Assignment – 1

Enrollment No: MSCIT23B18
Roll No: 18
Smit Joshi | NoSQL | 29/07/2023

Scenario: Online Bookstore Database

TASKS:

1. *Create the Necessary Tables with Appropriate Data Types*

Tables Creation Queries

Authors

```
create table authors(
author_id int primary key,
author_name varchar(100),
birth_date date,
country varchar(30)
);
```

Books

```
create table books(book_id int primary key,
title varchar(255),
author_id int references author(author_id),
price int,
publication_date date,
genre varchar(50)
);
```

Customers

```
create table customers(
customer_id int primary key,
first_name varchar(30),
last_name varchar(30),
email varchar(100),
address varchar(255),
city varchar(40),
zip_code int(6),
country varchar(50)
);
```

Orders

```
create table orders(
order_id int primary key,
customer_id int references customer(customer_id),
order_date date
);
```

Order_items

```
create table order_items(
order_item_id int primary key,
order_id int references orders(order_id),
book_id int references books(book_id),
quantity int,
subTotal int
);
```

Insert Queries

2. Insert at least 5 books and 3 authors into their respective tables.

Authers

```
insert into authors (author_id, author_name, birth_date, country) values
(1,'Javerchand Meghani','1856-08-12','India'),
(2,'Chetan Bhagat','1956-08-12','India'),
(3,'Smit Joshi','2002-11-15','India');
```

Books

```
insert into books(book_id,author_id,title,publication_date,genre,price) values
(1,1,'Saurast ni rasdhar','1880-11-18','xyz',1000),
(2,2,'Making India Awsome','1980-12-28','geographical',2000),
(3,1,'Jeevan Ni Vyatha','1910-12-19','Auto Bio graphy',4000),
(4,3,'Mysterious Tech','2019-01-20','Technology',1300),
(5,3,'A Life Long Story','2020-06-20','Phycology',2500);
```

3. Insert at least 3 customers into the customers table.

Customers

```
insert into customers (customer_id, first_name, last_name, email, address,
city, zip_code, country) values
(1,'Smit','Joshi', 'smitjoshi814@gmail.com','Ranpur Road
deesa','Deesa',385535,'India'),
(2,'Tejasv','Modi', 'tejasvmodi420@gmail.com','Rony Streets Behind Anand
Compex','Patan',384265,'Shri Lanka'),
(3,'Tanish','Modi', 'tanishmodi134@gmail.com','Neomi Houses near Kali Road
burij','Patan',384265,'Caneda');
```

4.Create at least 2 orders, and for each order, add 2 or more books with their corresponding quantities into the order_items table.

Orders

```
insert into orders (order_id, customer_id, order_date) values
(1,1,'2023-07-25'),
(2,1,'2023-07-25');
```

order_items

```
insert into order_items(order_item_id,order_id,book_id,quantity,subTotal)
values
(1,1,4,2,2600),
(2,2,5,1,2500);
```

5. Write a query to find all orders placed by a specific customer (you can choose any customer you've added).

Query

```
select * from orders where customer_id=1;
```

Output:

order_id	customer_id	order_date
1	1	2023-07-25
2	1	2023-07-25

Important Queries for SQL Practice Exercises

1. How to create table with same structure with data?

Ans: Create table temp_authors **as SELECT * FROM authors;**

2. How to create table with same structure without data?

Ans: Create table temp_authors as SELECT * FROM authors **WHERE 1<>1;**

3. How to display last 10 records from student table.

Ans: select * from student **order by student_id DESC LIMIT 10;**

4. How to delete duplicate rows from the table

Ans:

Solution 1: if table has primary field, we can use the primary key field to delete the duplicate values.

Solution 2: In Oracle There is hidden Column Named **rowid,** which has unique id for all the rows, we can use that to delete the duplicate rows.

