

# **Topic Name**

Covid-19 Vaccination Information Bangladesh

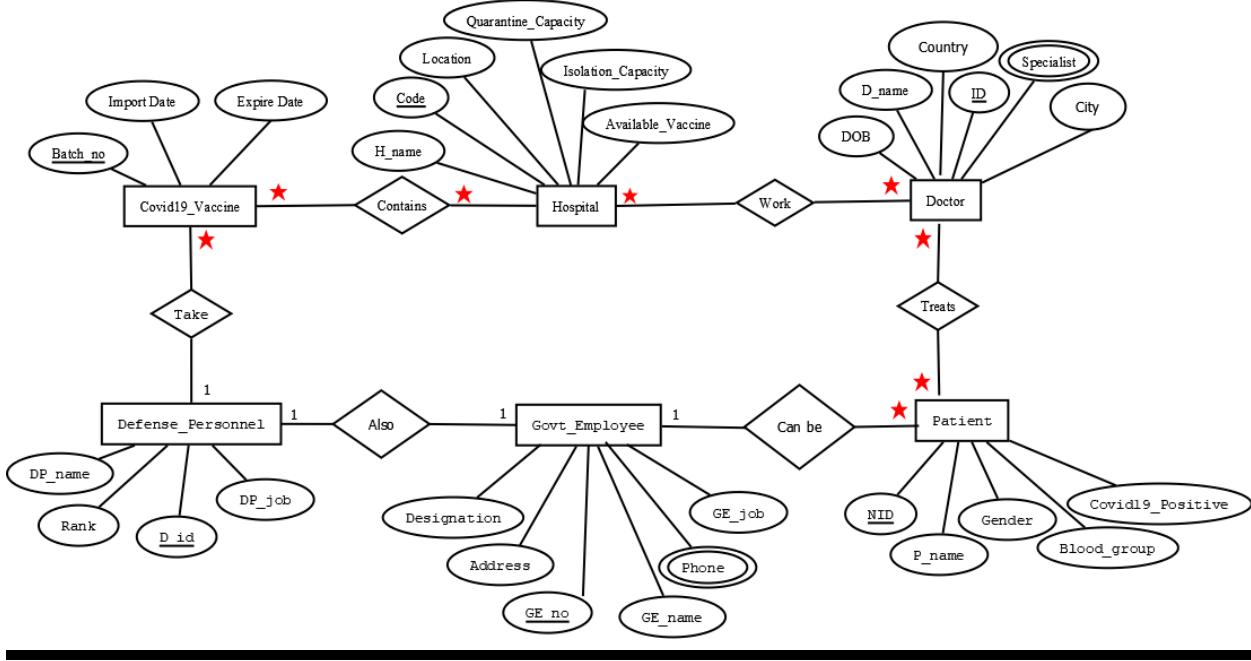
## **Member Name & ID**

- |                             |                  |
|-----------------------------|------------------|
| 1) ARMAN HOSSAIN            | - ID: 20-43408-1 |
| 2) MD. MAHABUB MORSHED IJAZ | - ID: 20-43434-1 |
| 3) FAHAD AZIZ               | - ID: 20-43447-1 |
| 4) AHANA BHUIYAN            | - ID: 20-43412-1 |

# Scenario

Our Project is about Covid-19 Vaccine distribution. In this database we will take all data about of Covid-19 vaccine mainly how it will distribute on people. At first we will start Covid19\_Vaccine table. In this Entity it has some attributes. These are Batch no, Import Date, Expire Date. In this table Batch no is a primary key. Covid19\_Vaccine entity connected with Hospital. From Covid19\_Vaccine table it relation contains with Hospital. Hospital has some attributes like H\_name, Code, Location, Quarantine\_Capacity, Isolation\_Capacity and Available\_Vaccine. In this table Code is a primary key. Hospital has a relation with Doctor by work. Doctor has some attributes- DOB, D\_Name, Country, ID, Specialist, City. Here ID is a primary key. Doctor has a relation with Patient table. In Patient table has also some attributes- NID, P\_name, Gender, Blood\_group, Covid19\_Positive. NID is a primary key. Patient can be relation with Govt\_Employee. Govt. Employee has some attributes- Designation, Address, GE\_no, GE\_name, Phone, GE\_job. Here GE\_no is a Primary key. This entity relation with another entity called Defense\_Personnel. In Defense\_Personnel entity also has some attributes like DP\_name, Rank, D\_id, DP\_job. Here D\_id is a Primary key. Defense\_Personnel entity connected with Covid-19\_Vaccine table. All the above information will be stored in the database.

# ER Diagram



# **NORMALIZATION**

## **FROM ER-DIAGRAM:**

**Covid19\_Vaccine**----- Batch no, Import Date, Export Date

**Hospital**----- Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine

**Doctor** ----- ID, D\_name, DOB, Specialist, Country, City

**Patient**--- NID, P\_name, gender, Blood Group, Covid19\_Positive

**Govt\_Employee**----- GE\_No, GE\_name, GE\_job, Address, Designation, Phone

**Defense\_Personnel**----- D\_id, DP\_name, DP\_job, Rank

## **NORMALIZATION ( 1<sup>ST</sup> STEP)**

**Contains---** (Batch no, Import Date, Export Date, Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine)

1NF → There is no multivalued attribute.

2NF → Batch no, Import Date, Export Date.

Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine

3NF → **No Transitive Dependency**

Batch no, Import Date, Export Date.

Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine

**Final Table for Contains**

1. Batch no, Import Date, Export Date.
2. Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine
3. B id, Batch no, Code

**Work-----** (Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine, ID, D\_name, DOB, Specialist, Country, City)

1NF → Specialist is a multivalued attribute.

2NF → Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine

ID, D\_name, DOB, Specialist, Country, City

3NF → Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine

ID, D\_name, DOB, Specialist

C\_id, Country, City

## Final Table for Work

1. Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine

2. ID, D\_name, DOB, C\_id

3. C\_id, Country, City

4. ID, Specialist → Composite PK

5. W\_id, Code, ID

**Treats**---- (ID, D\_name, DOB, Specialist, Country, City, NID, P\_name, Gender, Blood\_group, Covid19\_Positive)

1NF → Specialist is a multivalued attribute.

