Advanced Database Management System

Mid-Term Project

Section: B

Group Name: The Noobs

Clinic Management System

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System summary:

Our system is about a clinic management system where there will be a maximum of three to five admins who will manage the doctors and receptionists. In this system, the patients will take appointments for some particular doctors and the receptionists will make appointments for the patients. Besides, the doctors will give treatment to the patients. So, it is necessary to store all the information about this system for future use. For this reason, we need to connect the database with the system so that we can store the admin list, doctor list, receptionist list, patient list. Besides, the system will also store the appointment list and the treatment details.

In this system, one admin can manage many doctors as well as receptionists. Again, one doctor can give many appointments and treatments to many patients. Also, a receptionist can make many appointments. However, all the entities of the system relate to one-to-many relationship.

An ERD Diagram:
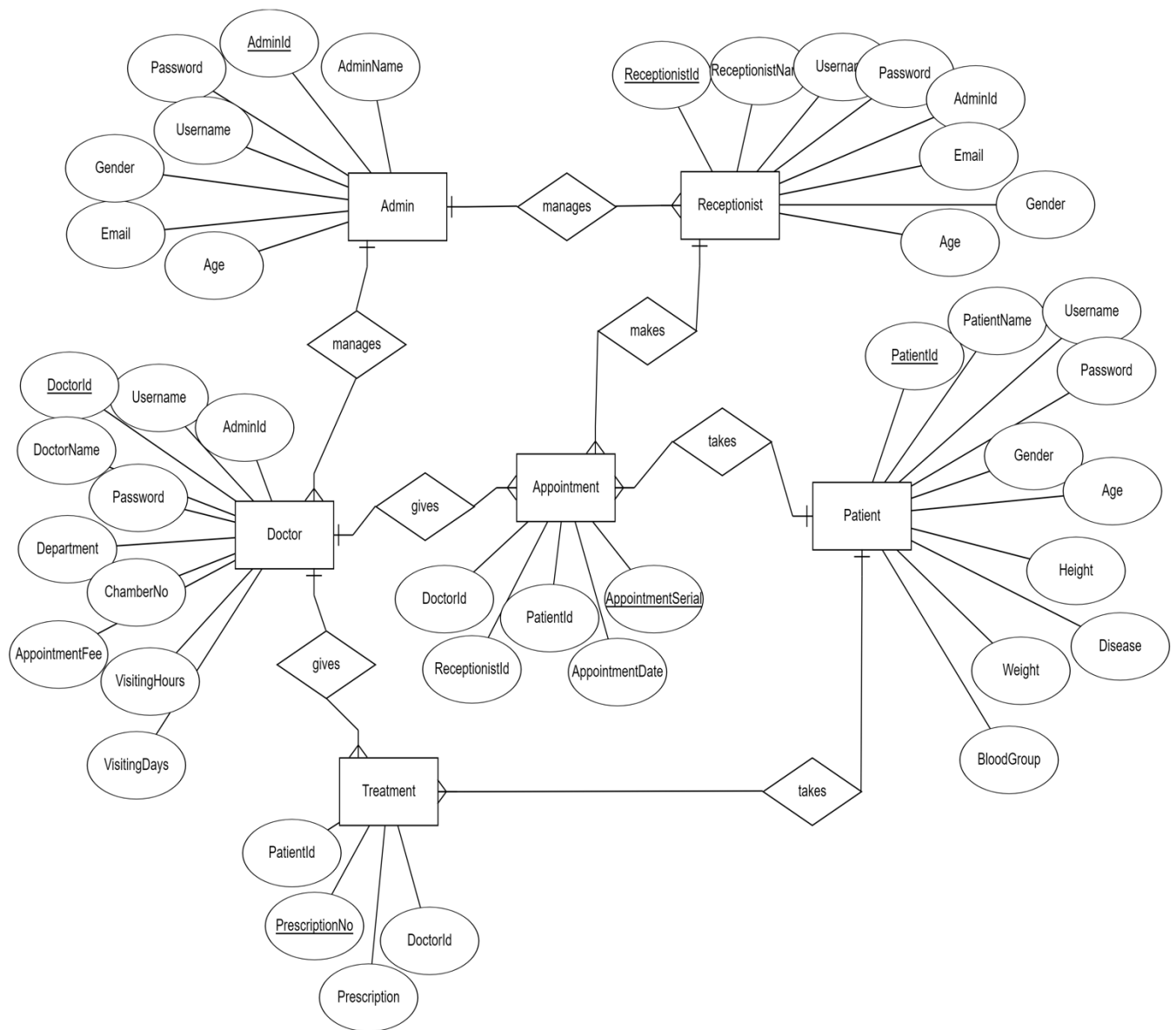

Figure: An ERD Diagram

Class Diagram:
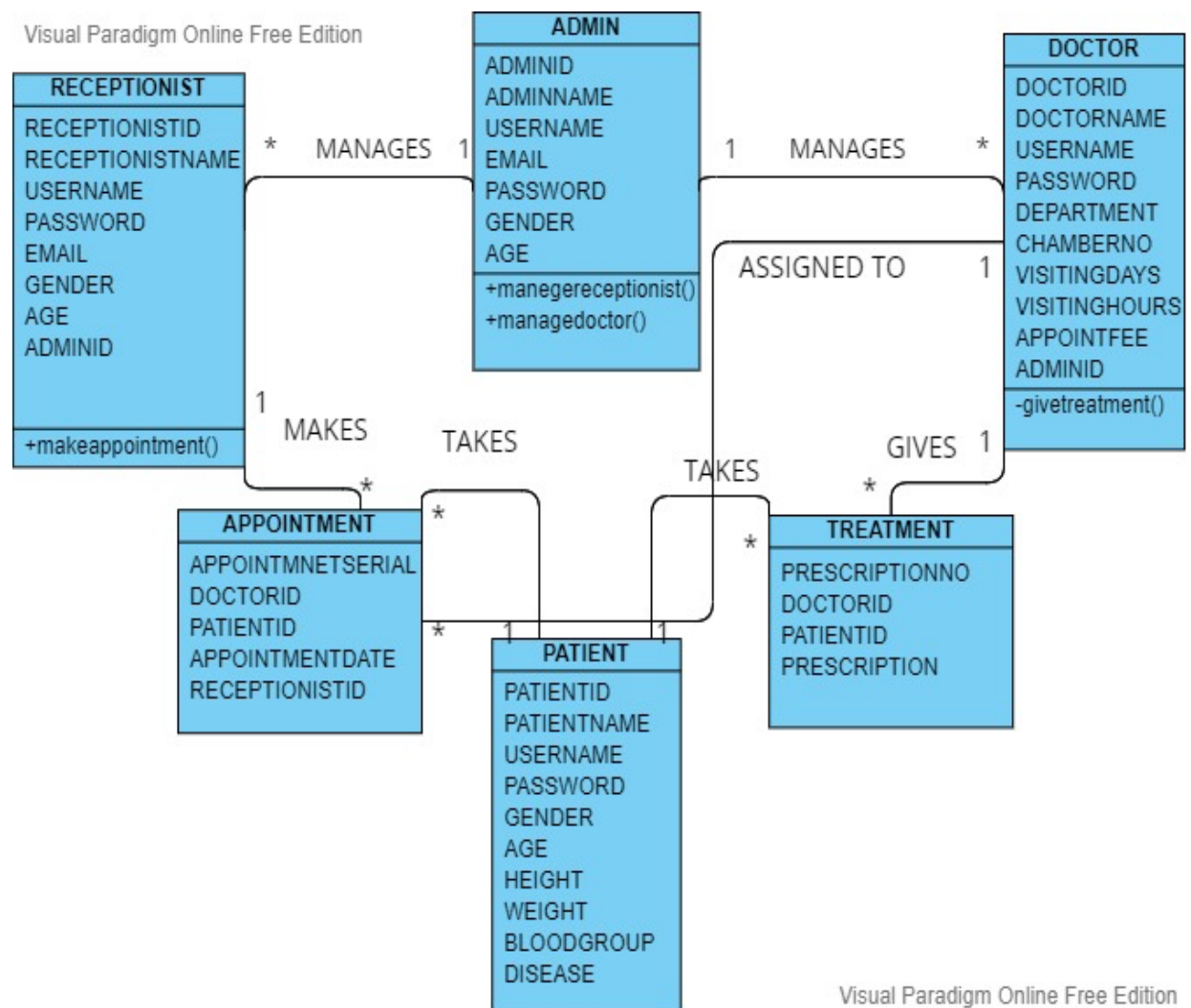
Figure: Class Diagram

Use Case Diagram:
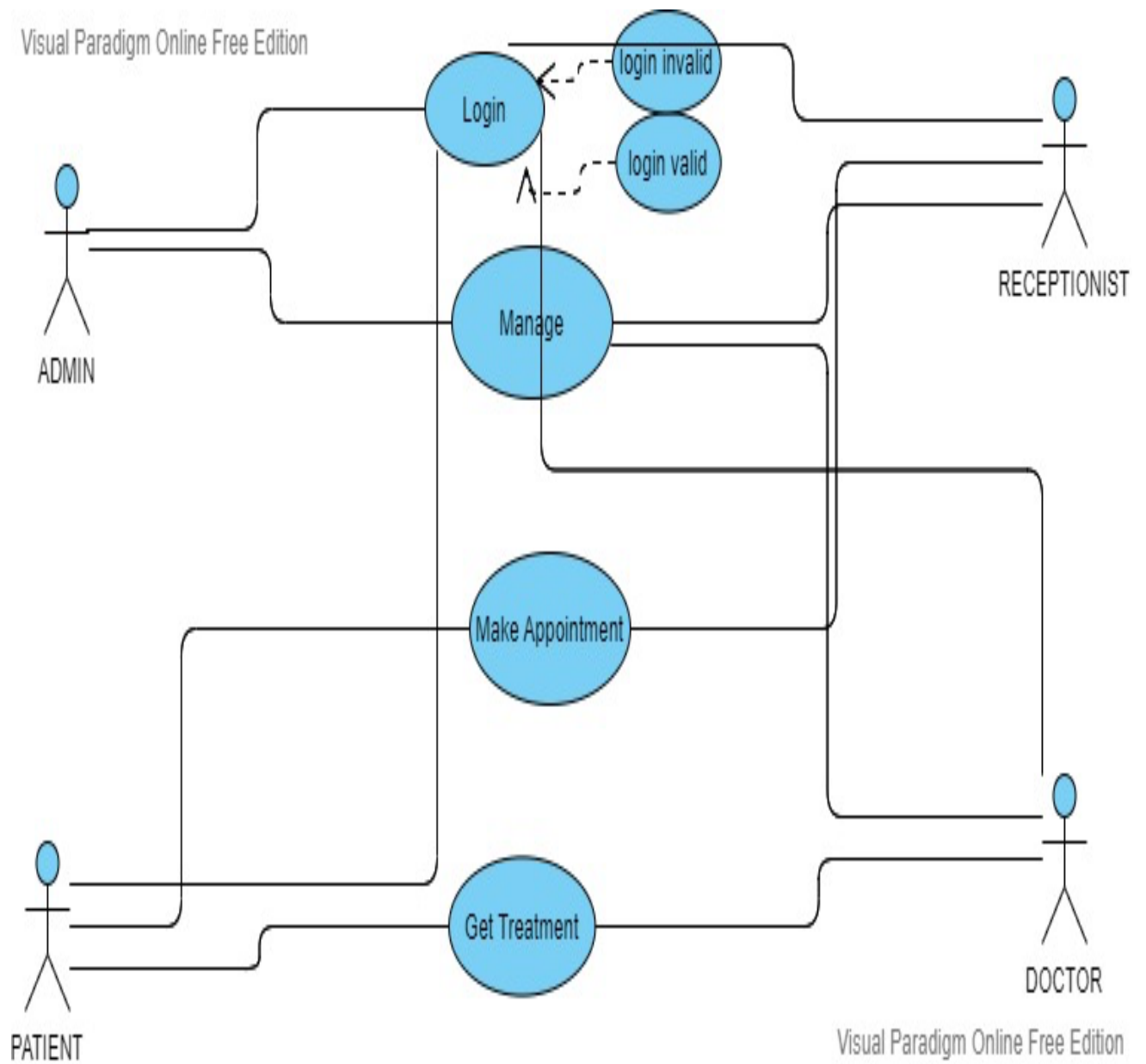
Figure: Use Case Diagram

