Miniworld HOSPITAL DATABASE

Q3.

C)

```
CREATE TABLE PATIENT (
  Patient_ID INTEGER,
  First_name  TEXT,
  Last_name TEXT,
  Age INTEGER,
  Email TEXT,
  Gender TEXT,
  PRIMARY KEY (`Patient_ID`)
);

CREATE TABLE SPECIALTY (
        NHS_specialty_ID INTEGER,
        Description TEXT,
        PRIMARY KEY(NHS_specialty_ID)
);

CREATE TABLE DOCTOR (
  Doctor_ID  INTEGER,
  Main_specialty_code INTEGER,
  First_name  TEXT,
  Last_name  TEXT,
  Street_number  INTEGER,
  City  TEXT,
  State  TEXT,
  Zip_code  TEXT,
  PRIMARY KEY (`Doctor_ID`),
  FOREIGN KEY(Main_specialty_code) REFERENCES SPECIALTY(NHS_specialty_ID)
);

CREATE TABLE `PROCEDURE` (
 `Procedure_code` INTEGER,
 `Procedure_name` TEXT,
 `Procedure_duration` INTEGER,
 `Specialty_code` LIST_OF_SPECIALTY,
 `Cost` INTEGER,
 PRIMARY KEY (`Procedure_code`),
 FOREIGN KEY (`Specialty_code`) REFERENCES `SPECIALTY`(`NHS_specialty_ID`)
);

CREATE TABLE `MEDICATION` (
 `Medication_code` INTEGER,
 `Medication_name` TEXT,
 `Fabrication_date` DATE,
 `Expiration_date` DATE,
 `Quantity` INTEGER,
 `Unit_price` INTEGER,
 `Controlled` TEXT,
 PRIMARY KEY (`Medication_code`)
);

CREATE TABLE DISEASES (
        ICD11 TEXT,
        PRIMARY KEY(ICD11)
);
```

```
CREATE TABLE EXAM (
  Exam_code  INTEGER,
  Exam_date  DATE,
  Request_date  DATE,
  Delivery_date  DATE,
  Results  TEXT,
  Diagnose  LIST_OF_DISEASES,
  Patient_ID  INTEGER,
  Doctor_ID  INTEGER,
  PRIMARY KEY (Exam_code),
  FOREIGN KEY(Diagnose) REFERENCES DISEASES(ICD11),
  FOREIGN KEY (Patient_ID) REFERENCES PATIENT(Patient_ID),
  FOREIGN KEY (Doctor_ID) REFERENCES DOCTOR(Doctor_ID)
);

CREATE TABLE SYMPTOMS (
        Symptoms_ID TEXT,
        PRIMARY KEY(Symptoms_ID)
);

CREATE TABLE `CONSULTATION` (
  `Consulation_date` DATE,
  `Consultation_duration` INTEGER,
  `Patient_ID` INTEGER,
  `Doctor_ID` INTEGER,
  `Procedure_code` INTEGER,
  `Medication_code` INTEGER,
  `Symptoms` LIST_OF_SYMPTOMS,
  PRIMARY KEY (`Patient_ID`, `Doctor_ID`),
  FOREIGN KEY (`Patient_ID`) REFERENCES `PATIENT`(`Patient_ID`),
  FOREIGN KEY (`Doctor_ID`) REFERENCES `DOCTOR`(`Doctor_ID`),
  FOREIGN KEY ('Symptoms') REFERENCES 'SYMPTOMS'(Symptoms_ID),
  FOREIGN KEY(Procedure_code) REFERENCES PROCEDURE(Procedure_code),
  FOREIGN KEY(Medication_code) REFERENCES MEDICATION(Medication_code)
 );
```