2NF → ID, D\_name, DOB, Specialist, Country, City

NID, P\_name, Gender, Blood\_group, Covid19\_Positive

3NF → ID, D\_name, DOB, Specialist

C\_id, Country, City

NID, P\_name, Gender, Blood\_group, Covid19\_Positive

## Final Table for Treats

1. ID, D\_name, DOB, C\_id
2. C\_id, Country, City
3. ID, Specialist → Composite PK
4. NID, P\_name, Gender, Blood\_group, Covid19\_Positive
5. T\_id, ID, NID

**Can be----- (NID, P\_name, Gender, Blood\_group, Covid19\_Positive, GE\_No, GE\_name, GE\_job, Address, Designation, Phone)**

1NF → Phone is a multivalued attribute.

2NF → NID, P\_name, Gender, Blood\_group, Covid19\_Positive

GE\_No, GE\_name, GE\_job, Address, Designation, Phone

3NF → **No Transitive Dependency**

NID, P\_name, Gender, Blood\_group, Covid19\_Positive

GE\_No, GE\_name, GE\_job, Address, Designation, Phone

### **Final Table for Can be**

1. NID, P\_name, Gender, Blood\_group, Covid19\_Positive, **GE\_No**
2. GE\_No, GE\_name, GE\_job, Address, Designation
3. GE\_No, Phone → Composite PK

**Also---- (D\_id, DP\_name, DP\_job, Rank, GE\_No, GE\_name, GE\_job, Address, Designation, Phone)**

1NF → Phone is a multivalued attribute.

2NF → D\_id, DP\_name, DP\_job, Rank

GE\_No, GE\_name, GE\_job, Address, Designation, Phone

3NF → **No Transitive Dependency**

D\_id, DP\_name, DP\_job, Rank

GE\_No, GE\_name, GE\_job, Address, Designation, Phone

### **Final Table for Also**

1. D\_id, DP\_name, DP\_job, Rank
2. GE\_No, GE\_name, GE\_job, Address, Designation, **D\_id**
3. GE\_No, **Phone → Composite PK**

**Take---** (Batch no, Import Date, Export Date, D\_id, DP\_name, DP\_job, Rank)

1NF → There is no multivalued attribute.

2NF → Batch no, Import Date, Export Date

D\_id, DP\_name, DP\_job, Rank

3NF → **No Transitive Dependency**

Batch no, Import Date, Export Date

D\_id, DP\_name, DP\_job, Rank

### Final Table for Take

1. Batch no, Import Date, Export Date, **D\_id**
2. D\_id, DP\_name, DP\_job, Rank

## Table List

1. Batch no, Import Date, Export Date.
2. Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine
3. B\_id, Batch\_no, Code
4. Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine
5. ID, D\_name, DOB, C\_id
6. C\_id, Country, City
7. ID, Specialist → Composite PK
8. W\_id, Code, ID
9. ID, D\_name, DOB, C\_id
10. C\_id, Country, City
11. ID, Specialist → Composite PK
12. NID, P\_name, Gender, Blood\_group, Covid19\_Positive
13. T\_id, ID, NID
14. NID, P\_name, Gender, Blood\_group, Covid19\_Positive, GE\_No
15. GE\_No, GE\_name, GE\_job, Address, Designation
16. GE\_No, Phone → Composite PK
17. D\_id, DP\_name, DP\_job, Rank
18. GE\_No, GE\_name, GE\_job, Address, Designation, D\_id
19. GE\_No, Phone → Composite PK
20. Batch no, Import Date, Export Date, D\_id
21. D\_id, DP\_name, DP\_job, Rank

## Final Table List

1. Batch\_no, Import Date, Export Date, D\_id → Covid19\_Vaccine
2. B\_id, Batch\_no, Code → Batch
3. Code, H\_name, Location, Quarantine\_Capacity, Isolation\_Capacity, Available\_Vaccine → Hospital
4. W\_id, Code, ID → Work
5. ID, D\_name, DOB, C\_id → Doctor
6. C\_id, Country, City → Location
7. ID, Specialist → Composite PK → Expert
8. T\_id, ID, NID → Identity
9. NID, P\_name, Gender, Blood\_group, Covid19\_Positive, GE\_No → Patient
10. GE\_No, GE\_name, GE\_job, Address, Designation, D\_id → Govt\_Employee
11. GE\_No, Phone → Composite PK → Contact
12. D\_id, DP\_name, DP\_job, Rank → Defense\_Personnel

# Table Creation

## (1) Covid19\_Vaccine:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Covid19_Vaccine(
Batch_no number(10),
Import Date,
Export Date,
D_id number(10)
)
desc Covid19_Vaccine
```

Below the code, the results of the `desc Covid19_Vaccine` command are displayed in a table:

| Table           | Column   | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-----------------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| COVID19_VACCINE | BATCH_NO | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|                 | IMPORT   | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|                 | EXPORT   | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|                 | D_ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

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## (2) Batch:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Batch(
B_id number(10),
Batch_no number(10),
Code number(15)
)
desc Batch
```

Below the code, the results of the `desc Batch` command are displayed in a table:

| Table | Column   | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| BATCH | B_ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|       | BATCH_NO | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|       | CODE     | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |

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### (3) Hospital:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Hospital(
    Code number(10),
    H_name varchar2(25),
    Location varchar2(25),
    Quarantine_Capacity number(5),
    Isolation_Capacity number(5),
    Available_Vaccine number(10)
)

desc Hospital
```

Below the code, the results of the `desc Hospital` command are shown, detailing the columns of the `HOSPITAL` table:

| Table    | Column              | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|---------------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| HOSPITAL | CODE                | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|          | H_NAME              | VARCHAR2  | 25     | -         | -     | -           | ✓        | -       | -       |
|          | LOCATION            | VARCHAR2  | 25     | -         | -     | -           | ✓        | -       | -       |
|          | QUARANTINE_CAPACITY | Number    | -      | 5         | 0     | -           | ✓        | -       | -       |
|          | ISOLATION_CAPACITY  | Number    | -      | 5         | 0     | -           | ✓        | -       | -       |
|          | AVAILABLE_VACCINE   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

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### (4) Work:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table work(
    W_id number(10),
    Code number(15),
    ID number(10)
)

desc Work
```

