



# ATMIYA University

Faculty of Science

Department of Computer Application

Master of Computer Application

**Code : 23MCACC107 | SubjectName: Databases Enterprise Applications**

**Name:=Jainish Barbhaya**

**Enrollment No:=15618223014**

--Question 1: Create a Table for Employee Information -----

```
CREATE TABLE EmployeeInfo (  
    employee_id NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
    first_name VARCHAR2(50) NOT NULL,  
    last_name VARCHAR2(50) NOT NULL,  
    date_of_birth DATE NOT NULL,  
    email VARCHAR2(100),  
    phone_number VARCHAR2(20),  
    hire_date DATE NOT NULL,  
    department VARCHAR2(50)  
);
```

----- Question 1: Altering the EmployeeInfo Table -----

1. Add a new column named **address** of type **VARCHAR2(200)** to store employee addresses.

```
ALTER TABLE EmployeeInfo ADD address varchar2(200);
```

2. Modify the email column to allow null values.

```
ALTER TABLE EmployeeInfo MODIFY email VARCHAR2(100);
```

3. Rename the column **phone\_number** to **contact\_number**.

```
ALTER TABLE EmployeeInfo RENAME COLUMN phone_number TO contact_number;
```

4. Delete the department column from the table.

```
ALTER TABLE EmployeeInfo DROP COLUMN department;
```

5. Add a primary key constraint on the **employee\_id** column.



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```
ALTER TABLE EmployeeInfo ADD CONSTRAINT pk_employee_id PRIMARY KEY
(employee_id);
```

6. Remove the primary key constraint from the employee\_id column.

```
ALTER TABLE EmployeeInfo DROP CONSTRAINT pk_employee_id;
```

----- ADD Employeeinfo table record -----

```
insert into
```

```
EmployeeInfo(first_name,last_name,date_of_birth,email,phone_number,hire_date,department)
```

```
values
```

```
('jainish','barbhaya','01-feb-2003','jainish@gmail.com',6352811628,'16-apr-2023','mca');
```

----- Update Queries for EmployeeInfo Table: -----

1. You need to update the email address of an employee with employee\_id 1. Set their email to 'newemail@example.com'

```
UPDATE EmployeeInfo SET email = 'newemail@example.com' WHERE
employee_id = 1;
```

2. An employee with employee\_id 203 recently changed their last name to 'Johnson.' Update their last name in the EmployeeInfo table accordingly. Write the SQL query to make this change.

```
UPDATE EmployeeInfo SET last_name = 'Johnson' WHERE employee_id = 203;
```

3. An employee with employee\_id 305 has been promoted and their salary needs to be increased by \$5,000.



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---note: salary name column is not available in employeeinfo table

```
UPDATE EmployeeInfo SET salary = salary + 5000 WHERE employee_id = 305;
```

4. Due to a system error, the hire date of an employee with employee\_id 402 was recorded incorrectly as '2023-06-15' instead of '2023-06-01'. Write an SQL query to correct this hire date.

```
UPDATE EmployeeInfo SET hire_date = TO_DATE('01-jun-2023') WHERE employee_id = 402;
```

5. You need to assign a new department to an employee with employee\_id 507. Update their department to 'Marketing'.

```
UPDATE EmployeeInfo SET department = 'Marketing' WHERE employee_id = 507;
```

-----Question 2: Create a Table for Product Inventory -----

```
CREATE TABLE ProductInventory (  
    product_id NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
    product_name VARCHAR2(100) NOT NULL,  
    description VARCHAR2(200),  
    price NUMBER(10, 2) NOT NULL,  
    quantity_in_stock NUMBER(5) NOT NULL,  
    manufacturer VARCHAR2(50),  
    category VARCHAR2(50),  
    date_added DATE NOT NULL);
```



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----- Question 2: Altering the ProductInventory Table -----

1. Increase the **precision** of the price column **to** allow prices up **to** \$9999.99.

```
ALTER TABLE ProductInventory MODIFY price NUMBER(11, 2);
```

2. **Add** a new column named **manufacturer\_location** of **type VARCHAR2(100)** **to** store the **location** of the manufacturer.

```
ALTER TABLE ProductInventory ADD manufacturer_location VARCHAR2(100);
```

3. Rename the column **category** **to** **product\_category**.

```
ALTER TABLE ProductInventory RENAME COLUMN category TO  
product_category;
```

4. **Set** a **default value** of **0** **for** the **quantity\_in\_stock** column.

