



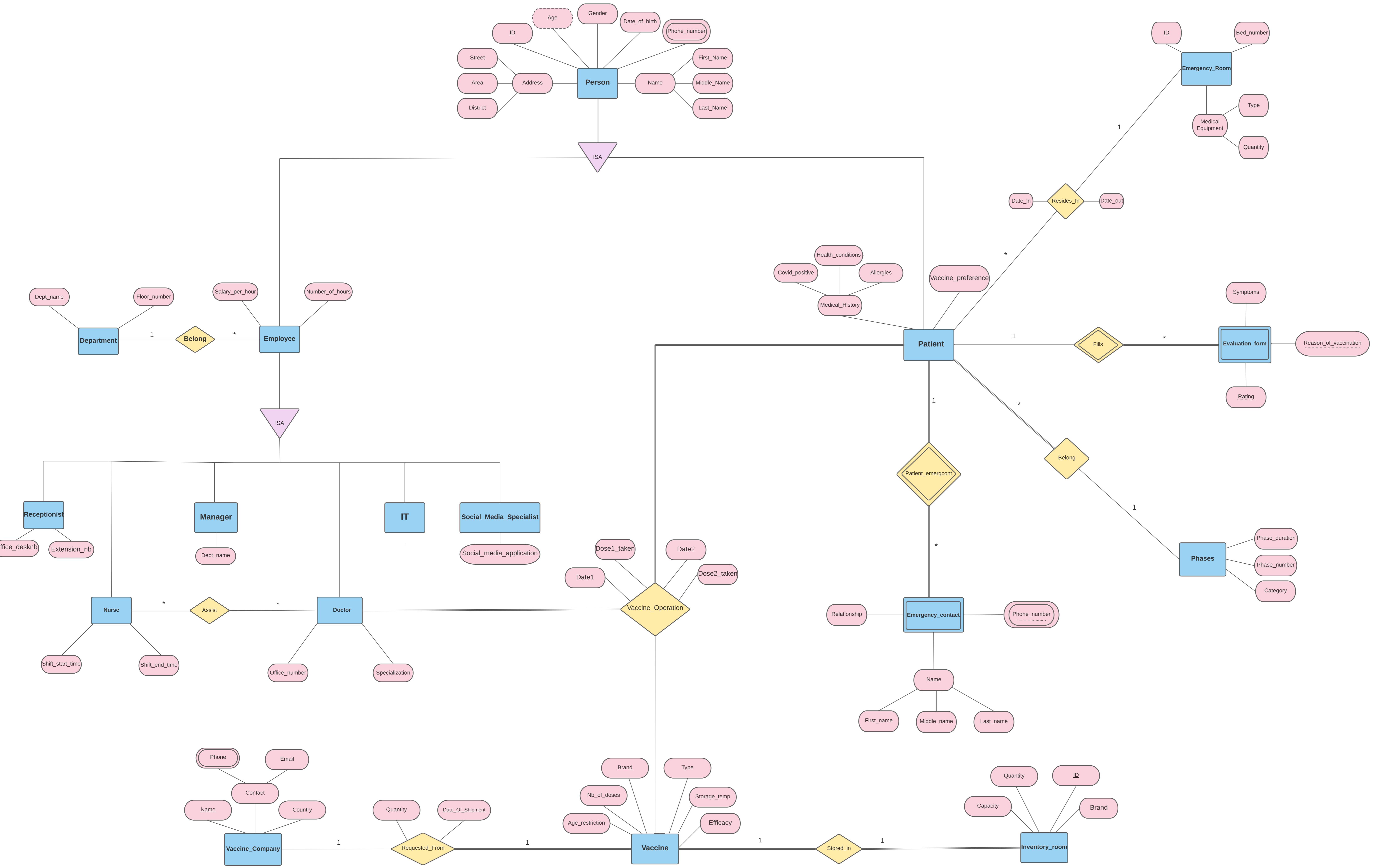
THE VACCINATORS

VACCINATION CENTER DATABASE MANAGEMENT SYSTEM

Lebanese American University
CSC-375: Final Report
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GROUP
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I-Introduction:

Since the end of December 2019, a deadly virus called Covid-19 has widely spread across all countries, disrupting our normal lives, and leaving us hopeless waiting desperately for the vaccine to develop.

During the past couple of months, several companies have been able to develop different vaccines with different efficiencies in the hopes of eradicating this pandemic. Fortunately, in Lebanon, the world bank was generous enough to purchase various vaccines that started coming to our country since mid-February. Thus, many hospitals started specializing vaccination units within them to help facilitate the process. In light of this, we decided to open our own vaccination center that caters the needs for vaccination.

II-Description of our center:

Our center constitutes first of our staff: nurses, doctors, receptionists, IT, social media specialists, and a manager for each department (also known as head of department). Concerning the vaccine supply, we order them from the corresponding vaccine companies(Pfizer-BioNTech, Moderna, etc.) and store each type in their corresponding inventory room that satisfy the temperature needed for storage. After the Lebanese citizen registers for the vaccine via the website (explained in section III), a date will be assigned to the citizens according to the phases or categories they belong to. These phases will be divided according to several criteria as shown below:

- Phase 1: Healthcare workers : February 14 2021 - February 28 2021
- Phase 2: Aged 65 and older : March 1 2021 - March 22 2021
- Phase 3: Aged 55-64 : March 23 2021 - April 13 2021
- Phase 4: All others that did not catch Covid-19 in the past : April 14 2021 - May 5 2021
- Phase 5: Citizens who caught Covid-19 in the past : May 6 2021 - May 20 2021

Each phase will extend to approximately three weeks.

During the vaccination process, we have specialized emergency rooms in case the patient showed severe side effects after taking the vaccine.

Because we care about patients' feedback to improve our performance, we ask them to fill an evaluation form consisting of:

- 1- Symptoms and the side-effects after taking the vaccine
- 2- Rating of the overall experience (from 1-5: 1 being the worst and 5 being the best)
- 3- Reason of vaccination: The purpose of this section is to raise spirits and encourage others to apply for the vaccine. It is a fill-in-the-blank statement starting with: "I did it for my ...". It can be family, sick sister, grandparents, community..."