Activity Diagram:

Choose User
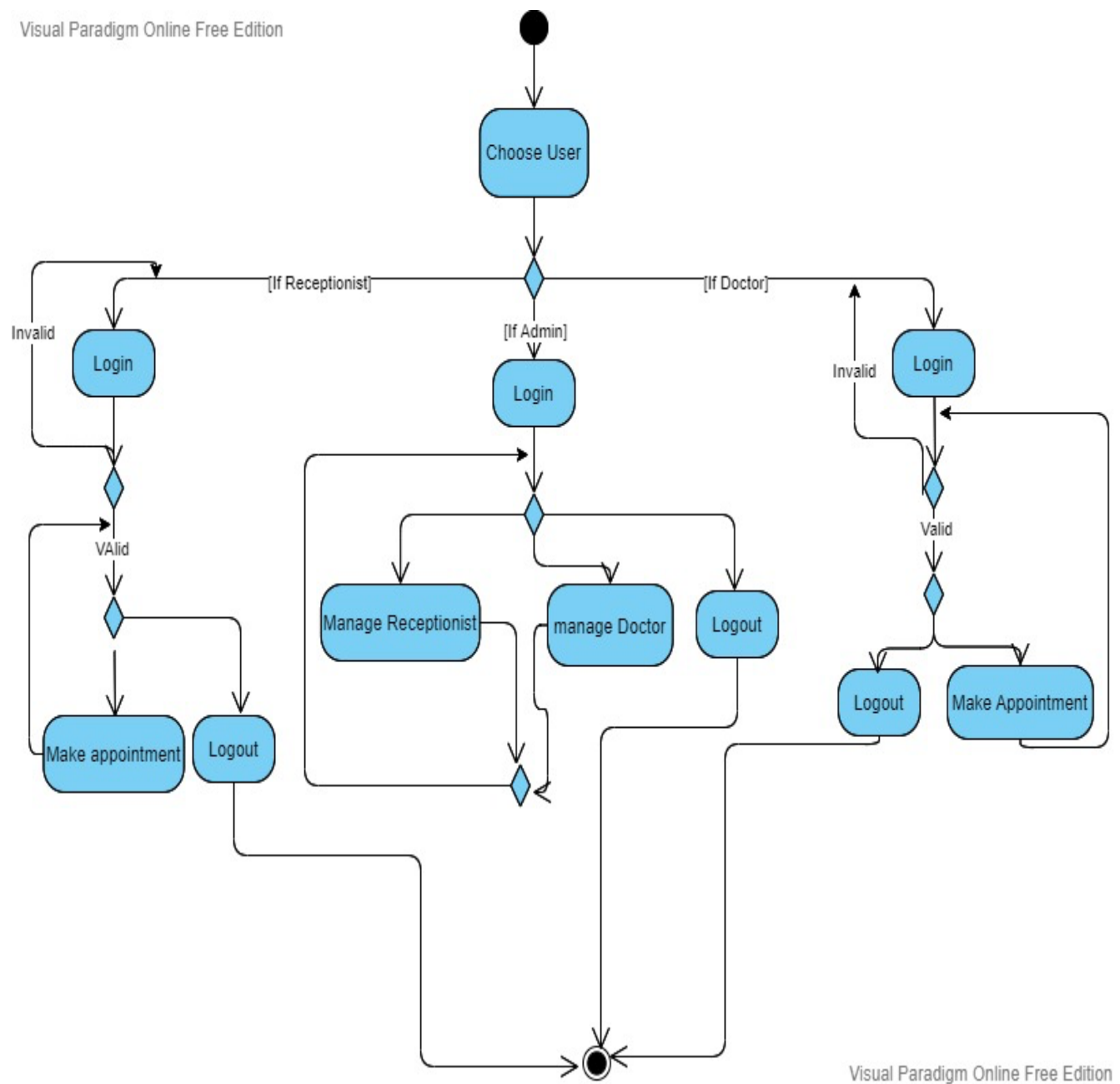
[If Receptionist]   [If Admin]   [If Doctor]