```
ALTER TABLE ProductInventory MODIFY quantity_in_stock NUMBER(5)  
DEFAULT 0;
```

5. **Add** a **primary key constraint** **on** the **product\_id** column.

```
ALTER TABLE ProductInventory ADD CONSTRAINT pk_product_id PRIMARY KEY  
(product_id);
```

6. **Remove** the **primary key constraint** **from** the **product\_id** column.

```
ALTER TABLE ProductInventory DROP CONSTRAINT pk_product_id;
```

----- Update Queries for ProductInventory Table: -----



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1. The price of a product with product\_id 101 has been increased by 10%. Write an SQL query to update the price accordingly.

```
UPDATE ProductInventory SET price = price * 1.10 WHERE product_id = 101;
```

2. A product with product\_id 205 has been discontinued, and its quantity in stock should be set to 0. Write an SQL query to update the quantity\_in\_stock for this product.

```
UPDATE ProductInventory SET quantity_in_stock = 0 WHERE product_id = 205;
```

3. The manufacturer of a product with product\_id 303 has changed their location. Update the manufacturer\_location to 'New York' for this product.

```
UPDATE ProductInventory SET manufacturer_location = 'New York' WHERE product_id = 303;
```

4. Update the category of products with names containing the word 'Electronics' to 'Electrical Appliances'.

```
UPDATE ProductInventory SET product_category = 'Electrical Appliances' WHERE INSTR(product_name, 'Electronics');
```

5. A product with product\_id 408 has been recalled and is no longer available. Update its quantity\_in\_stock to -1 to mark it as unavailable.

```
UPDATE ProductInventory SET quantity_in_stock = -1 WHERE product_id = 408;
```



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-----Question 3: Create a Table for Library Books -----

```
CREATE TABLE LibraryBooks (  
    book_id NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
    title VARCHAR2(200) NOT NULL,  
    author VARCHAR2(150) NOT NULL,  
    publication_date DATE NOT NULL,  
    isbn VARCHAR2(20),  
    genre VARCHAR2(50),  
    available_copies NUMBER(5),  
    total_copies NUMBER(5)  
);
```

----- Question 3: Altering the LibraryBooks Table -----

1. Add a new column named `language` of type `VARCHAR2(50)` to store the `language` of the book.

```
ALTER TABLE LibraryBooks ADD language VARCHAR2(50);
```

2. Modify the `isbn` column to allow null values.

```
ALTER TABLE LibraryBooks MODIFY isbn VARCHAR2(20) NULL;
```

3. Rename the column `available_copies` to `available_quantity`.

```
ALTER TABLE LibraryBooks RENAME COLUMN available_copies TO  
available_quantity;
```

4. Delete the `total_copies` column from the table.

```
ALTER TABLE LibraryBooks DROP COLUMN total_copies;
```



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5. Add a primary key constraint on the book\_id column.

```
ALTER TABLE LibraryBooks ADD CONSTRAINT pk_book_id PRIMARY KEY
(book_id);
```

6. Remove the primary key constraint from the book\_id column.

```
ALTER TABLE LibraryBooks DROP CONSTRAINT pk_book_id;
```

----- Update Queries for LibraryBooks Table:

1. A book with book\_id 101 has received a new edition, and its title needs to be updated to 'The New Book Title'. Write an SQL query to update the books title.

```
UPDATE LibraryBooks SET title = 'The New Book Title' WHERE book_id =
101;
```

2. Correct the publication date of a book with book\_id 203, which was mistakenly recorded as '2021-05-15' instead of '2021-05-01'.

```
UPDATE LibraryBooks SET publication_date = TO_DATE('01-may-2021',
'YYYY-MM-DD') WHERE book_id = 203;
```

3. Update the genre of all books published before the year 2000 to 'Classics'.

```
UPDATE LibraryBooks SET genre = 'Classics' WHERE EXTRACT(YEAR FROM
publication_date) < 2000;
```



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4. The total copies of a book with book\_id 305 should be increased by 5 due to high demand. Write an SQL query to update the total\_copies accordingly.

```
UPDATE LibraryBooks SET total_copies = total_copies + 5 WHERE book_id = 305;
```

5. A book with book\_id 402 has been removed from the librarys collection. Set its available\_quantity to 0 to mark it as unavailable.