III-Data resources:

We got the data of the vaccines and their corresponding companies from the following websites:

<https://www.mayoclinic.org/coronavirus-covid-19/vaccine/comparing-vaccines>

<https://wellcome.org/news/what-different-types-covid-19-vaccine-are-there>

<https://sputnikvaccine.com/>

[https://www.who.int/news-room/feature-stories/detail/the-oxford-astrazeneca-covid-19-vaccine-what-you-need-to-](https://www.who.int/news-room/feature-stories/detail/the-oxford-astrazeneca-covid-19-vaccine-what-you-need-to-know?gclid=Cj0KCQjwrsGCBhD1ARIIsALILBYpddXnGerxm3GjJWLcJbCyXiPc3TrY_PMvgG-9k5qsAlr-nXB1WotEaAk5sEALw_wcB)

[know?gclid=Cj0KCQjwrsGCBhD1ARIIsALILBYpddXnGerxm3GjJWLcJbCyXiPc3TrY_PMvgG-9k5qsAlr-nXB1WotEaAk5sEALw_wcB](https://www.who.int/news-room/feature-stories/detail/the-oxford-astrazeneca-covid-19-vaccine-what-you-need-to-know?gclid=Cj0KCQjwrsGCBhD1ARIIsALILBYpddXnGerxm3GjJWLcJbCyXiPc3TrY_PMvgG-9k5qsAlr-nXB1WotEaAk5sEALw_wcB)

These are the vaccines coming to Lebanon according to the following website:

<https://www.moph.gov.lb/userfiles/files/Prevention/COVID-19%20Vaccine/Lebanon%20NDVP-%20Feb%2016%202021.pdf> pages 9 and 10

Type of vaccine	Name	Efficiency	Number of doses	Days between 2 doses	Age restriction	Temp required
mRNA	Pfizer-BioNTech	95%	2	21	16	-70C
mRNA	Moderna	94%	2	28	18	-20C
Viral vector	Astrazeneca-Oxford	63.09%	2	56 (8 weeks)	18	2-8C
Viral vector	Russian Gamaleya Sputnik 5	91.6%	2	21	18	2-8C
Viral vector	Johnson & Johnson Janssen	66%	1	-	18	2-8C
Subunit	Sinopharm Chinese	79%	2	21	18	2-8C

The 5 phases explained before are inspired from the Ministry of Health website:

<https://www.moph.gov.lb/userfiles/files/Prevention/COVID-19%20Vaccine/Lebanon%20NDVP-%20Feb%2016%202021.pdf> page 23.

V- Constraints and Assumptions:

To make our project more realistic, we have imposed several constraints:

- 1- Every vaccine brand has an age restriction: for example, Moderna vaccine is restricted for people above the age of 18.
- 2- The date assigned for the second dose should be after that of the first dose and in sync with the phase or category of the registered patient and with the number of days between the 2 doses of the specified vaccine.
- 3- Number of hours for each employee should be greater than 6 hours
- 4- The rating in the evaluation forms filled by patients should be between 1 and 5

In addition to that, we have applied the following assumptions:

- 1- Vaccine operation is a ternary relationship joining the three entity sets: patient, doctor, and vaccine. As for its cardinality, every patient will undergo a vaccine operation for one vaccine brand and every doctor can perform many vaccine operations for many patients and for many different vaccine brands. Also, each patient will be assigned one doctor for his/her vaccine operations.
- 2- Vaccine operations may have 1 or 2 doses according to the vaccine brand being taken(for example, Johnson & Johnson Janssen requires 1 dose only).
- 3- Dose1-taken and Dose2-taken are Boolean variables (meaning that patients can register but not show up to take the vaccine).These Boolean values store 1 as true and 0 as false. Date1 and Date2 are the dates for dose 1 and dose 2, respectively.
- 4- Each inventory room will be for the storage of a certain vaccine brand.
- 5- Each patient can fill many evaluation forms
- 6- Each social media specialist is responsible for one social media application
- 7- Each manager will manage one department
- 8- Each patient can have many emergency contacts
- 9- Emergency_contact is a weak entity set having Patient as its identifying set and its primary key consists: Patient_ID and name of the emergency contact. As for the relationship and Phone_number they are attributes of the weak entity set but not part of its primary key.
- 10- Evaluation_form is a weak entity set having Patient as its identifying set and its primary key consists: Patient_ID, Rating, Symptoms, and Reason_of_vaccination. The attributes of the weak entity set are all considered part of its primary key because each one alone is not sufficient to identify a unique evaluation form as one patient can fill many forms.
- 11- Not every patient will necessarily take their preferred vaccine as the nurse will check that his allergies and age constraint are compatible with the chosen vaccine and will update that accordingly. Also, concerning the dates, it might differ for each patient according to their vaccine brand.

VI- Queries and Indices:

These are some queries:

- 1-Calculate the ratio of people who showed up to take the first dose of the vaccine after registration.

```
create index Vaccine_dose1 on Vaccine_operation(dose1_taken);
```

```
select (count(dose1_taken)/(select count(*) from Vaccine_Operation)) as ratio_of_showing_up  
from Vaccine_Operation  
where dose1_taken=true;
```

2-Select full names and phone numbers of patients who rated less than 2 in the evaluation form.

```
create index Ratingindex on Evaluation_form(Rating) using BTree;
```

```
Select distinct First_name, Middle_name, Last_name, Phone_number  
From Person natural join Person_Phone_number natural join Evaluation_form  
Where Rating<=2;
```

3-Update the inventory of Moderna vaccine by decreasing its quantity according to the list of people who showed up to take the vaccine.

Update Inventory_room

```
set Quantity=Quantity-(select count(dose1_taken) From Vaccine_Operation Where  
Brand='Moderna' and dose1_taken=true)-(select count(dose2_taken) From Vaccine_Operation  
Where Brand='Moderna' and dose2_taken=true)  
where Vaccine_brand='Moderna';
```

4-Update the salary by 10% of the nurse(s) who worked the most number of hours.

Update Employee

```
set Salary_per_hour = Salary_per_hour*1.1  
Where ID in(select ID  
from(select ID  
from Employee natural join Nurse
```

```
where number_of_hours >= all(select number_of_hours  
From Employee))as SalaryRaise);
```

5-Count the number of patients who entered the emergency rooms.