Invalid   Login   Login   Invalid   Login

VAlid   Valid

Manage Receptionist   manage Doctor   Logout   Logout   Make Appointment

Make appointment   Logout

Figure: Activity Diagram

Schema Diagram:

RECEPTIONIST
RECEPTIONISTID NUMBER (PK)
RECEPTIONISTMANE VARCHAR2(50)
USERNAME VARCHAR2(50)
PASSWORD VARCHAR2(50)
EMAIL VARCHAR2(50)
GENDER VARCHAR2(50)
AGE NUMBER
ADMINID NUMBER (FK)

ADMIN
ADMINID NUMBER (PK)
ADMINNAME VARCHAR2(50)
USERNAME VARCHAR2(50)
EMAIL VARCHAR2(50)
PASSWORD VARCHAR2(50)
GENDER VARCHAR2(50)
AGE NUMBER

DOCTOR
DOCTORID NUMBER (PK)
DOCTORNAME VARCHAR2(50)
USERNAME VARCHAR2(50)
PASSWORD VARCHAR2(50)
DEPARTMENT VARCHAR2(50)
CHAMBERNO NUMBER
VISSITINGDAYS NUMBER
VISITINGHOURS NUMBER
APPOINTMENTFEE NUMBER
ADMINID NUMBER (FK)

APPOINTMENT
APPOINTMENTSERIAL NUMBER (PK)
DOCTORID NUMBER (FK)
PATIENTID NUMBER (FK)
APPOINTDETE VARCHAR2(50)
RECEPTIONISTID NUMBER (FK)

TREATMENT
PRESCRIPTIONNO NUMBER (PK)
DOCTORID NUMBER (FK)
PATIENTID NUMBER (FK)
PRESCRIPTION VARCHAR2(50)

PATIENT
PATIENTID NUMBER (PK)
PATIENTNAME VARCHAR2(50)
USERNAME VARCHAR2(50)
PASSWORD VARCHAR2(50)
GENDER VARCHAR2(50)
AGE NUMBER
HEIGHT NUMBER
WEIGHT NUMBER
BLOODGROUP VARCHAR2(50)
DISEASE VARCHAR2(50)

Figure: Schema Diagram

Table Creation:

Column Name	Data Type	Nullable	Default	Primary Key
ADMINID	NUMBER	No	-	1
ADMINNAME	VARCHAR2(50)	No	-	-
USERNAME	VARCHAR2(50)	No	-	-
EMAIL	VARCHAR2(50)	No	-	-
PASSWORD	VARCHAR2(50)	No	-	-
GENDER	VARCHAR2(50)	No	-	-
AGE	NUMBER	No	-	-
				1 - 7

Download

Column Name	Data Type	Nullable	Default	Primary Key
DOCTORID	NUMBER	No	-	1
DOCTORNAME	VARCHAR2(50)	No	-	-
USERNAME	VARCHAR2(50)	No	-	-
PASSWORD	VARCHAR2(50)	No	-	-
DEPARTMENT	VARCHAR2(50)	No	-	-
CHAMBERNO	VARCHAR2(50)	No	-	-
VISITINGDAYS	VARCHAR2(50)	No	-	-
VISITINGHOURS	VARCHAR2(50)	No	-	-
APPOINTMENTFEE	NUMBER	No	-	-
ADMINID	NUMBER	No	-	-
				1 - 10

Download

Column Name	Data Type	Nullable	Default	Primary Key
APPOINTMENTSERIAL	NUMBER	No	-	1
DOCTORID	NUMBER	No	-	-
PATIENTID	NUMBER	No	-	-
APPOINTMENTDATE	VARCHAR2(50)	No	-	-
RECEPTIONISTID	NUMBER	No	-	-
				1 - 5

Download

Column Name	Data Type	Nullable	Default	Primary Key
PATIENTID	NUMBER	No	-	1
PATIENTNAME	VARCHAR2(50)	No	-	-
USERNAME	VARCHAR2(50)	No	-	-
PASSWORD	VARCHAR2(50)	No	-	-
GENDER	VARCHAR2(50)	No	-	-
AGE	NUMBER	No	-	-
HEIGHT	NUMBER	No	-	-
WEIGHT	NUMBER	No	-	-
BLOODGROUP	VARCHAR2(50)	No	-	-
DISEASE	VARCHAR2(50)	No	-	-
				1 - 10