Below the code, the results of the `desc Work` command are shown, detailing the columns of the `WORK` table:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| WORK  | W_ID   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|       | CODE   | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |
|       | ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

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## (5) Doctor:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command window contains the following code:

```
create table Doctor(
ID number(10),
D_name varchar2(20),
DOB date,
C_id number(10)
)
desc Doctor
```

The results section shows the description of the DOCTOR table:

| Table  | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|--------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| DOCTOR | ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|        | D_NAME | Varchar2  | 20     | -         | -     | -           | ✓        | -       | -       |
|        | DOB    | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|        | C_ID   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

Below the table description, the status bar indicates "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

## (6) Location:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command window contains the following code:

```
create table Location(
c_id number(10),
Country varchar2(20),
City varchar2(25)
)
desc location
```

The results section shows the description of the LOCATION table:

| Table    | Column  | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|---------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| LOCATION | C_ID    | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|          | COUNTRY | Varchar2  | 20     | -         | -     | -           | ✓        | -       | -       |
|          | CITY    | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |

Below the table description, the status bar indicates "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

## (7) Expert:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Expert(
ID number(10),
Specialist varchar2(30)
)

desc Expert
```

The results show the table structure:

| Table  | Column     | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|--------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EXPERT | ID         | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|        | SPECIALIST | Varchar2  | 30     | -         | -     | -           | ✓        | -       | -       |

Object Type: TABLE Object: EXPERT

Results Explain Describe Saved SQL History

Object Type: TABLE Object: EXPERT

Table Column Data Type Length Precision Scale Primary Key Nullable Default Comment

EXPERT ID Number - 10 0 - ✓ - -

SPECIALIST Varchar2 30 - - - ✓ - -

1 - 2

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## (8) Identity:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Identity(
T_id number(10),
ID number(10),
NID number(25)
)

desc Identity
```

The results show the table structure:

| Table    | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| IDENTITY | T_ID   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|          | ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|          | NID    | Number    | -      | 25        | 0     | -           | ✓        | -       | -       |

Object Type: TABLE Object: IDENTITY

Table Column Data Type Length Precision Scale Primary Key Nullable Default Comment

IDENTITY T\_ID Number - 10 0 - ✓ - -

ID Number - 10 0 - ✓ - -

NID Number - 25 0 - ✓ - -

1 - 3

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## (9) Patient:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Patient(
    NID number(25),
    P_name varchar2(25),
    Gender varchar2(10),
    Blood_group varchar2(15),
    Covid19_Positive varchar2(10),
    GE_No number(15)
)

desc Patient
```

Below the code, the results of the `desc Patient` command are displayed, showing the structure of the table:

| Object Type | TABLE Object     | PATIENT   |        |           |       |             |          |         |         |
|-------------|------------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| Table       | Column           | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
| PATIENT     | NID              | Number    | -      | 25        | 0     | -           | ✓        | -       | -       |
|             | P_NAME           | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |
|             | GENDER           | Varchar2  | 10     | -         | -     | -           | ✓        | -       | -       |
|             | BLOOD_GROUP      | Varchar2  | 15     | -         | -     | -           | ✓        | -       | -       |
|             | COVID19_POSITIVE | Varchar2  | 10     | -         | -     | -           | ✓        | -       | -       |
|             | GE_NO            | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |

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## (10) Govt\_Employee:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Govt_Employee(
    GE_No number(15),
    GE_name varchar2(25),
    GE_job varchar2(30),
    Address varchar2(35),
    Designation varchar2(20),
    D_id number(10)
)

desc Govt_Employee
```

Below the code, the results of the `desc Govt_Employee` command are displayed, showing the structure of the table:

| Object Type   | TABLE Object | GOVT_EMPLOYEE |        |           |       |             |          |         |         |
|---------------|--------------|---------------|--------|-----------|-------|-------------|----------|---------|---------|
| Table         | Column       | Data Type     | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
| GOVT_EMPLOYEE | GE_NO        | Number        | -      | 15        | 0     | -           | ✓        | -       | -       |
|               | GE_NAME      | Varchar2      | 25     | -         | -     | -           | ✓        | -       | -       |
|               | GE_JOB       | Varchar2      | 30     | -         | -     | -           | ✓        | -       | -       |
|               | ADDRESS      | Varchar2      | 35     | -         | -     | -           | ✓        | -       | -       |
|               | DESIGNATION  | Varchar2      | 20     | -         | -     | -           | ✓        | -       | -       |
|               | D_ID         | Number        | -      | 10        | 0     | -           | ✓        | -       | -       |

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## (11) Contact:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following code:

```
create table contact(
    GE_No number(15),
    Phone number(20)
)
desc Contact
```

The results section shows the table definition:

| Object Type | TABLE  | Object    | CONTACT |           |       |             |          |         |         |
|-------------|--------|-----------|---------|-----------|-------|-------------|----------|---------|---------|
| Table       | Column | Data Type | Length  | Precision | Scale | Primary Key | Nullable | Default | Comment |
| CONTACT     | GE_NO  | Number    | -       | 15        | 0     | ✓           | -        | -       |         |
|             | PHONE  | Number    | -       | 20        | 0     | ✓           | -        | -       |         |

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## (12) Defense\_Personnel:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following code:

```
create table Defense_Personnel(
    DP_id number(10),
    DP_name varchar2(20),
    DP_job varchar2(20),
    Rank varchar2(25)
)
desc Defense_Personnel
```

The results section shows the table definition:

| Object Type       | TABLE   | Object    | DEFENSE_PERSONNEL |           |       |             |          |         |         |
|-------------------|---------|-----------|-------------------|-----------|-------|-------------|----------|---------|---------|
| Table             | Column  | Data Type | Length            | Precision | Scale | Primary Key | Nullable | Default | Comment |
| DEFENSE_PERSONNEL | DP_ID   | Number    | -                 | 10        | 0     | ✓           | -        | -       |         |
|                   | DP_NAME | VARCHAR2  | 20                | -         | -     | ✓           | -        | -       |         |
|                   | DP_JOB  | VARCHAR2  | 20                | -         | -     | ✓           | -        | -       |         |
|                   | RANK    | VARCHAR2  | 25                | -         | -     | ✓           | -        | -       |         |

