AS "ID" from loan where Bank='ICUCI Ltd.';
ii. select round(loan_amt-loan_amt*10/100) As "Discounted Payment" from loan where loan_amt>700000;

Informatics Practices

My SQL Worksheet-8

(Aggregate Functions)

1. Consider the table TEACHER given below. Write commands in SQL for (1) and output for (2) to (5)

ID	Name	Department	Hiredate	Category	Gender	Salary
1	Tanya Nanda	SocialStudies	1994-03-17	TGT	F	25000
2	Saurabh Sharma	Art	1990-02-12	PRT	M	20000
3	Nandita Arora	English	1980-05-16	PGT	F	30000
4	James Jacob	English	1989-10-16	TGT	M	25000
5	Jaspreet Kaur	Hindi	1990-08-01	PRT	F	22000
6	Disha Sehgal	Math	1980-03-17	PRT	F	21000
7	Siddharth Kapoor	Science	1994-09-02	TGT	M	27000
8	Sonali Mukherjee	Math	1980-11-17	TGT	F	24500

i. To count the number of teachers in English department.
ii. SELECT MAX(Hiredate) FROM Teacher;
iii. SELECT DISTINCT(category) FROM teacher;
iv. SELECT COUNT(*) FROM TEACHER WHERE Category = "PGT"
v. SELECT Gender,AVG(Salary) FROM TEACHER group by Gender;

2. The Item_No and Cost column of a table "ITEMS" are given below:

IITEM_NO	COST
101	5000
102	NULL
103	4000
104	6000
105	NULL

Based on this information, find the output of the following queries:
a) SELECT AVG(COST) FROM ITEMS;
b) SELECT COST +100 FROM ITEMS WHERE ITEM_NO > 103;

3. "PrincipaiName" is a column in a table "Schools". The SOL queries
SELECT count(*) FROM Schools;
and
SELECT count(Principal) FROM schools;
Give the result 28 and 27 respectively. What may be the possible reason for this? How many records are present in the table-27 or 28?

4. Consider the table Projects given below. Write commands in SOL fori) and output for i) to iii)

PROJECTS

ID	ProjName	ProjSize	StartDate	EndDate	Cost
1	Payroll-MMS	Medium	2006-03-17	2006-09-16	60000
2	Payroll-ITC	Large	2008-02-12	2008-01-11	500000
3	IDMgmt-LITL	Large	2008-06-13	2009-05-21	300000
4	Recruit-LITL	Medium	2008-03-18	2008-06-01	50000
5	IDMgmt-MTC	Small	2007-01-15	2007-01-29	20000
6	Recruit-ITC	Medium	2007-03-01	2007-06-28	50000

i. To count the number of projects of cost less than 100000.
ii. SELECT SUM(Cost) FROM projects;
iii. SELECT ProjSize, COUNT(*) FROM Projects GROUP BY ProjSize;

5. Consider the table RESULT given below. Write output

Table : Result

No	Name	Stipend	Subject	Average	Division
1	Sharon	400	English	38	THIRD
2	Amal	680	Mathematics	72	FIRST
3	Vedant	500	Accounts	67	FIRST
4	Shakeer	200	Informatics	55	SECOND
5	Anandha	400	History	85	FIRST
6	Upasna	550	Geography	45	THIRD

(i) SELECT AVG(Stipend) FROM EXAM WHERE DIVISION= "THIRD";
(ii) SELECT COUNT(DISTINCT Subject) FROM EXAM;
(iii) SELECT MIN(Average) FROM EXAM WHERE Subject= "English";

6. What is the purpose of ORDER BY clause in MySql ? How is it different from GROUP BY clause?

7. Table **SHOPPE** :

Code	Item	Company	Qty	City	Price
102	Biscuit	Hide & Seek	100	Delhi	10.00
103	Jam	Kissan	110	Kolkata	25.00
101	Coffee	Nestle	200	Kolkata	55.00
106	Sauce	Maggi	56	Mumbai	55.00
107	Cake	Britannia	72	Delhi	10.00
104	Maggi	Nestle	150	Mumbai	10.00
105	Chocolate	Cadbury	170	Delhi	25.00

Consider the Table SHOPPE given below. Write command in MySql for (i) and output for (ii) to (iii).