Download

Column Name	Data Type	Nullable	Default	Primary Key
RECEPTIONISTID	NUMBER	No	-	1
RECEPTIONISTNAME	VARCHAR2(50)	No	-	-
USERNAME	VARCHAR2(50)	No	-	-
PASSWORD	VARCHAR2(50)	No	-	-
EMAIL	VARCHAR2(50)	No	-	-
GENDER	VARCHAR2(50)	No	-	-
AGE	NUMBER	No	-	-
ADMINID	NUMBER	No	-	-
				1 - 8

Download

Column Name	Data Type	Nullable	Default	Primary Key
PRESCRIPTIONNO	NUMBER	No	-	1
PATIENTID	NUMBER	No	-	-
PRESCRIPTION	VARCHAR2(50)	No	-	-
DOCTORID	NUMBER	No	-	-
				1 - 4

Download

Insertion of Data:

ADMINID	ADMINNAME	USERNAME	EMAIL	PASSWORD	GENDER	AGE
101	Rezwan Ahmed	rezwan101	rezwan101@gmail.com	rezwan101	Male	38
102	Sabbir Hossain	sabbir102	sabbir102@gmail.com	sabbir102	Male	23
103	Anik Das	anik103	anik103@gmail.com	anik103	Male	24
104	Salma Khatun	salma104	salma104@gmail.com	salma104	Female	29
105	Shakib Al Hasan	shakib105	shakib105@gmail.com	shakib105	Male	35

5 rows returned in 0.04 seconds   Download

DOCTORID	DOCTORNAME	USERNAME	PASSWORD	DEPARTMENT	CHAMBERNO	VISITINGDAYS	VISITINGHOURS	APPOINTMENTFEE	ADMINID
201	Dr. Tanvir Islam	tanvir201	tanvir201	Medicine	D-01	Sunday-Monday	6pm-8pm	1000	101
202	Dr. Monirul Alam	monirul202	monirul202	Orthopedic	D-02	Monday-Tuesday	8pm-10pm	800	102
203	Dr. Ashraful Anam	ashraful203	ashraful203	Forensic	D-03	Thursday-Friday	8pm-10pm	1200	103
204	Dr. Razia Sultana	razia204	razia204	Gynecologist	D-04	Saturday-Sunday	2pm-4pm	500	102
205	Dr. Imtiaz Faruk	imtiaz205	imtiaz205	Surgery	D-05	Tuesday-Wednesday	6pm-8pm	1500	101

5 rows returned in 0.00 seconds   Download

RECEPTIONISTID	RECEPTIONISTNAME	USERNAME	PASSWORD	EMAIL	GENDER	AGE	ADMINID
301	Mahzabin Mostary	mahzabin301	mahzabin301	mahzabin301@gmail.com	Female	23	101
302	Jannatul Ferdous Keya	jannatul302	jannatul302	jannatul302@gmail.com	Female	23	102
303	Sajid Al Shakib	sajid303	sajid303	sajid303@gmail.com	Male	25	103
304	Joya Alam	joya304	joya304	joya304@gmail.com	Female	22	102
305	Jubayer Islam	jubayer305	jubayer305	jubayer305@gmail.com	Male	24	101

5 rows returned in 0.00 seconds   Download

PATIENTID	PATIENTNAME	USERNAME	PASSWORD	GENDER	AGE	HEIGHT	WEIGHT	BLOODGROUP	DISEASE
401	Faruk Hossain	faruk401	faruk401	Male	37	167	73	AB+	Diabetes
402	Iqbal Hossain	iqbal402	iqbal402	Male	42	176	85	AB-	Cancer
403	Tuhin Sarkar	tuhin403	tuhin403	Male	23	172	78	B-	Dengue
404	Rabeya Khatun	rabeya404	rabeya404	Female	34	157	71	O-	Anemia
405	Raisa Maliha	raisa405	raisa405	Female	26	164	65	O+	Jaundice
406	Nazma Begum	nazma406	nazma406	Female	30	163	67	B-	Fever
407	Rafid Ayman	rafid407	rafid407	Male	25	174	82	AB+	Asthma
408	Shimanto Islam	shimanto408	shimanto408	Male	16	145	55	B-	Diarrhea