```
UPDATE LibraryBooks SET available_quantity = 0 WHERE book_id = 402;
```

----- Question 4: Create a Table for Customer Orders -----

```
CREATE TABLE CustomerOrders (  
    order_id NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
    customer_name VARCHAR2(100) NOT NULL,  
    order_date DATE NOT NULL,  
    total_amount NUMBER(10, 2) NOT NULL,  
    shipping_address VARCHAR2(200),  
    payment_method VARCHAR2(50),  
    status VARCHAR2(20),  
    tracking_number VARCHAR2(30)  
);
```

----- Question 4: Altering the CustomerOrders Table -----

1. Add a new column named delivery\_date of type DATE to store the expected delivery date of orders.





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```
ALTER TABLE CustomerOrders ADD delivery_date DATE;
```

2. Modify the shipping\_address column to allow longer addresses (e.g., VARCHAR2(250)).

```
ALTER TABLE CustomerOrders MODIFY shipping_address VARCHAR2(250);
```

3. Rename the column payment\_method to payment\_type.

```
ALTER TABLE CustomerOrders RENAME COLUMN payment_method TO  
payment_type;
```

4. Set a default value of 'Processing' for the status column.

```
ALTER TABLE CustomerOrders MODIFY status DEFAULT 'Processing';
```

5. Add a primary key constraint on the order\_id column.

```
ALTER TABLE CustomerOrders ADD CONSTRAINT pk_order_id PRIMARY KEY  
(order_id);
```

6. Remove the primary key constraint from the order\_id column

```
ALTER TABLE CustomerOrders DROP CONSTRAINT pk_order_id;
```

----- Update Queries for CustomerOrders Table: -----

1. An order with order\_id 101 has a new shipping address due to a customer's recent move. Update the shipping\_address for this order.

```
UPDATE CustomerOrders SET shipping_address = 'New Address Here' WHERE  
order_id = 101;
```



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2. Change the payment `type` of an order `with order_id 203` from `'Credit Card'` to `'PayPal'`.

```
UPDATE CustomerOrders SET payment_method = 'PayPal' WHERE order_id = 203;
```

3. An order `with order_id 303` is delayed `and` will be delivered two `days` later. `Update` its `delivery_date` accordingly.

```
UPDATE CustomerOrders SET order_date = order_date + 2 WHERE order_id = 303;
```

4. `Update` the total amount of an order `with order_id 405` to `$175.50`, reflecting a change `in` the orders contents.

```
UPDATE CustomerOrders SET total_amount = 175.50 WHERE order_id = 405;
```

5. An order `with order_id 501` has been canceled. Change its `status` to `'Canceled'` and `remove` the tracking `number`.

```
UPDATE CustomerOrders SET status = 'Canceled', tracking_number = NULL WHERE order_id = 501;
```

----- Delete Queries for EmployeeInfo Table: -----

1. You need `to remove` an employee `with employee_id 101` who has left the company. Write an `SQL` query `to delete` this employees record `from` the `EmployeeInfo` `table`.

```
DELETE FROM EmployeeInfo WHERE employee_id = 101;
```

2. `Delete` all employees `with` a `hire_date` `before` `'2020-01-01'` who are `no` longer `with` the company. Write an `SQL` query `to remove` these records.



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```
DELETE FROM EmployeeInfo WHERE hire_date < TO_DATE('01-jan-2020');
```

----- Delete Queries for ProductInventory Table: -----

1. A product with product\_id 201 is discontinued and should be removed from the inventory. Write an SQL query to delete this products record from the ProductInventory table.

```
DELETE FROM ProductInventory WHERE product_id = 201;
```

2. Delete all products with a price greater than \$500.00 that are no longer in stock (quantity\_in\_stock = 0). Write an SQL query to remove these records.

```
DELETE FROM ProductInventory WHERE price > 500.00 AND  
quantity_in_stock = 0;
```

----- Delete Queries for LibraryBooks Table: -----

1. A book with book\_id 102 has been permanently removed from the library's collection. Write an SQL query to delete this book's record from the LibraryBooks table.

```
DELETE FROM LibraryBooks WHERE book_id = 102;
```

2. Remove all books published before the year 1990 that have less than 5 available copies. Write an SQL query to remove these records.

```
DELETE FROM LibraryBooks WHERE EXTRACT(YEAR FROM publication_date) <  
1990 AND available_quantity < 5;
```



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----- Delete Queries for CustomerOrders Table: -----

1. An order with order\_id 301 was mistakenly duplicated in the system and needs to be deleted. Write an SQL query to remove one of the duplicate orders.

```
DELETE FROM CustomerOrders WHERE order_id = 301;
```

2. Delete all orders with a total\_amount less than \$50.00 that are in 'Canceled' status. Write an SQL query to remove these records.

```
DELETE FROM CustomerOrders WHERE total_amount < 50.00 AND status = 'Canceled';
```