BDTM: Big Data Tools for Managers

1st Internal Question Paper [Set-B]

Q1. Demonstrate Basic database operation with MySQL   [10]

A. Create a database BOOK in MySQL

> ✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0024 seconds.)
>
> CREATE DATABASE BOOK;

B. List all the databases available in MySQL

> Your SQL query has been executed successfull
>
> SHOW DATABASES;
>
> ☐ Profiling [Edit inline] [Edit] [Create PHP c
>
> + Options

Database
bdtm_exam
book
information_schema
mobile
mysql
performance_schema

C. Select the BOOK database, and list all the tables available in BOOK database

> ✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 second
>
> SHOW TABLES;
>
> ☐ Profiling [Edit inline] [Edit] [Create PHP code] [Refresh]

D. Remove BOOK database from MySQL

> ✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0646 seconds.)
>
> DROP DATABASE BOOK;

E. List all the databases available in MySQL

> Your SQL query has been executed successfully.
>
> SHOW DATABASES;
>
> ☐ Profiling [Edit inline] [Edit] [Create PHP code] [Refresh]
>
> + Options

Database
information_schema
mysql
performance_schema
phpmyadmin
test

PRODUCT_ID	PRODUCT_NAME	MRP	CURRENCY
PRD_1001	Lifebuoy Handwash	100	INR
PRD_1002	Per Cara Pro Shampoo	1.5	USD
PRD_1003	Mamaearth Hair Oil	250	INR
PRD_1004	Liquid Handwash	185	INR
PRD_1005	Mamaearth Shampoo	300	INR

A. Create database SAMPLE, and create above given PRODUCT table in SAMPLE database

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0023 seconds.)

```
CREATE DATABASE SAMPLE;
```

[Edit inline] [Edit] [Create PHP code]

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0404 seconds.)

```
CREATE TABLE PRODUCT ( PRODUCT_ID VARCHAR(10), PRODUCT_NAME VARCHAR(20), MRP FLOAT, CURRENCY TEXT );
```

[Edit inline] [Edit] [Create PHP code]

B. Insert above given sample records in PRODUCT table

✔ 1 row inserted. (Query took 0.0064 seconds.)

```
INSERT INTO product VALUES ("PRD_1001", "Lifebuoy Handwash", "100", "INR");
```

[Edit inline] [Edit] [Create PHP code]

✔ 1 row inserted. (Query took 0.0157 seconds.)

```
INSERT INTO product VALUES ("PRD_1002", "Per Cara Pro Shampoo", "1.5", "USD")
```

[Edit inline] [Edit] [Create PHP code]

✔ 1 row inserted. (Query took 0.0058 seconds.)

```
INSERT INTO product VALUES ("PRD_1003", "Mamaearth Hair Oil", "250", "INR");
```

[Edit inline] [Edit] [Create PHP code]

✔ 1 row inserted. (Query took 0.0058 seconds.)

```
INSERT INTO product VALUES ("PRD_1004", "Liquid Handwash", "185", "INR");
```

[Edit inline] [Edit] [Create PHP code]

✔ 1 row inserted. (Query took 0.0058 seconds.)

```
INSERT INTO product VALUES ("PRD_1005", "Mamaearth Shampoo", "300", "INR");
```

C. Display PRODUCT table structure

```
DESC PRODUCT;
```

[Edit inline] [Edit] [Create PHP code]

+ Options

Field	Type	Null	Key	Default	Extra
PRODUCT_ID	varchar(10)	YES		NULL	
PRODUCT_NAME	varchar(20)	YES		NULL	
MRP	float	YES		NULL	
CURRENCY	text	YES		NULL	

D. Truncate PRODUCT table

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.278

```
TRUNCATE TABLE PRODUCT;
```

Edit inline   Edit   Create PHP code

E. Delete PRODUCT table from SAMPLE database

✔ MySQL returned an empty result set (i.e. zero rows). (Query to

```
DROP TABLE PRODUCT;
```

USN	NAME	DOB	ADDRESS	CITY	STATE	PINCODE	CGPA
1SI23MBA01	AAA	1995-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	8.5
1SI23MBA02	BBB	1996-01-01	BANGALORE	BANGALORE	KARNATAKA	560001	9.5
1SI23MBA02	**BBB**	**1996-01-01**	**BANGALORE**	**BANGALORE**	**KARNATAK A**	**572103**	**9.5**
1SI23MBA04		**1999-01-01**	**B H ROAD**	**TUMKUR**	**KARNATAK A**	**572103**	**8.5**
1SI23MBA05	**FFF**	**1999-01-01**	**B H ROAD**				