(i) To count distinct Company from the table.
(ii) Select Count(distinct (City)) from Shoppe;
(iii) Select MIN (Qty) from Shoppe where City="Mumbai";

8. Consider the table 'PERSONS' given below. Write commands in SQL for (i) to (iv) and write output for (i) to (iii).

Table : PERSONS

PId	Surname	Firstname	Gender	City	PinCode	BasicSalary
1	Sharma	Geeta	F	Udhamwara	182141	50000
2	Singh	Surinder	M	Kupwara Nagar	193222	75000
3	Jacob	Peter	M	Bhawani	185155	45000
4	Alvis	Thomas	M	Ahmed Nagar	380025	50000
5	Mohan	Garima	M	Nagar Coolangatta	390026	33000
6	Azmi	Simi	F	New Delhi	110021	40000
7	Kaur	Manpreet	F	Udhamwara	182141	42000

(i) SELECT SUM(BasicSalary) FROM Persons Where Gender='F';
(ii) SELECT Gender,MIN(BasicSalary) FROM Persons GROUP BY gender;
(iii) SELECT Gender,Count(*) FROM Persons GROUP BY Gender;

9. There is a column HOBBY in a Table CONTACTS. The following two statements are giving different outputs. What may be the possible reason ?
SELECT COUNT(*) FROM CONTACTS;
SELECT COUNT(HOBBY)FROM CONTACTS;

10. Table GYM:

ICODE	INAME	PRICE	BRANDNAME
G101	Power Fit Exerciser	20000	Power Gymea
G102	Aquafit Hand Grip	1800	Reliable
G103	Cycle Bike	14000	Ecobike
G104	Protoner Extreme Gym	30000	Coscore
G105	Message Belt	5000	MessagExpert
G106	Cross Trainer	13000	GTCFitness

Consider the following table named "GYM" with details about fitness items being sold in the store. Write output

(i) SELECT COUNT (DISTINCT (BRANDNAME)) FROM GYM;
(ii) SELECT MAX (PRICE) FROM GYM;

11. Consider the following table named 'SBOP" with details of account holders. Write output.

Table : SBOP

Accountno	Name	Balance	DateOfopen	Transaction
SB-1	Mr.Anil	15000.00	2011-02-24	7
SB-2	Mr.Amit	23567.89		8
SB-3	Mrs.Sakshi	45000.00	2012-02-04	5
SB-4	Mr.Gopal	23812.35	2013-09-22	
SB-5	Mr.Dennis	63459.80	2009-11-10	15

(i) SELECT COUNT(*) FROM SBOP;

12.

Employee_ID	NAME	Commission
101	Sabhyata Sharma	NULL
102	Divya Arora	8900
103	Faizal Zaidi	NULL

Given 'Employee' table as follows :

What values will the following statements return ?
SELECT COUNT(*) FROM Employee;
SELECT COUNT(Commission) FROM Employee;

13.

Table : FLIGHT

FLCODE	START	DESTINATION	NO_STOPS	NO_FLIGHTS
IC101	DELHI	AGARTALA	1	5
IC102	MUMBAI	SIKKIM	1	3
IC103	DELHI	JAIPUR	0	7
IC105	KANPUR	CHENNAI	2	2
IC107	MUMBAI	KANPUR	0	4
IC431	INDORE	CHENNAI	3	2
IC121	DELHI	AHMEDABAD	2	6

Consider the table FLIGHT given below. Write output.

(i) SELECT MAX(NO_FLIGHTS) FROM FLIGHT;
(ii) SELECT START, COUNT(*) FROM FLIGHT GROUP BY Start;

14.

EmpId	EName	Salary
A001	Bob	5600
A002	John	NULL
A003	Tom	5000

What will be the output of the following queries on the basis of Employee table:

(i)Select avg(Salary) from Employee;
(ii) Select Salary+100 from Employee where EmpId='A002';

15.

Table : GARMENT

GCODE	GNAME	SIZE	COLOUR	PRICE
111	TShirt	XL	Red	1400.00
112	Jeans	L	Blue	1600.00
113	Skirt	M	Black	1100.00
114	Ladies Jacket	XL	Blue	4000.00
115	Trousers	L	Brown	1500.00
116	Ladies Top	L	Pink	1200.00

Consider the following table named "GARMENT". Write output

(i) SELECT COUNT(DISTINCT (SIZE)) FROM GARMENT;

(ii) SELECT AVG (PRICE) FROM GARMENT;

16.