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# PRIMARY KEY

## (1) Covid19\_Vaccine:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is run:

```
create table Covid19_Vaccine(
Batch_no number(10),
Import Date,
Export Date,
D_id number(10)
)

alter table Covid19_Vaccine add constraint CV1 primary key(Batch_no)

desc Covid19_Vaccine

create table Batch(
B_id number(10),
Batch_no number(10),
Code number(15)
)
```

Below the code, the results of the DESC command are shown:

| Table           | Column   | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-----------------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| COVID19_VACCINE | BATCH_NO | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|                 | IMPORT   | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|                 | EXPORT   | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|                 | D_ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

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## (2) Batch:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is run:

```
create table Batch(
B_id number(10),
Batch_no number(10),
Code number(15)
)

alter table Batch add constraint B1 primary key(B_id)

desc Batch

create table Hospital(
Code number(10),
H_name varchar2(25),
Location varchar2(25),
Quarantine_Capacity number(5),
)
```

Below the code, the results of the DESC command are shown:

| Table | Column   | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| BATCH | B_ID     | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|       | BATCH_NO | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|       | CODE     | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |

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### (3) Hospital:

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following code:

```
create table Hospital(
    Code number(10),
    H_name varchar2(25),
    Location varchar2(25),
    Quarantine Capacity number(5),
    Isolation Capacity number(5),
    Available Vaccine number(10)
)
alter table Hospital add constraint HI primary key(Code)
desc hospital

create table Work(
```

Below the code, the results of the `desc hospital` command are shown:

| Table    | Column              | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|---------------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| HOSPITAL | CODE                | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|          | H_NAME              | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |
|          | LOCATION            | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |
|          | QUARANTINE_CAPACITY | Number    | -      | 5         | 0     | -           | ✓        | -       | -       |
|          | ISOLATION_CAPACITY  | Number    | -      | 5         | 0     | -           | ✓        | -       | -       |
|          | AVAILABLE_VACCINE   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

At the bottom right of the interface, it says "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

### (4) Work:

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following code:

```
desc hospital

create table Work(
    W_id number(10),
    Code number(15),
    ID number(10)
)
alter table Work add constraint W1 primary key(W_id)
desc work

create table Doctor(
    ID number(10),
    D_name varchar2(20)
```

Below the code, the results of the `desc work` command are shown:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| WORK  | W_ID   | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|       | CODE   | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |
|       | ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

At the bottom right of the interface, it says "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

## (5) Doctor:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following SQL code:

```
create table Doctor(
ID number(10),
D_name varchar2(20),
DOB date,
C_id number(10)
)
alter table Doctor add constraint D1 primary key(ID)
desc Doctor

create table Location(
C_id number(10),
```

Below the code, there is a table definition for the DOCTOR object:

| Table  | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|--------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| DOCTOR | ID     | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|        | D_NAME | VARCHAR2  | 20     | -         | -     | -           | ✓        | -       | -       |
|        | DOB    | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|        | C_ID   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

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## (6) Location:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following SQL code:

```
create table Location(
C_id number(10),
Country varchar2(20),
City varchar2(25)
)
alter table Location add constraint L1 primary key(C_id)
desc Location

create table Expert(
ID number(10),
Specialist varchar2(30)
)
```

Below the code, there is a table definition for the LOCATION object:

| Table    | Column  | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|---------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| LOCATION | C_ID    | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|          | COUNTRY | VARCHAR2  | 20     | -         | -     | -           | ✓        | -       | -       |
|          | CITY    | VARCHAR2  | 25     | -         | -     | -           | ✓        | -       | -       |

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## (7) Expert:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following code:

```
alter table Location add constraint L1 primary key(C_id)
desc Location
create table Expert(
ID number(10),
Specialist varchar2(30)
)
alter table Expert add constraint E1 primary key(ID)
desc Expert
create table Identity/
```

The results pane shows the creation of the EXPERT table:

| Table  | Column     | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|--------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EXPERT | ID         | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|        | SPECIALIST | Varchar2  | 30     | -         | -     | -           | ✓        | -       | -       |

Object Type: TABLE Object: EXPERT

Language: en-us

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## (8) Identity:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following code:

```
desc Expert
create table Identity(
T_id number(10),
ID number(10),
NID number(25)
)
alter table Identity add constraint Id1 primary key(T_id)
desc Identity
create table Patient(
NID number(25),
```

The results pane shows the creation of the IDENTITY table:

| Table    | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| IDENTITY | T_ID   | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|          | ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|          | NID    | Number    | -      | 25        | 0     | -           | ✓        | -       | -       |

Object Type: TABLE Object: IDENTITY

Language: en-us

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## (9) Patient:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
desc identity
create table Patient(
    NID number(25),
    P_name varchar2(25),
    Gender varchar2(10),
    Blood_group varchar2(15),
    Covid19_Positive varchar2(10),
    GE_No number(15)
)
alter table Patient add constraint PA1 primary key(NID)
desc Patient
```

Below the code, the results of the `desc Patient` command are displayed, showing the table structure:

| Table   | Column           | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------|------------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| PATIENT | NID              | Number    | -      | 25        | 0     | 1           | -        | -       | -       |
|         | P_NAME           | VARCHAR2  | 25     | -         | -     | -           | ✓        | -       | -       |
|         | GENDER           | VARCHAR2  | 10     | -         | -     | -           | ✓        | -       | -       |
|         | BLOOD_GROUP      | VARCHAR2  | 15     | -         | -     | -           | ✓        | -       | -       |
|         | COVID19_POSITIVE | VARCHAR2  | 10     | -         | -     | -           | ✓        | -       | -       |
|         | GE_NO            | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |

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## (10) Govt\_Employee:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
desc identity
create table Govt_Employee(
    GE_No number(15),
    GE_name varchar2(25),
    GE_job varchar2(30),
    Address varchar2(35),
    Designation varchar2(20),
    D_id number(10)
)
alter table Govt_Employee add constraint GE1 primary key(GE_No)
desc Govt_Employee
create table Contact(
```