A. Create above table "students_exam" with following constraint
   - USN with UNIQUE constraint
   - NAME with NOT NULL constraint
   - CITY, STATE, PINCODE and CGPA having DEFAULT value TUMKUR, KARNATAKA, 572103 and 0

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0377 seconds.)

```
CREATE TABLE students_exam( USN VARCHAR(10) UNIQUE, NAME VARCHAR(20) NOT NULL, DOB DATE, ADDRESS VARCHAR(50), CITY VARCHAR(10) DEFAULT 'TUMKUR', STATE VARCHAR(10) DEFAULT 'KARNATAKA', PINCODE
VARCHAR(10) DEFAULT '572103', CGPA float DEFAULT 0 );
```

B. Insert above records into the students_exam table
   (Note : The error message is expected while inserting records into the table and place same error message as part of answers for 3rd, 4th & 5th records)

```
1 INSERT INTO students_exam VALUES ('1SI23MBA01', 'AAA', '1995-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', '572103', 8.5);
2 INSERT INTO students_exam VALUES ('1SI23MBA02', 'BBB', '1996-01-01', 'BANGALORE', 'BANGALORE', 'KARNATAKA', '560001', 9.5);
3 INSERT INTO students_exam VALUES ('1SI23MBA02', 'BBB', '1996-01-01', 'BANGALORE', 'BANGALORE', 'KARNATAKA', '560001', 9.5);
4 |
```

Clear   Format   Get auto-saved query

☐ Bind parameters ⓘ

Bookmark this SQL query:

Delimiter ;   ☐ Show this query here again ☐ Retain query box ☐ Rollback when finished ☑ Enable foreign key checks

Error

SQL query: Copy

INSERT INTO students_exam VALUES ('1SI23MBA02', 'BBB', '1996-01-01', 'BANGALORE', 'BANGALORE', 'KARNATAKA', '560001', 9.5);

MySQL said: ⓘ

#1062 - Duplicate entry '1SI23MBA02' for key 'USN'

```
1  INSERT INTO students_exam VALUES ('1SI23MBA04', NULL, '1999-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', '560001', 9.5);
2 |
```

Clear   Format   Get auto-saved query

☐ Bind parameters ⑦

Bookmark this SQL query: [   ]

Delimiter [;]   ☐ Show this query here again ☐ Retain query box ☐ Rollback when finished ☑ Enable foreign key checks

Error

SQL query: Copy

```
INSERT INTO students_exam VALUES ('1SI23MBA04', NULL, '1999-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', '560001', 9.5);
```

MySQL said: ⑦

#1048 - Column 'NAME' cannot be null

✔ 1 row inserted. (Query took 0.0139 seconds.)

```
INSERT INTO students_exam VALUES ('1SI23MBA05', 'FFF', '1999-01-01', 'B H ROAD', NULL, NULL, NULL, NULL);
```

[Edit inline] [Edit] [Create PHP code]

OR

✔ 1 row inserted. (Query took 0.0174 seconds.)

```
INSERT INTO students_exam (USN, NAME, DOB, ADDRESS) VALUES ('1SI23MBA05', 'FFF', '1999-01-01', 'B H ROAD');
```

Copy mysql code from below link and paste into the SQL window to create and insert sample records. After executing given code in selected database new table will be created name "student_details"
https://raw.githubusercontent.com/sitmbadept/sitmbadept.github.io/main/BDTM/SQL/student_details.sql

A. Display single column gender from student_details table

```
SELECT gender FROM student_details;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Cr

1 ▼   >   >> | ☐ Show all | Number

+ Options
gender
female
male
male
female

B. Display unique values for class name from student_details

```
SELECT DISTINCT CLASS FROM student_details;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 ▼   Filter rows: Search this table

+ Options
CLASS
Four
Three
Five
Six
Seven
Nine
Eight

C. Display unique values name, gender details from student_details table

```
SELECT DISTINCT name, gender FROM `student_details`;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

1 ⌄ > >> | ☐ Show all | Number of rows: 25 ⌄ Filter

▸ Options

name	gender
John Deo	female
Max Ruin	male
Arnold	male
Krish Star	female
John Mike	female
Alex John	male
My John Rob	male
Asruid	male
Tes Qry	male
Big John	female

D. Display distinct records from student_details