8 rows returned in 0.01 seconds   Download

APPOINTMENTSERIAL	DOCTORID	PATIENTID	APPOINTMENTDATE	RECEPTIONISTID
501	201	401	28.03.2022	301
502	202	402	25.03.2022	302
503	203	403	29.03.2022	303
504	204	404	26.03.2022	304
505	205	405	30.03.2022	305
506	201	404	24.03.2022	303
507	201	402	25.03.2022	305

7 rows returned in 0.01 seconds   Download

PATIENTID	PRESCRIPTION	PRESCRIPTIONNO	DOCTORID
401	Insuline	601	201
402	Chemotherapy	602	202
403	Napa	603	203
404	Iron-Tablet	604	204
405	Hepatitis-B-Vaccine	605	205

5 rows returned in 0.00 seconds   Download

Query Writing:

1. Find doctor username and id who are being managed by admin='rezwan'

```
select doctor.username,doctor.adminid from admin,doctor where admin.adminid=doctor.adminid and adminname='Rezwan Ahmed'
```

Results Explain Describe Saved SQL History

USERNAME	ADMINID
tanvir201	101
imtiaz205	101

2 rows returned in 0.00 seconds   Download

2. Find patient who get treatment from Dr. Tanvir Islam

```
select * from patient where patientid=(select patientid from treatment where
doctorid=(select doctorid from doctor where doctorname='Dr. Tanvir Islam'))
```

Results Explain Describe Saved SQL History

PATIENTID	PATIENTNAME	USERNAME	PASSWORD	GENDER	AGE	HEIGHT	WEIGHT	BLOODGROUP	DISEASE
401	Faruk Hossain	faruk401	faruk401	Male	37	167	73	AB+	Diabetes

1 rows returned in 0.00 seconds   Download

3. Find the treatment of a patient who is suffering from anemia.

```
select prescription from treatment where patientid=(select patientid from patient where disease='Anemia')
```

Results Explain Describe Saved SQL History

PRESCRIPTION
Iron-Tablet

1 rows returned in 0.00 seconds   Download

4. Find the patients who got an appointment from the doctor who is from the medicine department.

```
select * from patient where patientid in(select patientid from appointment where
doctorid=(select doctorid from doctor where department='Medicine'))
```

Results Explain Describe Saved SQL History

PATIENTID	PATIENTNAME	USERNAME	PASSWORD	GENDER	AGE	HEIGHT	WEIGHT	BLOODGROUP	DISEASE
404	Rabeya Khatun	rabeya404	rabeya404	Female	34	157	71	O-	Anemia
402	Iqbal Hossain	iqbal402	iqbal402	Male	42	176	85	AB-	Cancer
401	Faruk Hossain	faruk401	faruk401	Male	37	167	73	AB+	Diabetes

3 rows returned in 0.01 seconds   Download

5. Find the doctor with the maximum number of appointments.

```
select doctorid,count(*) from appointment group by doctorid having
count(*)=(select max(count(*)) from appointment group by doctorid)
```

Results Explain Describe Saved SQL History

DOCTORID	COUNT(*)
201	3

1 rows returned in 0.00 seconds   Download

6. Find out the patient who takes appointment of a doctor with minimum appointment fee.

```
select * from patient where patientid=(select patientid from appointment where doctorid=(select
doctorid from doctor where appointmentfee=(select min(appointmentfee) from doctor)))
```

Results Explain Describe Saved SQL History

PATIENTID	PATIENTNAME	USERNAME	PASSWORD	GENDER	AGE	HEIGHT	WEIGHT	BLOODGROUP	DISEASE
404	Rabeya Khatun	rabeya404	rabeya404	Female	34	157	71	O-	Anemia

1 rows returned in 0.00 seconds   Download

7. Find the details of the receptionist who makes the highest number of appointments.

```sql
select * from receptionist where receptionistid in(select receptionistid from appointment group by
receptionistid having count(*)=(select max(count(*)) from appointment group by receptionistid))
```