TeacherId	Department	Periods
T101	SCIENCE	32
T102	NULL	30
T103	MATHEMATICS	34

Consider the table 'Teacher' given below.
What will be the output of the following queries on the basis of the above table:

(i)Select count(Department) from Teacher;
(ii)Select count(*) from Teacher;

17. (i) Name two Aggregate (Group) functions of SQL.

(ii) Consider the table :

Table : Company

SID	SALES
S101	20000
S103	NULL
S104	10000
S105	15000

What output will be displayed by the following SQL statement ?
SELECT AVG(SALES) FROM Company;

18. Consider the table 'Hotel' given below :

Table : Hotel

EMPID	Category	Salary
E101	MANAGER	60000
E102	EXECUTIVE	65000

Mr. Vinay wanted to display average salary of each Category. He entered the following SQL statement. Identify error(s) and Rewrite the correct SQL statement.
SELECT Category, Salary FROM Hotel

E103	CLERK	40000	
E104	MANAGER	62000	
E105	EXECUTIVE	50000	
E106	CLERK	35000	

GROUP BY Category;

19. Explain why the following queries give different outputs on execution:
i. SELECT COUNT(ENAME) FROM EMP;
Output: 5
ii. SELECT Count(*) FROM EMP;
Output: 8

20. Kunal has entered the following SQL command on Table 'STUDENT' that has TotalMarks as one of the columns.
SELECT COUNT (*) FROM STUDENT;
The output displayed is 20.
Then, Kunal enters the following command :
SELECT COUNT (*) FROM STUDENT WHERE TotalMarks <100;
The output displayed is 15.
Then, Kunal enters the following command :
SELECT COUNT (*) FROM STUDENT WHERE TotalMarks >= 100;
He predicts the output of the above query as 5. Do you agree with Kunal ? Give reason for your answer.

21. Consider the table given below :
Write command for (i) and output for (ii)

(Table : Salesperson)

SID	Name	Phone	DOB	Salary	Area
S101	Amit Kumar	98101789654	1967-01-23	67000.00	North
S102	Deepika Sharma	99104567834	1992-09-23	32000.00	South
S103	Vinay Srivastav	98101546789	1991-06-27	35000.00	North
S104	Kumar Mehta	88675345789	1967-10-16	40000.00	East
S105	Rashmi Kumar	98101567434	1972-09-20	50000.00	South

(i) To display Area along with number of Salespersons working in that area.
(ii) SELECT Area, COUNT (*) FROM Salesperson GROUP BY Area HAVING COUNT (*) > 1;

22.

File_No	Cust_Name	PhoneNo	Loan_Amt	Bank	Cheque_Dt
619095	Ms. Roshni	9899965430	809876	HBDC Ltd.	2017-06-15
234252	Mr. Rajesh	8654327890	745738	ICUCI Ltd.	2017-07-22
543613	Mrs. Sapna	8883546354	NULL	NBI Ltd.S	2017-07-24
435467	Mr. Navneet	9764747474	647484	ICUCI Ltd.	2017-08-13
263427	Ms. Puja	8746454742	546373	HBDC Ltd.	2017-08-30

Observe the given table named "Loan" carefully and predict the output of the
following queries:
select count(file_no)-count(loan_amt) from loan;

Informatics Practices
My SQL Worksheet-9
(Joins)

1. In a database there are two tables 'Customer' and 'Bill' as shown below:

Customer

CustomerID	CustomerName	CustAddress
1	Akhilesh Narang	C4,Janak Puri,Delhi
2	Purnima Williams	B1, Ashok Vihar,Delhi
3	Sumedha Madaan	33, South Ext.,Delhi

Bill

BillNo	CustID	Bill_Amt
1	2	12000
2	1	15000
3	2	13000
4	3	13000
5	2	14000

(i) How many rows and how many columns will be there in the Cartesian product of these two tables?
(ii) Which column in the 'Bill' table is the foreign key?