```
SELECT DISTINCT * FROM student_details;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refre

1 ⌄ > >> | ☐ Show all | Number of rows: 25 ⌄

+ Options

id	name	class	mark	gender
1	John Deo	Four	75	female
2	Max Ruin	Three	85	male
3	Arnold	Three	55	male
4	Krish Star	Four	60	female
5	John Mike	Four	60	female
6	Alex John	Four	55	male
7	My John Rob	Five	78	male
8	Asruid	Five	85	male
9	Tes Qry	Six	78	male
10	Big John	Four	55	female

E. Display all the records from student_details, also sort data in ascending order by name and descending order by gender (everything in one query)

```
SELECT * FROM student_details ORDER by name asc, gender desc;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

1 ⌄ > >> | ☐ Show all | Number of rows: 25 ⌄ Filter

+ Options

id	name ▲ 1	class	mark	gender ▼ 2
6	Alex John	Four	55	male
3	Arnold	Three	55	male
8	Asruid	Five	85	male
21	Babby John	Four	69	female
10	Big John	Four	55	female

Copy mysql code from given link and paste into the SQL windows to create and insert sample database & tables in MySQL. After executing given code, new database will be created name "bdtm_exam" in MySQL.
https://raw.githubusercontent.com/sitmbadept/sitmbadept.github.io/main/BDTM/SQL/bdtm-exam.sql

A. Write a query to get the total salaries payable to employees

✔ Showing rows 0 - 0 (1 total, Query took 0.0006 seconds.)

SELECT SUM(salary) FROM employees;

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP c

☐ Show all | Number of rows: 25 ▾   Filter row:

+ Options

SUM(salary)

   691400.00

B. Write a query to get the total salaries payable to employees by their department_id

SELECT department_id, sum(salary) FROM employees GROUP by department_id;

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 ▾   Filter rows: Search this table

+ Options

			department_id	sum(salary)
☐	✏ Edit	⬚ Copy ⊝ Delete	NULL	7000.00
☐	✏ Edit	⬚ Copy ⊝ Delete	10	4400.00
☐	✏ Edit	⬚ Copy ⊝ Delete	20	19000.00
☐	✏ Edit	⬚ Copy ⊝ Delete	30	24900.00

C. Write a query to get the highest, lowest, sum, and average salary of all employees.

SELECT max(salary), min(salary), sum(salary), AVG(salary) FROM employees;

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 ▾   Filter rows: Search this table

⊢ Options

max(salary)	min(salary)	sum(salary)	AVG(salary)
24000.00	2100.00	691400.00	6461.682243

D. Write a query to get the department_id and total salary of the employees where total salary is greater than or equal to 5000.

```
SELECT department_id, sum(salary) FROM employees GROUP BY department_id HAVING sum(salary) >= 5000;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 ∨   Filter rows: Search this table   Sort by key: None

▸ Options

				department_id	sum(salary)
☐	Edit	Copy	Delete	NULL	7000.00
☐	Edit	Copy	Delete	20	19000.00
☐	Edit	Copy	Delete	30	24900.00
☐	Edit	Copy	Delete	40	6500.00
☐	Edit	Copy	Delete	50	156400.00
☐	Edit	Copy	Delete	60	28800.00
☐	Edit	Copy	Delete	70	10000.00
☐	Edit	Copy	Delete	80	304500.00
☐	Edit	Copy	Delete	90	58000.00
☐	Edit	Copy	Delete	100	51600.00
☐	Edit	Copy	Delete	110	20300.00

E. Write a query to get the total salary, maximum, minimum, average salary of employees (job ID wise), for department ID 50 only.

✔ Showing rows 0 - 2 (3 total, Query took 0.0013 seconds.)

```
SELECT job_id, sum(salary), MAX(salary), MIN(salary), AVG(salary) FROM employees WHERE department_id =50 GROUP BY job_id;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 ∨   Filter rows: Search this table

+ Options

				job_id	sum(salary)	MAX(salary)	MIN(salary)	AVG(salary)
☐	Edit	Copy	Delete	SH_CLERK	64300.00	4200.00	2500.00	3215.000000
☐	Edit	Copy	Delete	ST_CLERK	55700.00	3600.00	2100.00	2785.000000
☐	Edit	Copy	Delete	ST_MAN	36400.00	8200.00	5800.00	7280.000000