Below the code, the results of the `desc Govt_Employee` command are displayed, showing the table structure:

| Table         | Column      | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------------|-------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| GOVT_EMPLOYEE | GE_NO       | Number    | -      | 15        | 0     | 1           | -        | -       | -       |
|               | GE_NAME     | VARCHAR2  | 25     | -         | -     | -           | ✓        | -       | -       |
|               | GE_JOB      | VARCHAR2  | 30     | -         | -     | -           | ✓        | -       | -       |
|               | ADDRESS     | VARCHAR2  | 35     | -         | -     | -           | ✓        | -       | -       |
|               | DESIGNATION | VARCHAR2  | 20     | -         | -     | -           | ✓        | -       | -       |
|               | D_ID        | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

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## (11) Contact:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
desc Govt_Employee
create table contact(
    GE_No number(15),
    Phone number(20)
)
alter table Contact add constraint CO1 primary key(GE_No)
desc Contact
create table Defense_Personnel(
    D_id number(10),
    DP_name varchar2(20),
```

Below the code, the results of the `desc Contact` command are shown:

| Table   | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| CONTACT | GE_NO  | Number    | -      | 15        | 0     | 1           | -        | -       | -       |
| CONTACT | PHONE  | Number    | -      | 20        | 0     | -           | ✓        | -       | -       |

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## (12) Defense\_Personnel:

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table Defense_Personnel(
    D_id number(10),
    DP_name varchar2(20),
    DP_job varchar2(20),
    Rank varchar2(25)
)
alter table Defense_Personnel add constraint DP1 primary key(D_id)
desc Defense_Personnel
```

Below the code, the results of the `desc Defense_Personnel` command are shown:

| Table             | Column  | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------------------|---------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| DEFENSE_PERSONNEL | D_ID    | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
| DEFENSE_PERSONNEL | DP_NAME | Varchar2  | 20     | -         | -     | -           | ✓        | -       | -       |
| DEFENSE_PERSONNEL | DP_JOB  | Varchar2  | 20     | -         | -     | -           | ✓        | -       | -       |
| DEFENSE_PERSONNEL | RANK    | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |

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# FOREIGN KEY

ORACLE Database Express Edition

User SCOTT

Home > SQL > SQL Commands

```
create table Covid19_Vaccine(
Batch_no number(10),
Import Date,
Export Date,
D_id number(10)
)

alter table Covid19_Vaccine add constraint CV1 primary key(Batch_no)

alter table Covid19_Vaccine add constraint CV2 foreign key(D_id) references Defense_Personnel(D_id)

desc Covid19_Vaccine

create table Batch(
B_id number(10),
```

Results Explain Describe Saved SQL History

Object Type: TABLE Object: COVID19\_VACCINE

| Table           | Column   | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-----------------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| COVID19_VACCINE | BATCH_NO | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|                 | IMPORT   | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|                 | EXPORT   | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|                 | D_ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

1 - 4

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ORACLE Database Express Edition

User SCOTT

Home > SQL > SQL Commands

```
create table Batch(
B_id number(10),
Batch_no number(10),
Code number(15)
)

alter table Batch add constraint B1 primary key(B_id)

alter table Batch add constraint B2 foreign key(Batch_no) references Covid19_Vaccine(Batch_no)

alter table Batch add constraint B3 foreign key(Code) references Hospital(Code)

desc Batch

create table Hospital()
```

Results Explain Describe Saved SQL History

Object Type: TABLE Object: BATCH

| Table | Column   | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| BATCH | B_ID     | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|       | BATCH_NO | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |
|       | CODE     | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |

1 - 3

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ORACLE® Database Express Edition

User SCOTT

Home > SQL > SQL Commands

```
 Autocommit Display 10  
```

```
create table Work(
W_id number(10),
Code number(15),
ID number(10)
)
alter table Work add constraint W1 primary key(W_id)

alter table Work add constraint W2 foreign key(Code) references Hospital(Code)

alter table Work add constraint W3 foreign key(ID) references Doctor(ID)

desc Work

create table Doctor(
```

Results Explain Describe Saved SQL History

Object Type TABLE Object WORK

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| WORK  | W_ID   | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|       | CODE   | Number    | -      | 15        | 0     | -           | ✓        | -       | -       |
|       | ID     | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

1 - 3

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Language: en-us

ORACLE® Database Express Edition

User SCOTT

Home > SQL > SQL Commands

```
 Autocommit Display 10  
```

```
desc Work

create table Doctor(
ID number(10),
D_name varchar2(20),
DOB date,
C_id number(10)
)
alter table Doctor add constraint D1 primary key(ID)

alter table Doctor add constraint D2 foreign key(C_id) references Location(C_id)

desc Doctor
```

Results Explain Describe Saved SQL History

Object Type TABLE Object DOCTOR

| Table  | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|--------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| DOCTOR | ID     | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|        | D_NAME | Varchar2  | 20     | -         | -     | -           | ✓        | -       | -       |
|        | DOB    | Date      | 7      | -         | -     | -           | ✓        | -       | -       |
|        | C_ID   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

1 - 4

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Language: en-us

ORACLE Database Express Edition

User SCOTT

Home > SQL > SQL Commands

```
 Autocommit Display 10  
desc expert
create table Identity(
T_id number(10),
ID number(10),
NID number(25)
)
alter table Identity add constraint Id1 primary key(T_id)
alter table Identity add constraint Id2 foreign key(ID) references Doctor(ID)
alter table Identity add constraint Id3 foreign key(NID) references Patient(NID)
desc Identity
```

Results Explain Describe Saved SQL History

Object Type TABLE Object IDENTITY

| Table    | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| IDENTITY | T_ID   | Number    | -      | 10        | 0     | 1           | -        | -       |         |
|          | ID     | Number    | -      | 10        | 0     | -           | ✓        | -       |         |
|          | NID    | Number    | -      | 25        | 0     | -           | ✓        | -       |         |

1 - 3

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Language: en-us

ORACLE Database Express Edition

User SCOTT

Home > SQL > SQL Commands

```
 Autocommit Display 10  
NID number(25),
P_name varchar2(25),
Gender varchar2(10),
Blood_group varchar2(15),
Covid19_Positive varchar2(10),
GE_No number(15)
)

alter table Patient add constraint PA1 primary key(NID)

alter table Patient add constraint PA2 foreign key(GE_No) references Govt_Employee(GE_No).
desc Patient

create table Govt_Employee(
```