2. Consider the tables HANDSETS and CUSTOMER given below:

Handsets

SetCode	SetName	TouchScreen	PhoneCost
N1	Nokia 2G	N	5000
N2	Nokia 3G	Y	8000
B1	BlackBerry	N	14000

Customer

CustNo	SetNo	CustAddress
1	N2	Delhi
2	B1	Mumbai
3	N2	Mumbai
4	N1	Kolkata
5	B1	Delhi

With reference to these tables, Write commands in SQL for (i) and (ii) and output for (iii) below:
(i) Display the CustNo, CustAddress and corresponding SetName for each customer.
(ii) Display the Customer Details for each customer who uses a Nokia handset.
(iii) select SetNo, SetName from Handsets, customer where SetNo = SetCode and CustAddress = 'Delhi';

3. In a database there are two tables "Company" and "Model" as shown below:

Company

CompID	CompName	CompHO	ContPerson
1	Titan	Okhla	C.B.Ajit
2	Maxima	Shahdara	V.P.Kohli
3	Ajanta	Najafgarh	R. Mehta

Model

ModelID	CompID	ModelCost
T020	1	2000
M032	4	2500
M059	2	7000
A167	3	800
T024	1	1200

(i) Identify the foreign key column in the table Model.
(ii) Check every value in CompiD column of both the tables. Do you find any discrepancy?

4. Consider the tables DOCTORS and PATIENTS given below:

DOCTORS

DocID	DocName	Department	OPD_Days
101	M. Panday	ENT	TTS
102	G. P. Gupta	Paed	MWF
201	C.K. Sharma	Ortho	MWF

PATIENTS

PatNo	PatName	Department	DocID
1	Neeraj	ENT	101
2	Mohit	Ortho	201
3	Ragini	ENT	101
4	Mohit	Paed	102
5	Nandini	Ortho	201

W1th reference to these tables, wnte commands m SQL for (1) and (II) and output for (iii) below:
(i) Display the PatNo, PatName and corresponding DocName for each patient
(ii) Display the list of all patients whose OPD_Days are MWF.
(iii) select OPD_Days, Count(*) from Doctors, Patients where Patients.Department = Doctors.Department Group by OPD_Days;

5. In a database there are two tables "Product" and "Client" as shown below :

Table : PRODUCT

P_ID	ProductName	Manufacture	Price
P001	Moisturiser	XYZ	40
P002	Sanitizer	LAC	35
P003	Bath Soap	COP	25
P004	Shampoo	TAP	95
P005	Lens Solution	COP	350

Table : Client

C_ID	ClientName	City	P_ID
01	Dreamz Disney	New Delhi	P002
05	Life Line Inc	Mumbai	P005
12	98.4	New Delhi	P001
15	Appolo	Banglore	P003

Write the commands in SQL queries for the following :
(i) To display the details of Product whose Price is in the range of 40 and 120 (Both values included)
(ii) To display the ClientName, City from table Client and ProductName and Price from table Product, with their corresponding matching P ID.
(iii) To increase the Price of all the Products by 20.

6. In a. Database School there are two tables Member and Division as show below.

Table : Member

EmpId	Name	Pay	Divno
1001	Shankhya	34000	10
1003	Ridhima	32000	50
1002	Sunish	45000	20

Table : Division

Divno	Divname	Location
10	Media	TF02
20	Dance	FF02
30	Production	SF01

(i) Identify the foreign key in the table Member.
(ii) What output, you will get, when an equi-join query is executed to get the NAME from Member Table and corresponding DivName from Division table ?

7. In a Database there are two tables :

Table ITEM:

ICode	Iname	Price
101	Television	75000
202	Computer	42000
303	Refrigerator	90000
404	Washing Machine	27000

Table **BRAND** :

ICode	Brand
101	Sony
202	HP
303	LG
404	IFB

Write MySql queries for the following :
(i) To display ICode, IName and corresponding Brand of those Items, whose Price is between 20000 and 45000 (both values inclusive).
(ii) To display ICode, Price and BName, of the item which has IName as "Television".
(iii) To increase the price of all the Items by 15%.

8. In a Database there are two tables :

Table MAGAZINE:

Mag_Code	Mag_Title	Number_of_Pages	Mag_Category
1	Good Deeds	60	12
2	Health is Wealth	45	15
3	Indian Cooking	90	20
4	Karma	50	12

MAGTYPE

Mag_Category	Type
1	Bollywood
12	Spiritual
15	Fitness
20	Cookery

(i) Which column can be set as the PRIMARY KEY in the MAGAZINE table?
(ii) Which column in the 'MAGAZINE' table is the foreign key?
(iii) How many rows and columns will be there in the Cartesian product of the above 2 tables.
(iv) Write command in SQL to display the mag_code, Mag_Title and corresponding types for all the Magazines.