D)

```
insert into DISEASES VALUES ('4A00-4A0Z');
insert into DISEASES VALUES ('4A20');
insert into DISEASES VALUES ('4A40-4A4Z');
insert into DISEASES VALUES ('4A60-4A6Z');

insert into SPECIALTY values(100, 'General Surgery');
insert into SPECIALTY values(101, 'Urology');
insert into SPECIALTY values(107, 'Vascular Surgery');
insert into SPECIALTY values(110, 'Trauma and Orthopaedics');

insert into DOCTOR values (20220101, 100,  'John',  'Kaper',  111, 'New York', 'New York', '01234');
insert into DOCTOR values (20220102, 101, 'Kate', 'Brown', 222, 'New York', 'New York', '01235');
insert into DOCTOR values (20220103, 107, 'James', 'Canes', 333, 'New York', 'New York', '01236');
insert into DOCTOR values (20220104, 110, 'Lauren', 'Hilton', 444, 'New York', 'New York', '01237');
insert into DOCTOR values (20220105, 100, 'Matt', 'Gibson', 555, 'New York', 'New York', '01238');
insert into DOCTOR values (20220106, 101, 'Pam', 'Libson', 666, 'New York', 'New York', '01239');

insert into PATIENT values (20221010, 'Nathan', 'Halpert', '20', 'NH@gmail.com', 'male');
insert into PATIENT values (20221011, 'Bill', 'Jackson', '21', 'BJ@gmail.com', 'male');
insert into PATIENT values (20221012, 'Kathy', 'Miller', '22', 'KM@gmail.com', 'female');
insert into PATIENT values (20221013, 'Rosa', 'Malsen', '23', 'RM@gmail.com', 'female');
insert into PATIENT values (20221014, 'Fred', 'Kalsen', '23', 'FK@gmail.com', 'male');
insert into PATIENT values (20221015, 'Dan', 'Yalen', '32', 'DY@gmail.com', 'male');
```

```sql
insert into SYMPTOMS values ('fever');
insert into SYMPTOMS values ('muscle pain');
insert into SYMPTOMS values ('headache');
insert into SYMPTOMS values ('convulsion');

insert into EXAM values (1234, '2022-12-06', '2022-11-30', '2022-12-25', 'Positive', '4A00-4A0Z', 20221010, 20220101);
insert into EXAM values (1235, '2022-12-07', '2022-11-29', '2022-12-26', 'Positive', '4A20', 20221011, 20220102);
insert into EXAM values (1236, '2022-12-08', '2022-11-28', '2022-12-27', 'Negative', '4A40-4A4Z', 20221012, 20220103);
insert into EXAM values (1237, '2022-12-03', '2022-11-25', '2022-12-20', 'Negative', '4A40-4A4Z', 20221013, 20220103);
insert into EXAM values (1238, '2022-11-03', '2022-10-25', '2022-11-20', 'Positive', '4A60-4A6Z', 20221014, 20220103);
insert into EXAM values (1239, '2022-11-04', '2022-10-26', '2022-11-21', 'Negative', '4A60-4A6Z', 20221015, 20220102);

insert into PROCEDURE values (999, 'No Procedure', 0, NULL, 0);
insert into PROCEDURE values (998, 'Appendectomy', 40, 100, 400);
insert into PROCEDURE values (997, 'Breast Biopsy', 35, 100, 350);
insert into PROCEDURE values (996, 'Cataract surgery', 60, 107, 420);

insert into MEDICATION values (888, 'Alogliptin', '2001-01-01', '2006-01-01', 10, 10, 'YES');
insert into MEDICATION values (887, 'Cefalexin', '2001-01-02', '2006-01-02', 12, 12, 'YES');
insert into MEDICATION values (886, 'Baclofen', '2001-01-03', '2006-01-03', 15, 12, 'NO');

insert into CONSULTATION values ('2022-11-30', 20, 20221010, 20220101, 999, 888, 'fever');
insert into CONSULTATION values ('2022-11-29', 25, 20221011, 20220102, 998, 887, 'fever');
insert into CONSULTATION values ('2022-11-28', 30, 20221012, 20220103, 997, 888, 'headache');
insert into CONSULTATION values ('2022-11-25', 30, 20221013, 20220103, 996, 888, 'convulsion');
```

E)

```sql
select DOCTOR.Doctor_ID, date(CONSULTATION.Consulation_date)
from DOCTOR
left  join CONSULTATION
on DOCTOR.Doctor_ID = CONSULTATION.Doctor_ID
order by DOCTOR.Doctor_ID, CONSULTATION.Consulation_date  desc;
```

F)
```sql
Select CONSULTATION.Consultation_date, PATIENT.Patient.First_name
From CONSULTATION
Left join PATIENT
On CONSULTATION.Procedure_code in
(select PROCEDURE.Procedure_code
From PROCEDURE;
)
Group by PROCEDURE.Specialty_code;
```

G)

```sql
select EXAM.Doctor_ID, count(EXAM.Doctor_ID)
from EXAM
group by EXAM.Doctor_ID
order by count(EXAM.Doctor_ID) desc;
```

H)

```sql
select CONSULTATION.Medication_code
from CONSULTATION
group by CONSULTATION.Medication_code
order by count(CONSULTATION.Medication_code) desc
limit 1;
```