Solution3: In MySQL There is a Function Called **row_number() which can be used with over() function** which can be used to delete the duplicate rows from table. Here's The Simple Query I've Found on MySQLTutorial.org

```
DELETE FROM contacts
WHERE
        id IN (
        SELECT
                id
        FROM (
                SELECT
                        id,
                        ROW_NUMBER() OVER (
                                PARTITION BY email
                                ORDER BY email) AS row_num
                FROM
                        contacts

        ) t
    WHERE row_num > 1
);
```

5. How to fetch all the student who took admission at 2016.

Ans: SELECT * FROM STUDENTS WHERE **year(admission_date)='2016';**

6. What is query to display odd records from student table.

Ans: SELECT * FROM STUDENTS WHERE student_id in **(SELECT student_id FROM STUDENTS WHERE student_id%2 <> 0);**

```
Create table worker(
worker_id int primary key,
first_name varchar(50),
last_name varchar(50),
salary int,
joining_date datetime,
department varchar(10)
);
```

```
insert into worker (worker_id,first_name,last_name,salary,joining_date,department)
VALUES
(1, 'Monika', 'Arora', 100000, '2014-02-20 9:00:00', 'HR'),
(2, 'Niharika', 'Verma', 80000, '2014-06-11 9:00:00', 'Admin'),
(3, 'Vishal', 'Singhal', 300000, '2014-02-20 9:00:00', 'HR'),
(4, 'Amitabh', 'Singh', 5000000, '2014-02-20 9:00:00', 'Admin'),
(5, 'Vivek', 'Bhati', 500000, '2014-06-11 9:00:00', 'Admin'),
(6, 'Vipul', 'Diwan', 2000000, '2014-06-20 9:00:00', 'Account'),
(7, 'Satish', 'Kumar', 75000, '2014-01-20 9:00:00', 'Account'),
(8, 'Geetika', 'Chauhan', 90000, '2014-04-11 9:00:00', 'Admin');
```

```
create table bonus(
worker_ref_id int references worker(worker_id),
bonus_date datetime,
bonus_amount int
);
```

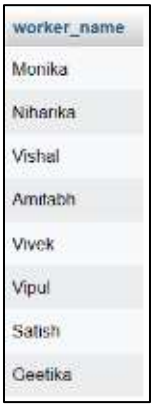
```
insert into bonus (worker_ref_id, bonus_date, bonus_amount) VALUES
(1, '2016-02-20 00:00:00', 5000),
(2, '2016-06-11 00:00:00', 3000),
(3, '2016-02-20 00:00:00', 4000),
(1, '2016-02-20 00:00:00', 4500),
(2, '2016-06-11 00:00:00', 3500);

create table title(
worker_ref_id int references worker(worker_ref_id),
worker_title varchar(20),
affectef_from datetime
);

insert into title (worker_ref_id, worker_title, affectef_from) VALUES
(1, 'Manager', '2016-02-20 00:00:00'),
(2, 'Executive', '2016-06-11 00:00:00'),
(8, 'Executive', '2016-06-11 00:00:00'),
(5, 'Manager', '2016-06-11 00:00:00'),
(4, 'Asst. Manager', '2016-06-11 00:00:00'),
(7, 'Executive', '2016-06-11 00:00:00'),
(6, 'Lead', '2016-06-11 00:00:00'),
(3, 'Lead', '2016-06-11 00:00:00');
```

Q. Write an sql query to fetch “first_name” from the worker table using the alias name .

Ans: select first_name as worker_name from worker;



worker_name
Monika
Niharika
Vishal
Amitabh
Vivek
Vipul
Satish
Geetika

Q-. Write an sql query to fetch unique values of department from the worker table.

Ans: select distinct department from worker;

department
HR
Admin
Account

Q-. Write an sql query to print all worker details from the worker table order by first_name ascending.

Ans: select * from worker order by first_name asc;

worker_id	first_name ▲ 1	last_name	salary	joining_date	department
4	Amitabh	Singh	5000000	2014-02-20 09:00:00	Admin
8	Geetika	Chauhan	90000	2014-04-11 09:00:00	Admin
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
2	Niharika	Verma	80000	2014-06-11 09:00:00	Admin
7	Satish	Kumar	75000	2014-01-20 09:00:00	Account
6	Vipul	Diwan	2000000	2014-06-20 09:00:00	Account
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
5	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin

Q-. Write an sql query to print details for workers with the first names “vipul” and “satish” from the worker table.