Select count(ID)

From Resides_In;

6-Select the favorite vaccine for the patients (vaccine brand with the most number of requests by the patients).

```
create index Vaccine_preferenceIndex on Patient(Vaccine_preference);
```

Select Vaccine_preference

From Patient

Group by (Vaccine_preference)

```
Having count(*)>= all (select count(*) from Patient Group by (Vaccine_preference));
```

7-Select the ID of the doctor with no nurse and with the highest number of vaccine operations performed.

```
select ID  
from Doctor  
where ID not in(select distinct Doctor_ID from Nurse);
```

8- Select the ID of the doctor with the highest number of vaccine operations performed.

```
create index VaccineoperationsIndex on Vaccine_Operation(Doctor_ID);
```

```
select Doctor_ID  
from Vaccine_Operation
```

Group by(Doctor_ID)

Having count(*)>= all (select count(*) from Vaccine_Operation Group by (Doctor_ID));

9-Select the name of the doctor with the highest number of vaccine operations performed

```
select concat(First_name,'',Middle_name,'',Last_name) as Name  
from Vaccine_Operation join Person on (Doctor_ID=Person.ID)
```

Group by(Doctor_ID)

Having count(*)>= all (select count(*) from Vaccine_Operation Group by (Doctor_ID));

10-Select the nurse of the month(with highest number of hours)

```
select concat(First_name,'',Middle_name,'',Last_name) as Name  
from Employee natural join Person  
where ID in (select ID from Nurse) and number_of_hours>=all(select number_of_hours from  
Employee where ID in(select ID from Nurse));
```

12- Count the number of vaccinated patients in each phase

Select Phase_number, count(*) as count

From Patient

Group by Phase_number;

13- Select the vaccine company with the least quantity of doses requested.

Select Vaccine_Company_name,sum(Quantity)

From Requested_From

Group by Vaccine_Company_name

Having sum(Quantity)<=all (select sum(Quantity))

```
From Requested_From  
Group by Vaccine_Company_name);
```

- 14- Select the IDs and full names of the patients in descending order whose first name starts with the letter R and the vaccine brand chosen is Moderna.

```
create index Personindex on Person(First_name);
```

```
Select ID,concat(First_name,'',Middle_name,'',Last_name) as Name
```

```
From Patient natural join Person
```

```
Where First_name LIKE 'R%' and Vaccine_preference='Moderna'
```

```
Order by ID DESC;
```

VII-Relational Schemas:

- 1-Person (ID, Gender, Date_of_birth, First_Name, Middle_Name, Last_Name, Street, Area, District)

FD:

1-ID → Gender, Date_of_birth, First_Name, Middle_Name, Last_Name, Street, Area, District
2-Street → Area, District

Explanation for FD2: There are no two streets with the same street name, so they uniquely determine the exact area and district.

The Person relation is not in 3NF form since FD2 is not trivial, Street does not form a superkey for this relation and is not a part of the candidate key of this relation.

Since this relation is not in 3NF form, it is not in BCNF form.

To decompose it into BCNF:

R1(Street, Area, District)

R2(ID, Gender, Date_of_Birth, First_Name, Middle_Name, Last_Name, Street)

2-Person.Phone_Number(ID,Phone_number)

FD:

1-ID,Phone_number → ID,Phone_number

2-Phone_number → ID

Explanation for FD2: Every phone number will only correspond to one person thus one ID.

The Person.Phone_Number relation is in BCNF form since FD1 is trivial and in FD2, Phone_number forms a superkey for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

3-Patient(ID,Vaccine_preference,Allergies,Covid_positive,Health_condition,Phase_number)

FD:

ID → Vaccine_preference,Allergies,Covid_positive,Health_condition,Phase_number

The Patient relation is in BCNF form since ID forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

4-Emergency_contact(Patient.ID, Emergency_Phone_number ,Relationship)

FD:

Patient.ID,Emergency_Phone_number → Relationship

The Emergency_contact relation is in BCNF form since Patient.ID and Emergency_Phone_number form a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

5-Emergency_contact_name

(Emergency_Phone_number,Emergency_First_name,Emergency_Middle_name,Emergency_Last_name)

FD:

1-Emergency_Phone_number → Emergency_First_name, Emergency_Middle_name, Emergency_Last_name

The Emergency_contact_name relation is in BCNF form since, Emergency_Phone_number forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

6-Evaluation_form(ID,Symptoms,Reason_of_vaccination,Rating)

FD:

ID,Symptoms,Reason_of_vaccination,Rating → ID,Symptoms,Reason_of_vaccination,Rating

The Evaluation_form relation is in BCNF form since ID, Symptoms, Reason_of_vaccination, Rating forms a superkey(specifically a primary key) for this relation.Also, this FD is trivial.

Since this relation is in BCNF form, it is also in 3NF form.

7-Phases(Phase_number,Phase_duration,Category)

FD:

Phase_number → Phase_duration,Category

The Phases relation is in BCNF form since Phase_number forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

8-Emergency_Room(ID,MedicalEquipment.Type,MedicalEquipment.Quantity,Bed_number)

FD:

ID → MedicalEquipment.Type,MedicalEquipment.Quantity,Bed_number

The Emergency_Room relation is in BCNF form since ID forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

9-Resides_in(Patient.ID,Emergency_Room.ID,Date_in,Date_out)

FD:

$\text{Patient.ID} \rightarrow \text{Emergency_Room.ID}, \text{Date_in}, \text{Date_out}$

The Resides_in relation is in BCNF form since Patient.ID and phone_number form a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

10-Vaccine_Operation(Patient.ID,Doctor.ID,Brand,Date1,Date2,Dose1_taken,Dose2_taken)

FD:

1- $\text{Patient.ID} \rightarrow \text{Doctor.ID}, \text{Brand}, \text{Date1}, \text{Date2}, \text{Dose1_taken}, \text{Dose2_taken}$

2- $\text{Brand}, \text{Date1} \rightarrow \text{Date2}$

Explanation for FD2: For every vaccine brand, there exists a unique time difference between the 2 doses, so after issuing the date for dose 1, this helps determine the date for the second dose.

The Vaccine_Operation relation is not in 3NF form since in FD 2, Date2 is not contained in a candidate key for R, Brand and Date 1 do not form a superkey for this relation, and FD 2 is not trivial.

Since this relation is not in 3NF form, it is also not in BCNF form.