(v) Write the output :
(vi) Select Mag_Code, Mag_Title, Number_of_Pages, Type From MAGAZINE,MAGTYPE Where Magazine.Mag_Category=Magtype.Mag_Category and Type='Spiritual';

9. In a Database Kamataka_Sangam there are two tables with the instances given below :

Table : STUDENTS

ADMNO	NAME	CLASS	SEC	RN	ADDRESS	PHONE
1211	Meena	12	D	4	A-26	2345678
1212	Vani	10	D	1	B-25	5456789
1213	Meena	12	A	1		
1214	Karish	10	B	3	AB-234	4567890
1215	Suraj	11	C	2	ZW12	4345677

Table : SPORTS

ADMNO	GAME	COACHNAME	GRADE
1215	Cricket	Mr.Rai	A
1213	Vollyball	Ms. Chadha	B
1211	Vollyball	Mr. Govardhan	A
1212	Basket Ball	Mr. Tiwani	B

Write SQL queries for the following :
(i) To count how many addresses are not having NULL values in the address column of students table.
(ii) To display Name, Class from STUDENT table and the corresponding Grade from SPORTS table.
(iii) To display Name of the student and their corresponding Coachnames from STUDENTS and SPORTS tables.

10. In a Database Multiplexes, there are two tables with the following data. Write MySQL queries for (i) to (iii), which are based on TicketDetails and AgentDetails :

Table : TicketDetails

Tcode	Name	Tickets	A_code
S001	Meena	7	A01
S002	Vani	5	A02
S003	Meena	9	A01
S004	Karish	2	A03
S005	Suraj	1	A02

Table : AgentDetails

Acode	AName
A01	Mr.Robin
A02	Mr.Ayush
A03	Mr.Trilok
A04	Mr.John

(i) To display Tcode, Name and Aname of all the records where the number of tickets sold is more than 5.
(ii) To display total number of tickets booked by agent "Mr. Ayush"
(iii) To display Acode, Aname and corresponding Tcode where Aname ends with "k".
(iv) With reference to "TicketDetails" table, which column is the primary key ? Which column is the foreign key? Give reason(s)

11. In a database there are two tables 'CD' and 'TYPE' as shown below :

Table : CD

CODE	TITLE	DURATION	SINGER	CATEGORY
101	Sufi Songs	50 min	Zakir Faiz	12
102	Eureka	45 min	Shyama Mukherjee	12
103	Nagmey	23 min	Sonvi Kumar	77
104	Dosti	35 min	Bobby	1

Table : **TYPE**

CATEGORY	DESCRIPTION
1	Jazz
12	Classical
40	Country Side
78	Pop

(i) Name the Primary key in ''CD'' table.
(ii) Name the foreign key in ''CD'' table.
(iii) Write the Cardinality and Degree of ''TYPE'' table.
(iv) Check every value in CATEGORY column of both the tables. Do you find any discrepancy ? State the discrepancy.

13. Consider the tables 'Flights' & 'Fares' given below:

Flights

FNO	SOURCE	DEST	NO_OF_FL	NO_OF_STOP	
IC301	MUMBAI	BANGALORE	3	2	
IC799	BANGALORE	KOLKATA	8	3	
MC101	DELHI	VARANASI	6	0	
IC302	MUMBAI	KOCHI	1	4	
AM812	LUCKNOW	DELHI	4	0	
MU499	DELHI	CHENNAI	3	3	

Fares

FNO	AIRLINES	FARE	TAX	
IC301	Indian Airlines	9425	5	
IC799	Spice Jet	8846	10	
MC101	Deccan Airlines	4210	7	
IC302	Jet Airways	13894	5	
AM812	Indian Airlines	4500	6	
MU499	Sahara	12000	4	

With reference to these tables, write commands in SQL for (i) and (ii) and output for (iii) below:
i. To display flight number, source, airlines of those flights where fare is less than Rs. 10000.
ii. To count total no of Indian Airlines flights starting from various cities.
iii. SELECT FLIGHTS.FNO, NO_OF_FL, AIRLINES FROM FLIGHTS,FARES WHERE FLIGHTS.FNO = FARES.FNO AND SOURCE='DELHI';

14. A table STUDENT has 5 rows and 3 columns. Table ACTIVITY has 4 rows and 2 columns. What will be the cardinality and degree of the Cartesian product of them ?