Ans: select * from worker where first_name in (‘vishal’,’satish’);

worker_id	first_name	last_name	salary	joining_date	department
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
7	Satish	Kumar	75000	2014-01-20 09:00:00	Account

Q-. Write an sql query to print details of workers with department name as "admin".

Ans: select * from worker where department='Admin';

worker_id	first_name	last_name	salary	joining_date	department
2	Niharika	Verma	80000	2014-06-11 09:00:00	Admin
4	Amitabh	Singh	5000000	2014-02-20 09:00:00	Admin
5	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin
8	Geetika	Chauhan	90000	2014-04-11 09:00:00	Admin

Write an sql query to print details of the workers whose first_name ends with 'a'.

Ans: select * from worker where first_name='%a';

worker_id	first_name	last_name	salary	joining_date	department

No rows

Q-. Write an sql query to print details of the workers whose first_name ends with 'h' and contains six alphabets.

Ans: select * from worker where first_name like '%h' and length(first_name)=6;

worker_id	first_name	last_name	salary	joining_date	department
7	Satish	Kumar	75000	2014-01-20 09:00:00	Account

Q-. Write an sql query to print details of the workers whose salary lies between 100000 and 500000.

Ans: select * from workers where salary between 100000 and 500000;

worker_id	first_name	last_name	salary	joining_date	department
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
5	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin

Q-. Write an sql query to fetch the count of employees working in the department 'admin'.

Ans: select count(*) as employees from worker where department='Admin';

employees
4

1. Write a mysql statement to find the concatenated first_name, last_name where the age of the employee is greater than 30.

```
CREATE TABLE employee (
    first_name VARCHAR(30),
    last_name VARCHAR(30),
    age INT(2),
    dept VARCHAR(10)
);

insert into employee (first_name, last_name, age, dept) VALUES
('Mesa', 'Loop', 30, 'Acct'),
('Smith', 'Oak', 27, 'Dev1'),
('John', 'Jorz', 37, 'QA'),
('Hary', 'Gaga', 32, 'QA');
```

Ans:

solution 1:

in this solution there will be no space between the name it will be like "SmitJoshi" but it shoud contain the space like "Smit Joshi".

select concat(first_name,last_name) as name from employee where age>30;

solution 2: We can achive this by adding nested concat() in the query.

Select concat(first_name,concat(' ',last_name)) as name from employee where age>30;

Scenario: Student Database

TASKS:

1. *Create the Necessary Tables with Appropriate Data Types*

Tables Creation Queries

Student

```
create table student(
student_id int primary key,
first_name varchar(50),
last_name varchar(50),
date_of_birth date,
gender varchar(6),
email varchar(100),
phone varchar(10)
);
```

Note: phone is varchar because it is not going to be used in any mathematical calculation.

Cources

```
create table courses(
course_id int primary key,
course_name varchar(50),
instructor varchar(50),
credit_hours int
);
```

Enrollments

```
create table enrollments(
enrollment_id int primary key,
student_id int references student(student_id),
course_id int references courses(course_id),
enrollment_date date,
grade varchar(1)
);
```

Insert Queries

2. Insert at least 5 students' records into the students table.

```
insert into student (student_id, first_name, last_name, date_of_birth, gender, email, phone) VALUES
(1, 'smit', 'joshi', '2002/11/15', 'male', 'smitjoshi814@gmail.com ', '8140800864'),
(2, 'tejasv', 'modi', '2003-10-06', 'Male', 'tejasvmodi@gmail.com', '9876543210'),
(3, 'tanish', 'modi', '2002/04/28', 'male', 'tanishmodi@gmail.com', '0987654321'),
(4, 'switi', 'patel', '2002/03/30', 'Female', 'gothiswiti@gmail.com', '8866423301'),
(5, 'tabbssum', 'saji', '2003/7/20', 'female', 'tabbsaji@gmail.com', 9876543210);
```