To decompose it into BCNF form:

R1(Brand,Date1,Date2)

R2(Patient.ID,Doctor.ID,Brand,Date1,Dose1_taken,Dose2_taken)

11-Vaccine(Brand,Type,Efficacy,Storage_temp,Nb_of_doses,Age_restriction)

FD:

$\text{Brand} \rightarrow \text{Type}, \text{Efficacy}, \text{Storage_temp}, \text{Nb_of_doses}, \text{Age_restriction}$

The Vaccine relation is in BCNF form since Brand forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

12-Vaccine_Company(Name,Country,Email)

FD:

$\text{Name} \rightarrow \text{Country, Email}$

The Vaccine_Company relation is in BCNF form since Name forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

13-Vaccine_Company.Phone(Name,Phone_number)

FD:

$\text{Name, Phone_number} \rightarrow \text{Name, Phone_number}$

The Vaccine_Company.Phone relation is in BCNF form since Name,Phone_number forms a superkey(specifically a primary key) for this relation. Also, this FD is trivial.

Since this relation is in BCNF form, it is also in 3NF form.

14-Requested_from(Name,Brand,Quantity,Date_of_shipment)

FD:

$\text{Name, Brand} \rightarrow \text{Quantity, Date_of_shipment}$

The Requested_from relation is in BCNF form since Name and Brand form a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

15-Inventory_room(ID,Brand,Quantity,Capacity)

FD:

1-ID→Brand,Quantity,Capacity

2-Brand→ID

Therefore, Brand→ID,Quantity,Capacity (by transitivity and union rules)

Explanation for FD2: For every vaccine brand, there exists only 1 inventory room (1-1 relationship) for storing it. Then the brand will determine the inventory room thus its ID.

The Inventory_room relation is in BCNF form since Brand forms a superkey(candidate key) for this relation. Also, ID is a primary key for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

16-Employee(ID, Salary_per_hour, Number_of_hours, Dept_name)

FD:

ID→Salary_per_hour,Number_of_hours

The Employee relation is in BCNF form since ID forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

17-Department(Dept_name, Floor_number)

FD:

Dept_name→Floor_number

The Department relation is in BCNF form since Dept_name forms a superkey(specifically a primary key) for this relation

Since this relation is in BCNF form, it is also in 3NF form.

18-Receptionist(ID, Office_desknb, Extension_nb)

FD:

$ID \rightarrow Office_desknb, Extension_nb$

Explanation for FD: Every receptionist has 1 corresponding Office_desknb and Extension_nb but not vice versa as they will normally have shifts.

The Receptionist relation is in BCNF form since ID forms a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

19-Nurse(ID, Shift_start_time, Shift_end_time, Doctor_ID)

FD:

$ID, Shift_start_time \rightarrow Shift_end_time, Doctor_ID$

The Nurse relation is in BCNF form since ID, and Shift_start_time form a superkey(specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

20-Manager (ID, Dept_name)

FD:

$ID \rightarrow Dept_name$

The Manager relation is in BCNF form since ID forms a superkey(specifically a primary key) for this relation.

21-Doctor(ID, Office_number, Specialization)

FD:

$ID \rightarrow Office_number, Specialization$

$Office_number \rightarrow ID$

Explanation: Every doctor will have one office number and one specialization, and every office will be for 1 doctor.

Therefore, $Office_number \rightarrow ID, Office_number, Specialization, Nurse.ID$ (by transitivity and union rules)

The Doctor relation is in BCNF form since Office_number forms a superkey(candidate key) for this relation.Also, ID is a primary key for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

22-IT(ID)

FD:

$$\text{ID} \rightarrow \text{ID}$$

The IT relation is in BCNF form since ID forms a superkey(specifically a primary key) for this relation.Also this FD is trivial.

Since this relation is in BCNF form, it is also in 3NF form.

23-Social_Media_Specialist(ID, Social_media_application)

FD:

$$\text{ID} \rightarrow \text{Social_media_application}$$

Explanation for FD: Every social media specialist(ID) manages a social media application, but one app can be managed by many.

The Social_Media_Specialist relation is in BCNF form since ID is a superkey (specifically a primary key) for this relation.

Since this relation is in BCNF form, it is also in 3NF form.

VIII-4NF form:

Here, we cannot discuss 4NF forms because to have a multi-valued dependency, we need at least 3 columns(attributes) that are related and have multiple values. This case is not present in our relations, so by default, it is in 4NF form(no further normalization needed).

IX-Website description:

For implementation of our database, we used MYSQL using “MYSQL Workbench 8.0 CE”

For implementation of our website, we used HTML and PHP using the editor named “Sublime Text 3”.

There will be 2 main websites: one for the general public and the other is for our employees.

1-Website for the general public:

This website will first contain our center logo, along with the email and phone numbers to contact us. They can press on them and it will directly lead them to the referred hyperlinks. They can also press on the button “About” where they can access general information about our center, the phases, the different vaccine brands we offer, along with information about us in case they need to contact us through email.

Next we have a button “Statistics” that states interesting insights about our website based on queries we have used to access the functionalities of our database(for example, the ratio of people who showed up after registering for the vaccine).

The interesting parts are the buttons “Register” and “Feedback”.

The “Register” button is for vaccine registration where the citizen fills the basic information: Full name, gender, date of birth, phone number, street, area, district, medical history (allergies, health conditions, and if he caught Covid-19 in the past), and emergency contact information (full name, phone number, and relationship with the citizen). In addition to that, every citizen will have the chance to select his preference for the vaccine brand (Pfizer-BioNTech, Moderna, etc.).

The “Feedback” button will enable the patient to fill evaluation forms to rate the whole experience from 1 to 5, state their symptoms and provide reasons of vaccination.

2-Website for employees:

Similar Home page will be displayed for our employees(only with different color background: red).

Concerning the buttons, we have “Employees info” where they can access specific data according to their role.

For the nurses:

They are able to access the information of the new and old registrants for the vaccine and update the brand that he/she will take according to the allergies and his/her vaccine preference(if their allergies don't allow them to take their preferred vaccine) along with dates for dose 1 and dose 2).

For the doctors:

They are able to access certain information about the patient especially the symptoms in order to keep track of the patient's status.

For the social media specialists:

They are able to access the rating and the reason of vaccination in the evaluation forms filled by the patients in order to post them on the corresponding social media platforms.

For the receptionists:

Not only are they able to access certain information about the patients (most importantly the dates of the 2 doses), but they can also update the database by stating whether the patient actually showed up to take both vaccine doses.

For the managers:

According to their department, they are able to access information about the employees of the corresponding department.

So, we have:

Medical manager for medical department(doctors-nurses)

Administration manager for administration department(receptionists)

Social media manager for social media department(social media specialist)

IT manager for IT department(IT)

These are linked directly to the connections made for them (users, roles).