Results Explain Describe Saved SQL History

Object Type TABLE Object PATIENT

| Table   | Column           | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------|------------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| PATIENT | NID              | Number    | -      | 25        | 0     | 1           | -        | -       |         |
|         | P_NAME           | Varchar2  | 25     | -         | -     | -           | ✓        | -       |         |
|         | GENDER           | Varchar2  | 10     | -         | -     | -           | ✓        | -       |         |
|         | BLOOD_GROUP      | Varchar2  | 15     | -         | -     | -           | ✓        | -       |         |
|         | COVID19_POSITIVE | Varchar2  | 10     | -         | -     | -           | ✓        | -       |         |
|         | GE_NO            | Number    | -      | 15        | 0     | -           | ✓        | -       |         |

1 - 6

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Language: en-us

ORACLE® Database Express Edition

User SCOTT

Home > SQL > SQL Commands

Autocommit

```

Address varchar2(35),
Designation varchar2(20),
D_id number(10)
)

alter table Govt_Employee add constraint GE1 primary key(GE_No)

alter table Govt_Employee add constraint GE2 foreign key(D_id) references Defense_Personnel(D_id)

desc Govt_Employee

create table Contact(
GE_No number(15),
Phone number(20)
)

```

Results Explain Describe Saved SQL History

Object Type TABLE Object GOVT\_EMPLOYEE

| Table         | Column      | Date Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------------|-------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| GOVT_EMPLOYEE | GE_NO       | Number    | -      | 15        | 0     | 1           | ✓        | -       | -       |
|               | GE_NAME     | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |
|               | GE_JOB      | Varchar2  | 30     | -         | -     | -           | ✓        | -       | -       |
|               | ADDRESS     | Varchar2  | 35     | -         | -     | -           | ✓        | -       | -       |
|               | DESIGNATION | Varchar2  | 20     | -         | -     | -           | ✓        | -       | -       |
|               | D_ID        | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

1 - 6

Language: en-us Application Express 2.1.0.00.39  
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## SEQUENCE:

1) Defense\_Personnel

2) Batch

## Constraint:

(1) Default ----Hospital  
(2) Unique -----Hospital

table  
table

Quarantine\_Capacity  
H\_name

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
alter table Hospital add constraint H1 primary key(Code)
alter table Hospital modify Quarantine_Capacity default 200 [Default]
alter table Hospital add constraint H2 Unique(H_name) [Unique]

create sequence Hospital_S
start with 1000
increment by 1
maxvalue 1010
nocycle
nocache

desc Hospital
```

Results Explain Describe Saved SQL History

Object Type TABLE Object HOSPITAL

| Table    | Column              | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|----------|---------------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| HOSPITAL | CODE                | Number    | -      | 10        | 0     | 1           | -        | -       | -       |
|          | H_NAME              | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |
|          | LOCATION            | Varchar2  | 25     | -         | -     | -           | ✓        | -       | -       |
|          | QUARANTINE_CAPACITY | Number    | -      | 5         | 0     | -           | ✓        | 200     | -       |
|          | ISOLATION_CAPACITY  | Number    | -      | 5         | 0     | -           | ✓        | -       | -       |
|          | AVAILABLE_VACCINE   | Number    | -      | 10        | 0     | -           | ✓        | -       | -       |

1 - 6

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### (3) Not null -----Govt\_Employee table

GE\_name

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands tab, the following SQL code is run:

```

D_ID number(10)
)
alter table Govt_Employee add constraint GE1 primary key(GE_No)
alter table Govt_Employee add constraint GE2 foreign key(D_id) references Defense_Personnel(D_id)
alter table Govt_Employee modify (GE_name not null)
[not null]
desc Govt_Employee

create table Contact(
GE_No number(15),
Phone number(20)
)

```

Below the code, the results of the DESCRIBE command for the GOVT\_EMPLOYEE table are shown:

| Table         | Column      | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------------|-------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| GOVT_EMPLOYEE | GE_No       | Number    | -      | 15        | 0     | 1           | -        | -       |         |
|               | GE_NAME     | VARCHAR2  | 25     | -         | -     | -           | ✓        | -       |         |
|               | GE_JOB      | VARCHAR2  | 30     | -         | -     | -           | ✓        | -       |         |
|               | ADDRESS     | VARCHAR2  | 35     | -         | -     | -           | ✓        | -       |         |
|               | DESIGNATION | VARCHAR2  | 20     | -         | -     | -           | ✓        | -       |         |
|               | D_ID        | Number    | -      | 10        | 0     | -           | ✓        | -       |         |

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### (4) Check ----Patient table

Covid19\_Positive

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands tab, the following SQL code is run:

```

GE_No number(15)
)
alter table Patient add constraint PA1 primary key(NID)
alter table Patient add constraint PA2 foreign key(GE_No) references Govt_Employee(GE_No)
alter table Patient add constraint PA3 check (Covid19_Positive='Y' Or Covid19_Positive='N')
[check]
desc Patient

create table Govt_Employee(
GE_No number(15),
GE_name varchar(25),
GE_job varchar(30),

```

Below the code, the results of the DESCRIBE command for the PATIENT table are shown:

| Table   | Column           | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------|------------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| PATIENT | NID              | Number    | -      | 25        | 0     | 1           | -        | -       |         |
|         | P_NAME           | VARCHAR2  | 25     | -         | -     | -           | ✓        | -       |         |
|         | GENDER           | VARCHAR2  | 10     | -         | -     | -           | ✓        | -       |         |
|         | BLOOD_GROUP      | VARCHAR2  | 15     | -         | -     | -           | ✓        | -       |         |
|         | COVID19_POSITIVE | VARCHAR2  | 10     | -         | -     | -           | ✓        | -       |         |
|         | GE_NO            | Number    | -      | 15        | 0     | -           | ✓        | -       |         |

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# Value Insertion

## (1) Covid19\_Vaccine:

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following code:

```
alter table Covid19_Vaccine add constraint CV1 primary key(Batch_no)
alter table Covid19_Vaccine add constraint CV2 foreign key(D_id) references Defense_Personnel(D_id)

insert into Covid19_Vaccine values(101,'05-JAN-21','10-JAN-21',208801)
insert into Covid19_Vaccine values(102,'05-FEB-21','10-FEB-21',208802)
insert into Covid19_Vaccine values(103,'05-MAR-21','10-MAR-21',208803)
insert into Covid19_Vaccine values(104,'05-APR-21','10-APR-21',208804)

select * from Covid19_Vaccine
desc Covid19_Vaccine
create table Batch/
```

The results section displays the following data:

| BATCH_NO | IMPORT    | EXPORT    | D_ID   |
|----------|-----------|-----------|--------|
| 1        | 05-JAN-21 | 10-JAN-21 | 208801 |
| 101      | 05-JAN-21 | 10-JAN-21 | 208801 |
| 102      | 05-FEB-21 | 10-FEB-21 | 208802 |
| 103      | 05-MAR-21 | 10-MAR-21 | 208803 |
| 104      | 05-APR-21 | 10-APR-21 | 208804 |

5 rows returned in 0.02 seconds [CSV Export](#)

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## (2) Batch:

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following code:

```
increment by 10
maxvalue 200
nocycle
nocache

insert into Batch values(Batch_S.nextval,101,2200)
insert into Batch values(Batch_S.nextval,103,2201)
insert into Batch values(Batch_S.nextval,104,2202)
insert into Batch values(Batch_S.nextval,102,2203)

select * from Batch
desc Batch
create table Hospital/
```

The results section displays the following data:

| B_ID | BATCH_NO | CODE |
|------|----------|------|
| 100  | 101      | 2200 |
| 110  | 103      | 2201 |
| 130  | 104      | 2202 |
| 150  | 102      | 2203 |

4 rows returned in 0.00 seconds [CSV Export](#)

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### (3) Hospital:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
alter table Hospital modify QUARANTINE_CAPACITY default 200
alter table Hospital add constraint H2 Unique(H_name)
insert into Hospital values(2200,'Lab Aid','Uttara',230,40,3000)
insert into Hospital values(2201,'Square Hospital','Panthapath',250,50,4000)
insert into Hospital values(2202,'Evercare Hospital','Bashundhara',280,60,5000)
insert into Hospital(Code,H_name,Location,Isolation_Capacity,Available_Vaccine) values(2203,'United Hospital','Gulshan',200,50,4000)
select * from Hospital
desc Hospital
create table Work(
W_id number(10))
```

The results section displays the data inserted into the Hospital table:

| CODE | H_NAME            | LOCATION    | QUARANTINE_CAPACITY | ISOLATION_CAPACITY | AVAILABLE_VACCINE |
|------|-------------------|-------------|---------------------|--------------------|-------------------|
| 2200 | Lab Aid           | Uttara      | 230                 | 40                 | 3000              |
| 2201 | Square Hospital   | Panthapath  | 250                 | 50                 | 4000              |
| 2202 | Evercare Hospital | Bashundhara | 280                 | 60                 | 5000              |
| 2203 | United Hospital   | Gulshan     | 200                 | 50                 | 4000              |

4 rows returned in 0.02 seconds [CSV Export](#)

Language: en-us

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### (4) Work:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
create sequence bulk_n
start with 1000
increment by 5
maxvalue 1050
nocycle
nocache

insert into Work values(3000,2200,1000)
insert into Work values(3050,2201,1005)
insert into Work values(3100,2202,1010)
insert into Work values(3150,2203,1015)

select * from Work
desc Work
```

The results section displays the data inserted into the Work table:

| W_ID | CODE | ID   |
|------|------|------|
| 3000 | 2200 | 1000 |
| 3050 | 2201 | 1005 |
| 3100 | 2202 | 1010 |
| 3150 | 2203 | 1015 |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

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## (5) Doctor:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following code:

```
ORACLE Database Express Edition
User SCOTT
Home > SQL > SQL Commands
Autocommit Display 10
DB date,
C_id number(10)
)
alter table Doctor add constraint D1 primary key(ID)
alter table Doctor add constraint D2 foreign key(C_id) references Location(C_id)
insert into Doctor values(1000,'Dr. Robert Adler','20-FEB-78',3166)
insert into Doctor values(1005,'Dr. Ashok Rajgopal','14-JAN-65',9122)
insert into Doctor values(1010,'Dr. M. Amjad Hossain','15-AUG-66',4205)
insert into Doctor values(1015,'Dr. M. Mehdi Hasan','25-DEC-81',2202)
select * from Doctor
desc Doctor
```

The Results tab shows the following data:

| ID   | D_NAME               | DOB       | C_ID |
|------|----------------------|-----------|------|
| 1000 | Dr. Robert Adler     | 20-FEB-78 | 3166 |
| 1005 | Dr. Ashok Rajgopal   | 14-JAN-65 | 9122 |
| 1010 | Dr. M. Amjad Hossain | 15-AUG-66 | 4205 |
| 1015 | Dr. M. Mehdi Hasan   | 25-DEC-81 | 2202 |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

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## (6) Location:

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following code:

```
ORACLE Database Express Edition
User SCOTT
Home > SQL > SQL Commands
Autocommit Display 10
alter table location add constraint L1 primary key(C_id)
insert into Location values(3166,'United States','California')
insert into Location values(9122,'India','Chennai')
insert into Location values(4205,'Bangladesh','Dhaka')
insert into Location values(2202,'Bangladesh','Mymensingh')
select * from Location
desc Location
create table Expert(
ID number(10),
Specialist varchar2(30)
)
```

The Results tab shows the following data:

| C_ID | COUNTRY       | CITY       |
|------|---------------|------------|
| 3166 | United States | California |
| 9122 | India         | Chennai    |
| 4205 | Bangladesh    | Dhaka      |
| 2202 | Bangladesh    | Mymensingh |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

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## (7) Expert:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
alter table Expert add constraint E1 primary key(ID)
insert into Expert values(2200,'Neurologist')
insert into Expert values(2201,'Radiotherapist')
insert into Expert values(2202,'Arthrolologist')
insert into Expert values(2203,'Cardiologist')
select * from Expert
desc Expert
create table Identity(
T_id number(10),
```

The results section displays the data inserted into the Expert table:

| ID   | SPECIALIST     |
|------|----------------|
| 2200 | Neurologist    |
| 2201 | Radiotherapist |
| 2202 | Arthrolologist |
| 2203 | Cardiologist   |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