3. Insert at least 3 courses' records into the courses table.

```
Insert into courses (course_id, course_name, instructor, credit_hours)
VALUES
(1, 'Mscit', 'Bhavesh Patel', 100),
 (2, 'MCA', 'Smit Joshi', 90),
 (3, 'BCA', 'Tejasv Modi', 80);
```

4. Enroll some students in different courses by adding records to the enrollments table.

```
Insert into enrollments (enrollment_id, student_id, course_id,
enrollment_date, grade) VALUES
(1,1,1, '2023-07-03', 'A'),
(2,2,1, '2023-07-03', 'B'),
(3,3,2, '2023-07-05', 'B'),
(4,4,2, '2023-07-05', 'A'),
(5,5,3, '2023-07-07', 'B');
```

Select Queries

5. Write a query to get the list of all students and their details.

Ans: select * from student;

student_id	first_name	last_name	date_of_birth	gender	email	phone
1	smit	joshi	2002-11-15	male	smitjoshi814@gmail.com	8140800864
2	tejasv	modi	2003-10-06	Male	tejasvmodi@gmail.com	9876543210
3	tanish	modi	2002-04-28	male	tanishmodi@gmail.com	0987654321
4	switi	patel	2002 03 30	Female	gothiswiti@gmail.com	8866423301
5	tabbssum	saji	2003-07-20	female	tabbsumsaji@gmail.com	9876543421

6. Write a query to get the list of all courses and their details.

Ans: select * from courses;

course_id	course_name	instructor	credit_hours
1	Mscit	Bhavesh Patel	100
2	MCA	Smit Joshi	90
3	BCA	Tejasv Modi	80

(1)Create the following tables with appropriate constraints

CUSTOMER_MASTER

Ans:

```
create table customer_master(
c_no int primary key,
c_name varchar(50),
gender varchar(6),
dob date,
contact_no varchar(10)
);
```

Note: concatc_no is varchar because it is not going to be used in any mathematical calculation.

```
insert into customer_master (c_no, c_name, gender, dob, contact_no)
VALUES
(1, 'Tejasv', 'Male', '2002-08-24', '9988776655'),
(2, 'Tanish', 'Male', '2002-09-16', '7766885544'),
(3, 'Nisha', 'Female', '2003-07-16', '5599223311'),
(4, 'Vishva', 'Female', '2003-09-16', '1166228822'),
(5, 'switi', 'Female', '2003-04-30', '8833002299');
```

BRANCH_MASTER

Ans:

```
create table branch_master (
b_no int primary key,
b_name varchar(50),
location varchar(10)
);

insert into branch_master (b_no, b_name, location) VALUES
(1, 'pune branch', 'pune'),
(2, 'Ahmedabad Branch', 'ahmedabad'),
(3, 'Mumbai branch', 'mumbai'),
(4, 'patan branch', 'patan');
```

ACCOUNT_MASTER

Ans:

```
Create table Account_Master (
a_no int primary key,
a_type varchar(10),
b_no int references branch_master(b_no),
c_no int references customer_master(c_no),
open_date date,
current_bal int
);
INSERT INTO account_master (a_no, a_type, b_no, c_no, open_date,
current_bal) VALUES
(1, 'saving', '1', '1', '2016-08-17', 70000),
(2, 'current', '2', '2', '2016-08-17', 900);
```

(2)Create the following tables with appropriate constraints:

PERSON

Ans:

```
Create table person(
pid int primary key,
name varchar(50),
address varchar(255),
city varchar(30)
);
```

```
INSERT INTO `person` (pid, name, address, city) VALUES
(11, 'Sakshi Modi', 'behind pomos pizza,abc soicty patan 384235', 'patan');
```

ORDER_DISPLAY

Ans:

```
Create table order_display(
oid int primary key,
pid int references person(pid),
order_price int
);

INSERT INTO order_display (oid, pid, order_price) VALUES
(1, 11, 999);
```

EMPLOYEE

Ans:

```
Create table employee(
e_id int primary key,
e_name varchar(50),
designation varchar(40),
salary int,
dob date
);

INSERT INTO employee (e_id, e_name, designation, salary, dob) VALUES
(1, 'smit', 'manager', 90000, '2002-11-15');
```