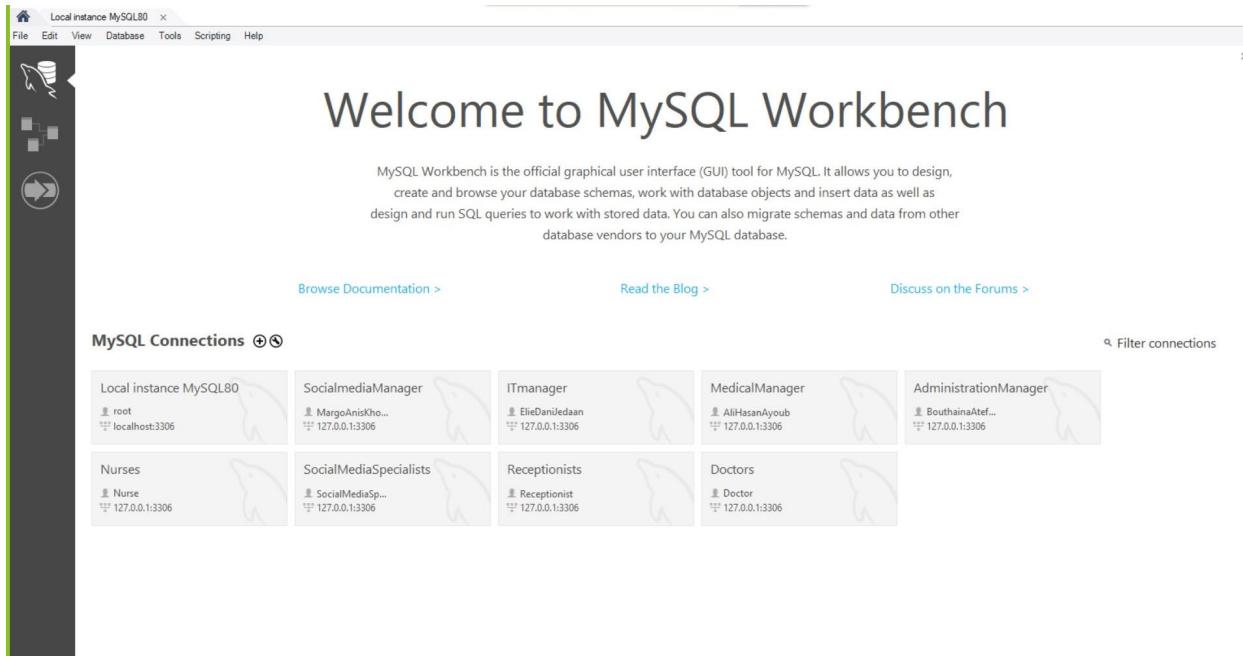
Roles:

We have several roles in SQL:

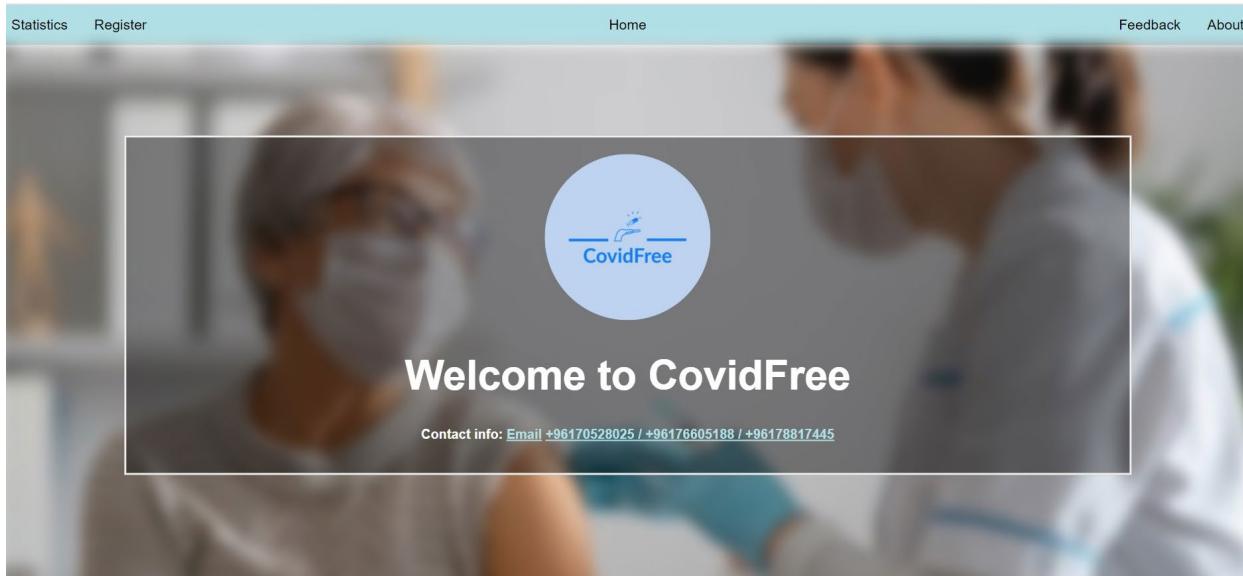
Nurses-Doctors-Social Media Specialists-Receptionists-4 managers for the 4 departments.

The more interesting button is “Salary Calculator”:

Every employee will be able to predict his salary according to the expected vacation days he might take(for each vacation day, we will deduct the daily salary one time).



Website(for general public):



About button:

Statistics Register Home Feedback About

About our Center

A bit of history:

Since the end of December 2019, a deadly virus called Covid-19 has widely spread across all countries, disrupting our normal lives, and leaving us hopeless waiting desperately for the vaccine to develop. During the past couple of months, several companies have been able to develop different vaccines with different efficiencies in the hopes of eradicating this pandemic. Fortunately, in Lebanon, the world bank was generous enough to purchase various vaccines that started coming to our country since mid-February. Thus, many hospitals started specializing vaccination units within them to help facilitate the process. In light of this, we decided to open our own vaccination center that caters the needs for vaccination.