Results Explain Describe Saved SQL History

RECEPTIONISTID	RECEPTIONISTNAME	USERNAME	PASSWORD	EMAIL	GENDER	AGE	ADMINID
303	Sajid Al Shakib	sajid303	sajid303	sajid303@gmail.com	Male	25	103
305	Jubayer Islam	jubayer305	jubayer305	jubayer305@gmail.com	Male	24	101

2 rows returned in 0.00 seconds   Download

8. Write a pl/sql code to find the username and password of an admin from admin database whose id is input by the user.

```plsql
declare

    id admin.adminid%type := :Input_Admin_Id;
    uname admin.username%type;
    pass admin.password%type;

begin
    select username,password into uname,pass from admin where adminid=id;
    dbms_output.put_line('Username: '|| uname);
    dbms_output.put_line('Password: '|| pass);

end;
```

Results Explain Describe Saved SQL History

Username: rezwan101
Password: rezwan101

Statement processed.

0.00 seconds

9. Write a pl/sql code to find the appointment list of the doctor whose id is input by the user.

```
declare
    docId appointment.doctorid%type := :Input_Doctor_Id;
    serial appointment.appointmentserial%type;
    recId appointment.receptionistid%type;
    patId appointment.patientid%type;
    appdate appointment.appointmentdate%type;
begin
    select doctorid,appointmentserial,appointmentdate,patientid,receptionistid into docId,serial,appdate,patId,recId from appointment where
    doctorid=docId;
    dbms_output.put_line('Appoitment Serial: '|| serial);
    dbms_output.put_line('Appointment Date : '|| appdate);
    dbms_output.put_line('Doctor ID       : '|| docId);
    dbms_output.put_line('Patient ID      : '|| patId);
    dbms_output.put_line('Receptionist ID : '|| recId);
end;
```

Results   Explain   Describe   Saved SQL   History

```
Appoitment Serial: 502
Appointment Date : 25.03.2022
Doctor ID       : 202
Patient ID      : 402
Receptionist ID : 302

Statement processed.
```

10. Write a pl/sql code to a patient who took treatment from a doctor whose id is input by user.

```
declare
    docId doctor.doctorid%type := :id;
    patname patient.patientname%type;
    Patgen patient.gender%type;
    patdisease patient.disease%type;

begin
    select patientname,gender,disease into patname,patgen,patdisease from patient where patientid=(select patientid
    from treatment where doctorid= (select doctorid from doctor where doctorid=docId));

    dbms_output.put_line('Patient Name : '|| patname);
    dbms_output.put_line('Gender       : '|| patgen);
    dbms_output.put_line('Disease      : '|| patdisease);

end;
```

Results   Explain   Describe   Saved SQL   History

```
Patient Name : Iqbal Hossain
Gender       : Male
Disease      : Cancer
```

Registration

Admin Registration Form

ID	
Name	
Username	
Password	
Confirm password	
Email	
Gender	∨
Age	

Register

Registration

Admin Registration Form

ID	106
Name	Robin
Username	Robin999
Password	Robin999
Confirm password	Robin999
Email	Robin999@gmail.com
Gender	Male ∨
Age	32

Register

Admin Registration Form

ID	106
Name	Robin
Username	Robin999
Password	Robin999
Confirm password	
Email	om
Gender	
Age	32

User added successfully !!!

OK

Register

```
select * from admin
```

Results   Explain   Describe   Saved SQL   History

ADMINID	ADMINNAME	USERNAME	EMAIL	PASSWORD	GENDER	AGE
101	Rezwan Ahmed	rezwan101	rezwan101@gmail.com	rezwan101	Male	38
102	Sabbir Hossain	sabbir102	sabbir102@gmail.com	sabbir102	Male	23
103	Anik Das	anik103	anik103@gmail.com	anik103	Male	24
104	Salma Khatun	salma104	salma104@gmail.com	salma104	Female	29
105	Shakib Al Hasan	shakib105	shakib105@gmail.com	shakib105	Male	35
106	Robin	Robin999	Robin999@gmail.com	Robin999	Male	32

6 rows returned in 0.00 seconds   Download