DEPARTMENT

Ans:

```
Create table department (
d_no int primary key,
d_name varchar(60),
e_id int references employee(e_id)
);
```

QUERIES:

1. List the name of the female customer only.

   Ans: Select c_name from customer_master where gender='female';

c_name
Nisha
Vishva
switi

2. List the order price of the person having id 11.

   Ans: select order_price from order_display where pid=11;

order_price
999

3. Display account details where current balance is greater than 1000.

   Ans: select * from account_master where current_bal > 1000;

a_no	a_type	b_no	c_no	open_date	current_bal
1	saving	1	1	2016-08-17	70000

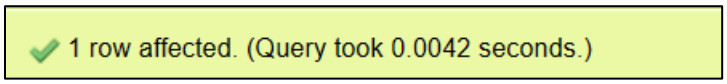
4. Give the distinct set of all account type.

   Ans: select distinct a_type from account_master group by a_type;

a_type
current
saving

5. Give hike of inr 5000 for salary where the designation is ‘manager’.

Ans: Update employee set salary=salary+5000 where designation=’manager’;



6. List all customers numbers having saving bank account only.

Ans: select c_no from account_master where a_type=’saving’;

c_no
1

7. List all customers whose name has three characters and middle character is ‘a’.

Ans: select * from customer_master where length(c_name)=3 and substr(c_name,2,1)=’a’;

c_no	c_name	gender	dob	contact_no
2	ram	Male	2002-09-16	7766885544

8. List all customer name whose last character is ‘h’ and first character is ‘h’ .

Ans: select c_name from customer_master where c_name like ‘h%h’;

c_name
hemansh

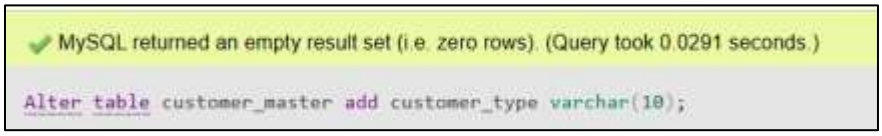
9. List all records from account where account type is ‘fd’ .

Ans: select * from account_master where a_type=’fd’;

a_no	a_type	b_no	c_no	open_date	current_bal
3	fd	3	3	2002-07-19	10000

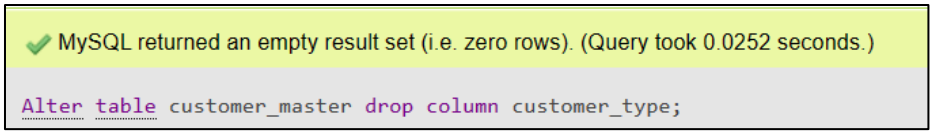
10. Add a column customer_ type in customer master.

Ans: Alter table customer_master add customer_type varchar(10);



11. Drop column customer_type from customer master.

Ans: Alter table customer_master drop column customer_type;



12. Display all the details of account master for current balance ranging from 500 to 1000.

Ans: select * from account_master where current_bal between 100 and 500;

a_no	a_type	b_no	c_no	open_date	current_bal
1	saving	1	1	2016-08-17	200
2	current	2	2	2016-07-18	300
3	fd	3	3	2002-07-19	400

13. Display the name of the customer whose name has total 4 characters and the second character is 'a'.

Ans: select c_name from customer_master where length(c_name)=4 and substr(c_name,2,1)='a';

c_name
ramu

14. Display only those branch details where the location is mumbai,pune,ahmedabad.

Ans:

select * from branch_master where location in('mumbai','pune','ahmedabad');

b_no	b_name	location
1	pune branch	pune
2	Ahmedabad Branch	ahmedabad
3	Mumbai branch	mumbai

15. Display only those loan default details where the reason starts with 'no money'.

Ans: select * from loan_defaults where reason='no money%';

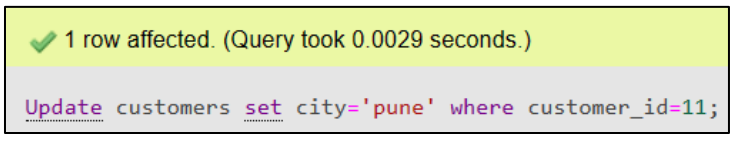
16. Display the details of account where the current balance falls in the range of 10,000 to 20,000.