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## (8) Identity:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
alter table Identity add constraint Id1 primary key(T_id)
alter table Identity add constraint Id2 foreign key(ID) references Doctor(ID)
alter table Identity add constraint Id3 foreign key(NID) references Patient(NID)
insert into Identity values(100,1000,2610413928404)
insert into Identity values(112,1005,2210413968409)
insert into Identity values(115,1010,2410413968401)
insert into Identity values(124,1015,2710453968400)
select * from Identity
desc Identity
```

The results section displays the data inserted into the Identity table:

| T_ID | ID   | NID           |
|------|------|---------------|
| 100  | 1000 | 2610413928404 |
| 112  | 1005 | 2210413968409 |
| 115  | 1010 | 2410413968401 |
| 124  | 1015 | 2710453968400 |

4 rows returned in 0.01 seconds [CSV Export](#)

Language: en-us

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## (9) Patient:

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following code:

```

User SCOTT
Home > SQL > SQL Commands
 Autocommit Display 10
insert into Patient values(2610413928404,'Amit Hasan','Male','O-','Y',501)
insert into Patient values(2210413968409,'Joy Kumar','Male','B+','N',502)
insert into Patient values(2410413968401,'Sanzana Imam','Female','AB-','Y',503)
insert into Patient values(2710453968400,'Tasnim Khan','Female','O+','N',504)
select * from Patient
desc Patient
create table Govt_Employee(
GE_No number(15),
GE_name varchar2(25),
GE_job varchar2(30),
Address varchar2(35),
Designation varchar2(20),
)

```

The results section displays the following table:

| NID           | P_NAME       | GENDER | BLOOD_GROUP | COVID19_POSITIVE | GE_NO |
|---------------|--------------|--------|-------------|------------------|-------|
| 2610413928404 | Amit Hasan   | Male   | O-          | Y                | 501   |
| 2210413968409 | Joy Kumar    | Male   | B+          | N                | 502   |
| 2410413968401 | Sanzana Imam | Female | AB-         | Y                | 503   |
| 2710453968400 | Tasnim Khan  | Female | O+          | N                | 504   |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

Actions: [View](#) Application Express 2.1.0.0.39  
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## (10) Govt\_Employee:

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following code:

```

User SCOTT
Home > SQL > SQL Commands
 Autocommit Display 10
insert into Govt_Employee values(501,'Rakibul','Home Ministry','Building #8,Bangladesh Secretariat','Assistant Director',208801)
insert into Govt_Employee values(502,'Ezaz','Pollution Control Board','98 Kazi Nazrul Islam Ave','Sub Director',208802)
insert into Govt_Employee values(503,'Sadikul','Anti Corruption Commission','Pioneer Rd, Dhaka 1205','Executive officer',208803)
insert into Govt_Employee values(504,'Mahadi','Customs Bond Commissionarate','342, 1 Segun Bagicha Rd','Assistant Director',208804)
select * from Govt_Employee
desc Govt_Employee

```

The results section displays the following table:

| GE_NO | GE_NAME | GE_JOB                       | ADDRESS                            | DESIGNATION        | D_ID   |
|-------|---------|------------------------------|------------------------------------|--------------------|--------|
| 501   | Rakibul | Home Ministry                | Building #8 Bangladesh Secretariat | Assistant Director | 208801 |
| 502   | Ezaz    | Pollution Control Board      | 98 Kazi Nazrul Islam Ave           | Sub Director       | 208802 |
| 503   | Sadikul | Anti Corruption Commission   | Pioneer Rd, Dhaka 1205             | Executive officer  | 208803 |
| 504   | Mahadi  | Customs Bond Commissionarate | 342, 1 Segun Bagicha Rd            | Assistant Director | 208804 |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

Actions: [View](#) Application Express 2.1.0.0.39  
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## (11) Contact:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
create table Contact
(
    GE_No number(4),
    phone number(20)
)

alter table Contact add constraint CO1 primary key(GE_No)

insert into Contact values(501,01879194123)
insert into Contact values(502,01795825958)
insert into Contact values(503,01787396105)
insert into Contact values(504,01392402780)

select * from Contact

desc Contact

create_table_Defense_Personnel/
```

The results section displays the data inserted into the Contact table:

| GE_NO | PHONE      |
|-------|------------|
| 501   | 1879194123 |
| 502   | 1795825958 |
| 503   | 1787396105 |
| 504   | 1392402780 |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

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## (12) Defense\_Personnel:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
insert into Defense_Personnel values(Defense_Personnel.S.nextval,'Hasnat','Police','sub-inspector')
insert into Defense_Personnel values(Defense_Personnel.S.nextval,'Kabir','Army','Sergeant')
insert into Defense_Personnel values(Defense_Personnel.S.nextval,'Jamil','BGB','Lieutenant')
insert into Defense_Personnel values(Defense_Personnel.S.nextval,'Karim','RAB','Captain')

select * from Defense_Personnel

desc Defense_Personnel
```

The results section displays the data inserted into the Defense\_Personnel table:

| D_ID   | DP_NAME | DP_JOB | RANK          |
|--------|---------|--------|---------------|
| 208801 | Hasnat  | Police | Sub-Inspector |
| 208802 | Kabir   | Army   | Sergeant      |
| 208803 | Jamil   | BGB    | Lieutenant    |
| 208804 | Karim   | RAB    | Captain       |

4 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

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## **QUESTION**

- (1) Show patient name who work in Anti-Corruption Commission and his Designation is Executive officer
- (2) Display the Doctor name, ID and Age.
- (3) Display the Patient Name, NID, GE\_No, GE\_job, Designation.
- (4) Find Maximum Available Vaccine of the hospital According to Hospital Name.
- (5) Display the NID number Where Doctor Name is Dr. Robert Adler
- (6) Display the Doctor Name and DOB Where Country is USA
- (7) Create a View that Contain Details of Hospital Where Isolation\_Capacity is 50
- (8) Create Sequence IS7 start with 2 Maxvalue 100, Increment by 2, Minvalue 1, Cache 5.
- (9) Insert some value to Covid19\_Vaccine using Sequence IS7.
- (10) Display the Patient Name Who are Covid19\_Positive and Gender is Female