15. Table : GARMENT

GCODE	GNAME	SIZE	COLOUR	PRICE
111	TShirt	XL	Red	1400.00
112	Jeans	L	Blue	1600.00
113	Skirt	M	Black	1100.00
114	Ladies Jacket	XL	Blue	4000.00
115	Trousers	L	Brown	1500.00
116	Ladies Top	L	Pink	1200.00

Consider the following table named "GARMENT".

What is the degree and cardinality of 'Garment' table ?

16. In a Database, there are two tables given below :

Table : EMPLOYEE

EMPLOYEEID	NAME	SALES	JOBID
E1	SAMIT SINHA	1100000	102
E2	VIJAY SINGH TOMAR	1300000	101
E3	AJAY RAJPAL	1400000	103
E4	MOHIT RAMNANI	1250000	102
E5	SHAILJA SINGH	1450000	103

Table : JOB

JOBID	JOBTITLE	SALARY
101	President	200000
102	Vice President	125000
103	Administration Assistant	80000
104	Accounting Manager	70000
105	Accountant	65000
106	Sales Manager	80000

Write SQL Queries for the following :

(i) To display employee ids, names of employees, job ids with corresponding job titles.

(ii) To display names of employees, sales and corresponding job titles who have achieved sales more than 1300000.

(iii) To display names and corresponding job titles of those employee who have 'SINGH' (anywhere) in their names.

(iv) Identify foreign key in the table EMPLOYEE.

17. Consider the tables given below.

Salesperson

SalespersonId	Name	Age	Salary
1	Ajay	61	140000
2	Sunil	34	44000
5	Chris	34	40000
7	Amaaya	41	52000

Orders

OrderId	SalespersonId	Amount
10	2	54000
20	7	18000
30	1	46000
40	5	24000

i. The SalespersonId column in the "Salesperson" table is the _____ KEY.The SalespersonId column in the "Orders" table is a _____KEY.

ii. Can the 'SalespersonId' be set as the primary key in table 'Orders'. Give reason.

18. With reference to the above given tables, Write commands in SQL for (i) and (ii) and output for (iii) below:

i. To display SalespersonID, names, orderids and order amount of all salespersons.

ii. To display names ,salespersons ids and order ids of those sales persons whose names start with 'A' and sales amount is between 15000 and 20000.

iii. SELECT Salesperson.SalespersonId, name, age, amount FROM Salesperson, orders WHERE Salesperson.salespersonId= Orders.salespersonId AND AGE BETWEEN 30 AND 45;

19. Consider the tables given below :

Table : Faculty

TeacherId	Name	Address	State	PhoneNumber
T101	Savita Sharma	A-151, Adarsh Nagar	Delhi	991019564
T102	Deepak Ghai	K-5/52, Vikas Vihar	Mumbai	893466448
T103	MahaLakshmi	D-6	Delhi	981166568
T104	Simi Arora		Mumbai	658777564

Table : Course

CourseId	Subject	TeacherId	Fee
C101	Introductory Mathematics	T101	4500
C103	Physics	T101	5000
C104	Introductory Computer Science	T102	4000
C105	Advance Computer Science	T104	6500

(i) Which column is used to relate the two tables ?
(ii) Is it possible to have a primary key and a foreign key both in one table ? Justify your answer with the help of table given above.

20. With reference to the above given tables, write commands in SQL for (i) and (ii) and output for (iii) :
(i) To display CourseId, TeacherId, Name of Teacher, Phone Number of Teachers living in Delhi.
(ii) To display TeacherID, Names of Teachers, Subjects of all teachers with names of Teachers starting with 'S'.
(iii) SELECT CourseId, Subject,Course.TeacherId,Name,PhoneNumber FROM Faculty,Course WHERE Faculty.TeacherId = Course.TeacherId AND Fee>=5000;

21. Consider the tables given below which are linked with each other and maintains referential integrity:
Table: SAP

SAPID	ItemCode	ItemName	ItemStorage Location
S1001	1001	Receiver	W12-B3-R24
S1002	1002	Transponder	W13-B7-R87
S1003	1003	Battery Bank	W21-B1-R87
S1004	1004	Inverter	W21-B11-R2
S1005	1005	Genset	W22-B15-R16