Ans: select * from account_master where current_bal between 10000 and 20000;

a_no	a_type	b_no	c_no	open_date	current_bal
1	saving	1	1	2016-08-17	20000
2	current	2	2	2016-07-18	11300
3	fd	3	3	2002-07-19	10400

17. Modify the city of customer in 11 to pune.

Ans: Update customers set city='pune' where c_no=11;

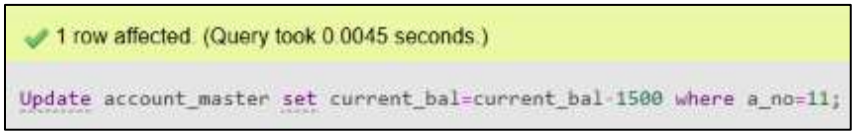


1 row affected. (Query took 0.0029 seconds.)

```
Update customers set city='pune' where customer_id=11;
```

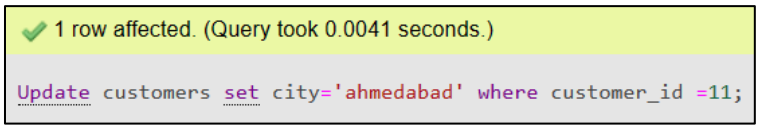
18. Deduct 1500 rupees from account number 11 .

Ans: Update account_master set current_bal=current_bal-1500 where a_no=11;



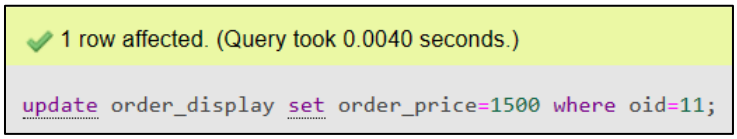
19. Change the city of the customer number 11 to 'ahmedabad' .

Ans: Update customers set city='ahmedabad' where customer_id =11;



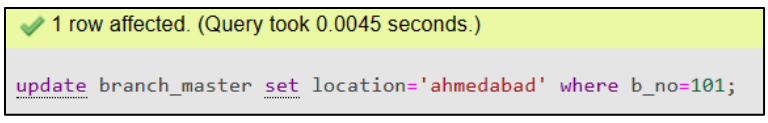
20. Change the order_price to 1500 where oid is 11.

Ans: update order_display set order_price=1500 where oid=11;



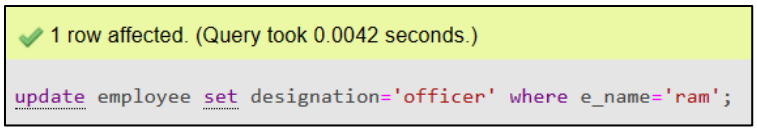
21. Modify the location of branch to "ahmedabad" where the branch id is 101.

Ans: update branch_master set location='ahmedabad' where b_no=101;



22. Change the designation of employee to “officer” where e_name is “ram”.

Ans: update employee set designation='officer' where e_name='ram';



23. Display only those columns from employee where designation is “manager”.

Ans: select * from employee where designation='manager';

e_id	e_name	designation	salary	dob
1	smit	manager	95000	2002-11-15

24. Display only those columns from account_master where balance is either 10000 or 20000.

Ans: select * from account_master where current_bal=10000 or current_bal=20000;

a_no	a_type	b_no	c_no	open_date	current_bal
1	saving	1	1	2016-08-17	20000

25. Display only those columns from account_master where balance is 10000 and account type is “overdraft”.

Ans: select * from account_master where current_bal=10000 and a_type='overdraft';

a_no	a_type	b_no	c_no	open_date	current_bal
1	overdraft	1	1	2016-08-17	10000