Phases:

Phase 1: Healthcare workers : February 14 2021 - February 28 2021
Phase 2: Aged 65 and older : March 1 2021 - March 22 2021
Phase 3: Aged 55-64 : March 23 2021 - April 13 2021
Phase 4: All others that did not catch Covid-19 in the past : April 14 2021 - May 5 2021
Phase 5: Citizens who caught Covid-19 in the past : May 6 2021 - May 20 2021

Vaccine brands:

Type	Name	Efficacy	Nb of doses	Days between 2 doses	Age restriction
mRNA	Pfizer-BioNTech	95%	2	21	16
mRNA	Moderna	94%	2	28	18
Viral vector	Astrazeneca-Oxford	63.09%	2	56	18
Viral vector	Russian Gamaleya Sputnik V	91.06%	2	21	18
Viral vector	Johnson & Johnson Janssen	66%	1	N/A	18

Feedback:

Because we care about patients' feedback to improve our performance, we ask them to fill an evaluation form consisting of:

- 1- Symptoms and the side-effects after taking the vaccine
- 2- Rating of the overall experience (from 1-5: 1 being the worst and 5 being the best)
- 3- Reason of vaccination: The purpose of this section is to raise spirits and encourage others to apply for the vaccine. It is a fill-in-the-blank statement starting with: "I did it for my ...". It can be family, sick sister, grandparents, community..."

FUN FACT:

What makes our center unique is the fact that you can choose your own vaccine preference.

About the Vaccinators: We are aspiring mathematicians and computer scientists caring for the health of our community.



Anwar Khaddaj
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Carmen Kaouk
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Marian Abou Fares
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Statistics button:

Statistics Register Home Feedback About

Interesting Insights

Average Rating of the whole experience is: 4.0313/5

Ratio of people who showed up to take the first dose of the vaccine: 0.9643/1

Only 2 patients entered the emergency rooms.

Your favorite vaccine turned out to be Pfizer-BioNTech

Our doctor of the month is Dana Ali Sobh

Our nurse of the month is Majd Ali Saleh

Phase number	Number of vaccinated people in this phase
1	12
2	8
3	2
4	31
5	3

The vaccine company with the most requested quantity of doses is BioNTech, Pfizer 77000

Register button:

Vaccine Registration Form

ID

Gender
 Male
 Female

Date of birth(YYYY-MM-DD)

First name

Middle Name

Last Name

Street

Area

District

Phone number

Home Phone number (insert 0 if not available)

Vaccine Preference
 Pfizer-BioNTech

Vaccine Preference
 Pfizer-BioNTech
 Moderna
 AstraZeneca-Oxford
 Russian Gamaleya Sputnik V
 Johnson & Johnson Janssen
 Sinopharm Chinese

Allergies

Covid positive
 True
 False

Health condition

Emergency contact information:
First Name

Middle Name

Last Name

Phone Number

Relationship

Emergency contact 2 information (optional):
First Name

Middle Name

Feedback button:

Evaluation Form

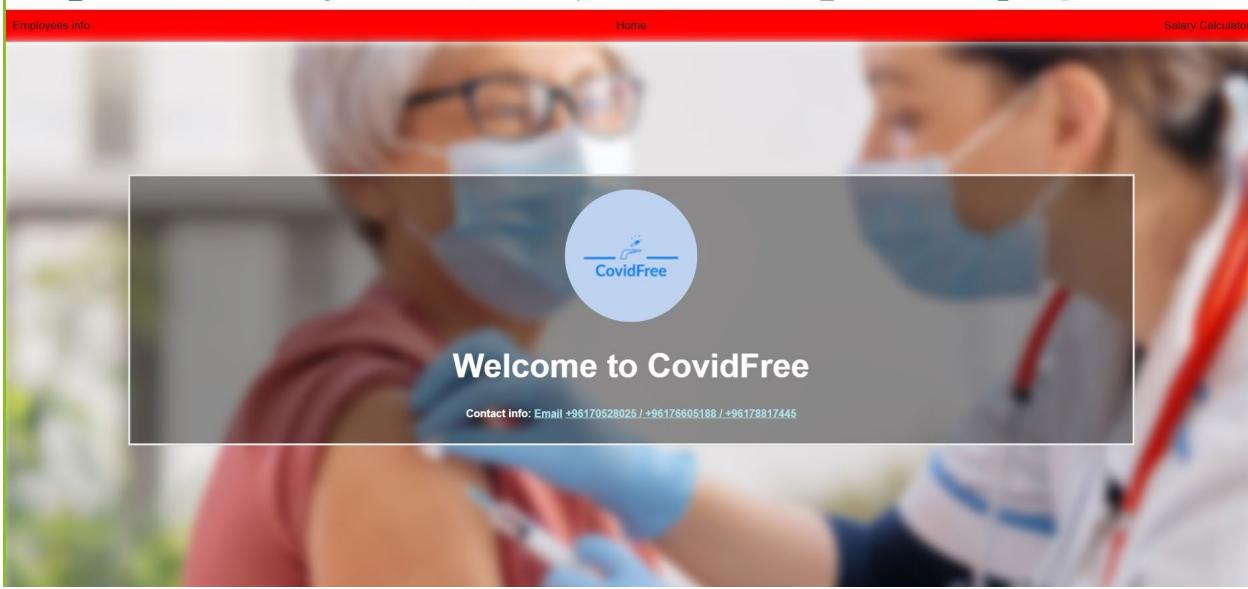
ID*

Rating*
 1
 2
 3
 4
 5

Symptoms*

Reason of vaccination*

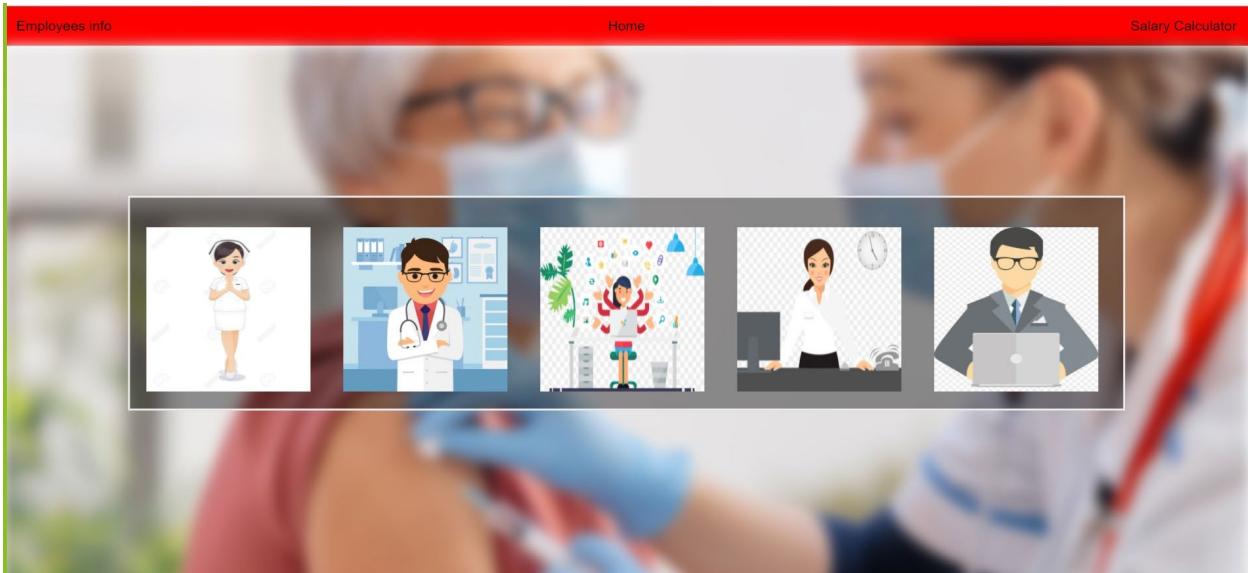
Website for employees:



Salary Calculator:

A screenshot of a "Salary Calculator" form. The form has a red header bar with the text "Salary Calculator". Below the header, there are two input fields: one for "ID*" and one for "Number of expected holidays*". Both fields have a red asterisk indicating they are required. At the bottom of the form is a red "Calculate" button.

Employees info button:



Nurses:

Employees info
Home
Salary Calculator

Nurses Section

Update Patient's vaccination info

ID*

Brand used* Pfizer-BioNTech Moderna AstraZeneca-Oxford Russian Gamaleya Sputnik 5 Johnson & Johnson Janssen Sinopharm Chinese

Date 1(YYYY-MM-DD HH:MM:SS)*

Date 2(YYYY-MM-DD HH:MM:SS)*

Submit

Patients info

ID	Name	Gender	Date of birth	Covid positive	Health condition	Allergies	Vaccine preference
102	Anwar Safwan Khaddaj	Male	2002-01-21	0			Pfizer-BioNTech
710	Joseph Jamil Abou Fares	Male	1961-01-01	0	Diabetes, High Blood Pressure		Pfizer-BioNTech
901	Sara Karem Yassine	Female	1955-05-04	0	Anemia		Pfizer-BioNTech
904	Norma Atef Mitr	Female	1969-11-12	0	High Blood Pressure	Animal	Moderna
1002	Marian Joseph Abou Fares	Female	2002-02-02	0	Cholesterol		Pfizer-BioNTech
1003	Ahmad Fouad Kaddoura	Male	2000-08-01	0			Pfizer-BioNTech
1009	Jad Hajj Ghannam	Male	1995-12-01	0	Anemia		Pfizer-BioNTech
1235	Charbel Bahaa Idriss	Male	1990-09-03	0		Hold	Johnson & Johnson Janssen

Doctors:

Employees info
Home
Salary Calcul

Doctors Section

Patients symptoms

Name	Vaccine Brand	Dose 1 taken	Dose 2 taken	Symptoms
Nahed Fouad Kaddoura	Pfizer-BioNTech	0	0	Stomachache
Akram Mohammad Kaou	Russian Gamaleya Sputnik 5	0	1	none
Anwar Safwan Khaddaj	Pfizer-BioNTech	0	1	No symptoms
Aya Ali Kaouk	Sinopharm Chinese	0	1	Diarrhea and Muscle Pain
Carmen Akram Kaouk	Pfizer-BioNTech	0	1	None
Charbel Bahaa Idriss	Johnson & Johnson Janssen	0	0	None
Dalia Antonio Daou	Pfizer-BioNTech	0	1	Igore muscles
Dany Javed dabaja	Pfizer-BioNTech	0	0	back pain, nausea
Dany Javed dabaja	Pfizer-BioNTech	0	1	None
Farah Safwan Khaddaj	Moderna	0	1	No symptoms
George Peter John	Pfizer-BioNTech	0	0	Headache and a bit of fever
Hadi Mustafa Hamm	Russian Gamaleya Sputnik 5	0	1	None
Hasan Sameer Tahini	Sinopharm Chinese	0	0	Chest Pain and Blood Clet
Idriss Jaber	Pfizer-BioNTech	0	1	None
Ihab Mohammad Nasha	Pfizer-BioNTech	0	0	Headache
Jimmy Samer Kenana	Pfizer-BioNTech	0	0	Fever, diarrhea
Joseph Jamil Abou Fares	Pfizer-BioNTech	1	1	headache, Tiredness
Karin Akram Kaou	AstraZeneca-Oxford	0	0	Chest Pain and Vomiting
Layla Yacoub Khodor	Johnson & Johnson Janssen	0	1	None
Luthfiya Haidar Saeed	Johnson & Johnson Janssen	0	1	Vomiting and Headache
Maria Yousra Nascha	Pfizer-BioNTech	0	1	Nausea
Marian Joseph Abou Fares	Moderna	0	0	None
Nada Jason Rahbani	Pfizer-BioNTech	0	1	Pain at injection site and chills
Norma Atef Mitr	Moderna	0	1	Headache, Fever
Nour Joseph Abou Fares	Pfizer-BioNTech	0	1	Severe cold
Reine Jana Mousleh	Moderna	0	0	Pain at injection site
Rima Jader	Sinopharm Chinese	0	0	Fever, tiredness, and nausea
Rita Joseph Abou Fares	Pfizer-BioNTech	0	1	No symptoms
Sara Karem Yassine	Pfizer-BioNTech	0	1	None
Suzi Jamal Ghrabi	Moderna	0	1	Muscle Pain and Headache
Yasmeen Jad Younes	AstraZeneca-Oxford	0	0	a bit of pain
Yasmeen Jad Younes	AstraZeneca-Oxford	0	0	a bit of pain and nausea

Social media Specialists:

Employees info		Home	Salary Calculator																																																																		
Social Media Specialists Section																																																																					
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<p>Average Rating is 4.0313/5</p> <table border="1"> <thead> <tr> <th>Reason of vaccination</th> <th>Rating</th> </tr> </thead> <tbody> <tr><td>did it for my parents and friends</td><td>2</td></tr> <tr><td>did it for my children</td><td>2</td></tr> <tr><td>did it for my family</td><td>2</td></tr> <tr><td>did it for my grandpa</td><td>3</td></tr> <tr><td>did it for my society</td><td>3</td></tr> <tr><td>did it for my country</td><td>3</td></tr> <tr><td>did it for my community</td><td>3</td></tr> <tr><td>did it for my neighborhood</td><td>3</td></tr> <tr><td>did it for my husband</td><td>3</td></tr> <tr><td>did it for my wife</td><td>4</td></tr> <tr><td>did it for my kids</td><td>4</td></tr> <tr><td>did it for my son</td><td>4</td></tr> <tr><td>did it to go back to normal life</td><td>4</td></tr> <tr><td>did it for my country</td><td>4</td></tr> <tr><td>did it for my friend</td><td>4</td></tr> <tr><td>did it for my family</td><td>4</td></tr> <tr><td>did it to go back to normal life</td><td>4</td></tr> <tr><td>did it for my sick sister</td><td>4</td></tr> <tr><td>did it for my sick brother</td><td>5</td></tr> <tr><td>did it for my society</td><td>5</td></tr> <tr><td>did it for my Family and friends</td><td>5</td></tr> <tr><td>did it for my mother</td><td>5</td></tr> <tr><td>did it for my fiance</td><td>5</td></tr> <tr><td>did it for my family and to go back to normal life</td><td>5</td></tr> <tr><td>did it for my sick daughter</td><td>5</td></tr> <tr><td>did it for my grandchildren</td><td>5</td></tr> <tr><td>did it for my parents</td><td>5</td></tr> <tr><td>did it for my wife</td><td>5</td></tr> <tr><td>did it for my mother</td><td>5</td></tr> <tr><td>did it for my sick daughter</td><td>5</td></tr> <tr><td>did it for my grandparents</td><td>5</td></tr> <tr><td>did it for my society</td><td>5</td></tr> </tbody> </table>				Reason of vaccination	Rating	did it for my parents and friends	2	did it for my children	2	did it for my family	2	did it for my grandpa	3	did it for my society	3	did it for my country	3	did it for my community	3	did it for my neighborhood	3	did it for my husband	3	did it for my wife	4	did it for my kids	4	did it for my son	4	did it to go back to normal life	4	did it for my country	4	did it for my friend	4	did it for my family	4	did it to go back to normal life	4	did it for my sick sister	4	did it for my sick brother	5	did it for my society	5	did it for my Family and friends	5	did it for my mother	5	did it for my fiance	5	did it for my family and to go back to normal life	5	did it for my sick daughter	5	did it for my grandchildren	5	did it for my parents	5	did it for my wife	5	did it for my mother	5	did it for my sick daughter	5	did it for my grandparents	5	did it for my society	5
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Managers:

Employees info Home Salary Calculator

The collage consists of four square images arranged horizontally. The first image shows a sign that reads "ADMIN MANAGER". The second image shows a magnifying glass focusing on a newspaper classifieds section where "Medical And Health Services Manager" is listed. The third image is a cartoon illustration of a hand holding a smartphone with "SOCIAL MEDIA MANAGER" on its screen, surrounded by icons like a dollar sign, a person, and a computer. The fourth image shows a person working at a desk with a computer monitor displaying a network diagram, with "IT MANAGER" written on the screen.

Administration manager:

Employees info Home Salary Calculator

Welcome Bouthaina Atef Hatem

Receptionist Info

ID	Name	Date of birth	Gender	Street	Department	Office Desk Number	Salary per hour	Number of hours
8865	Ali Ahmad Safadi	1980-09-08	Male	St1256	Administration	1	16	9
8901	Soaad Mohamad Al Ahmad	1988-02-06	Female	St4521	Administration	1	15	8
7865	Johny Kamal Serhal	1987-10-06	Male	St1256	Administration	2	14	8
9071	Joya George Saba	1990-12-12	Male	St4521	Administration	2	15	9

Medical Manager:

Employees info Home Salary Calculator

Welcome Ali Hasan Ayoub

Medical Department

Doctors' info

ID	Name	Gender	Date of birth	Specialization	Office Number	Salary per hour	Number of hours
5512	Jinan Loay Jadallah	Female	1976-11-11	Neurology	101	50	10
6635	George Kamal Baroud	Male	1978-12-03	Cardiology	100	52	10
8745	Jihad Tarek Gharib	Male	1982-07-09	General Health	103	45	11
9846	Dana Ali Sobh	Female	1965-11-09	Pulmonology	102	50	9

Nurses' Info

ID	Name	Gender	Date of birth	Shift Start Time	Shift End Time	Doctor ID	Salary per hour	Number of hours
2009	Jana Ahmad Itawi	Female	1976-10-25	11:00:00	20:00:00	8745	20	9
2212	Randa Joseph Sarrouh	Female	1977-12-25	09:00:00	16:00:00	9846	21	7
2367	Jinan Mohamad Awad	Female	1990-11-04	08:00:00	15:00:00	6635	19	7
2943	Akram Kryan Selfani	Male	1980-09-09	08:00:00	14:00:00	6635	21	6
5484	Rasha Nayef Omais	Female	1993-08-08	08:00:00	09:00:00	9846	20	6
5484	Rasha Nayef Omais	Female	1993-08-08	15:00:00	20:00:00	8745	20	6
8856	Majd Ali Saleh	Male	1982-12-01	08:00:00	20:00:00	8745	23.1	12
9686	Ahmad Ralph Houmani	Male	1972-12-15	08:00:00	11:00:00	8745	19	6
9686	Ahmad Ralph Houmani	Male	1972-12-15	17:00:00	20:00:00	9846	19	6
9865	Norma Milad Selfani	Female	1987-10-09	14:00:00	20:00:00	6635	22	6

Social media manager:

Employees info Home Salary Calculator

Welcome Margo Anis Khoury

Social Media Specialists info

ID	Name	Gender	Date of birth	Street	Department Name	Social media application	Salary per hour	Number of hours
2210	Diana Charbel Abou Arbid	Female	1996-10-09	St3721	Social Media	Facebook	25	6
5871	Sarah Gabi Chalhoub	Female	1995-06-27	St3721	Social Media	Instagram	19	6
7105	Sandy Bchra Kenaan	Female	1996-11-27	St5431	Social Media	Twitter	23	7
8885	Jamil Fadi Khorfan	Male	1994-08-11	St2709	Social Media	LinkedIn	24	6

IT manager:

Employees info Home Salary Calculator

Welcome Elie Dani Jedaan

IT info

ID	Name	Gender	Date of birth	Street	Department Name	Salary per hour	Number of hours
2222	Amin Karim Mansour	Male	1989-11-12	St5431	IT	20	6
3211	Sam Hadi Raad	Male	1990-04-12	St2709	IT	20	7