Table : Store

StoreID	ItemCode	StoreLocation	ReceivedDate
1201	1001	Hauz Khas	2016/05/20
1202	1002	Rajouri Garden	2016/06/14
1203	1003	Rohini	2016/05/06
1204	1004	Hauz Khaas	2016/07/15
1205	1005	Rajendra Place	2016/05/27

With reference to the above given tables, write commands in SQL for (i) and (ii) and output for (iii) below:

i. To display the ItemCode,ItemName and ReceivedDate of all the items .
ii. To display SAPID,ItemName,ItemStorageLocation of all the items whose Received date is after 2nd May 2016.
iii. SELECT SAPID,ItemName,STOREID FROM SAP,Store WHERE SAP.ItemCode=Store.ItemCode AND StoreLocation = "Hauz Khas"
iv. What will be the degree and cardinality of the cartesian product formed while combining both the above given tables 'SAP' and 'Store' ?
v. Sangeeta is not able to add a new record in the table 'Store' through the following query:
Insert into store values (1206,1006,'Karol Bagh', '2016/07/25');
Identify the error if there is any

Informatics Practices
My SQL Worksheet-10
(Transaction)

1. Which command is used in MySql to make the changes in database permanent?

2. Give one difference between ROLLBACK and COMMIT commands used in MySql.

3. A table named 'GAMES' has the following contents:

GCode	GameName	Number_of_Players	PrizeMoney
101	Carom Board	2	5000
102	Badminton	2	12000
103	Table Tennis	4	8000

Write the output that will be displayed by statements (i) and (ii).

```
SELECT * FROM GAMES;
SET AUTOCOMMIT = 0;
INSERT INTO GAMES VALUES(105,'CHESS',2,9000);
ROLLBACK;
SAVEPOINT S1;
SELECT * FROM GAMES; ---------- (i)
INSERT INTO GAMES VALUES(108,'LAWN TENNIS',4,25000);
SAVEPOINT S2;
INSERT INTO GAMES VALUES(109,'CRICKET',11,20000);
ROLLBACK TO S2;
SELECT * FROM ITEM; ---------- (ii)
```

4.

ROLLNO	NAME
1	Ashi
2	Bimmi
4	Aakash

Consider the Stu table

The following SQL queries are executed on the above table

```
INSERT INTO Stu VALUES(5,'Gagan'); COMMIT;
UPDATE Stu SET name='Abhi' WHERE Rollno = 4

SAVEPOINT A;
INSERT INTO Stu VALUES(6,'Chris'); SAVEPOINT B;
INSERT INTO Stu VALUES(7,'Babita'); SAVEPOINT C;

ROLLBACK TO B;
```

What will be the output of the following SQL query now:

```
SELECT * FROM Stu;
```

5. Given below is the 'Stu' table :

RNO	NAME
1	Amit
2	Bhishm

The following statements are entered :

```
SET AUTOCOMMIT = 0;
INSERT INTO Stu VALUES(5, 'Rahul'); COMMIT;
UPDATE Stu set name='Rahuliya' where Rno= 5; SAVEPOINT A;
INSERT INTO Stu VALUES(6, 'Cristina'); SAVEPOINT B;
INSERT INTO Stu VALUES(7, 'Fauzia'); SAVEPOINT C;
ROLLBACK TO B;
```

Now what will be the output of the following statement ?

```
SELECT * FROM Stu;
```

6.	Geetanjali had created a table “Customer” in the database “Test”. Immediately after the successful creation of the database, she wrote the Rollback command to undo the creation of the table. Did she execute rollback successfully? Explain.
7.	Given below is the ‘Department’ table : **DEPCODE** | **DEPNAME** 101 | ADMIN 102 | RECEPTION 103 | PERSONNEL SET AUTOCOMMIT = 0; UPDATE Department SET DEPNAME = ‘OFFICE’ WHERE DEPNAME = ‘ADMIN’; INSERT INTO Department VALUES (104, ‘HRD’); UPDATE Department SET DEPNAME = ‘FRONT OFFICE’ WHERE DEPNAME = ‘RECEPTION’; COMMIT; DELETE FROM Department WHERE DEPNAME = ‘FRONT OFFICE’; ROLLBACK; SELECT * FROM Department; What will be the output of the above given SELECT statement ?