Easy SQL Query

1. Show first name, last name, and gender of patients whose gender is 'M'

```
SELECT first_name, last_name, gender
FROM patients
WHERE gender = 'M';
```

2. Show first name and last name of patients who does not have allergies. (null)

```
SELECT first_name, last_name
FROM patients
WHERE allergies IS NULL;
```

3. Show first name of patients that start with the letter 'C'

```
SELECT first_name
FROM patients
WHERE first_name LIKE 'C%';
```

4. Show first name and last name of patients that weight within the range of 100 to 120 (inclusive)

```
SELECT first_name, last_name
FROM patients
WHERE weight BETWEEN 100 AND 120;
```

5. Update the patients table for the allergies column. If the patient's allergies is null then replace it with 'NKA'

```
UPDATE patients
SET allergies = 'NKA'
WHERE allergies IS NULL;
```

6. Show first name and last name concatenated into one column to show their full name

```
SELECT CONCAT(first_name, ' ', last_name) AS full_name
FROM patients;
```

7. Show first name, last name, and the full province name of each patient

```
SELECT p.first_name, p.last_name, pr.province_name
FROM patients p
JOIN province_names pr
ON p.province_id = pr.province_id;
```

8. Show how many patients have a birth_date with 2010 as the birth year

```
SELECT COUNT(birth_date) AS total_patients
FROM patients
WHERE YEAR(birth_date) = 2010;
```

9. Show the first_name, last_name, and height of the patient with the greatest height

```
SELECT first_name, last_name, height
```

```
FROM patients
ORDER BY height DESC
LIMIT 1;

-- Alternative using MAX
SELECT first_name, last_name, height
FROM patients
WHERE height = (SELECT MAX(height) FROM patients);
```

10. Show all columns for patients who have one of the following patient_ids: 1,45,534,879,1000

```
SELECT *
FROM patients
WHERE patient_id IN (1, 45, 534, 879, 1000);
```

11. Show the total number of admissions

```
SELECT COUNT(patient_id) AS total_admissions
FROM admissions;
```

12. Show all the columns from admissions where the patient was admitted and discharged on the same day.

```
SELECT *
FROM admissions
WHERE admission_date = discharge_date;
```

13. Show the patient id and the total number of admissions for patient_id 579.

```
SELECT patient_id, COUNT(*) AS total_admissions
FROM admissions
WHERE patient_id = 579
GROUP BY patient_id;
```

14. Based on the cities that our patients live in, show unique cities that are in province_id 'NS'.

```
SELECT DISTINCT city AS unique_cities
FROM patients
WHERE province_id = 'NS';
```

Database Creation Script

```
-- Create database
CREATE DATABASE hospital_db;
USE hospital_db;

-- Table: province_names
CREATE TABLE province_names (
    province_id VARCHAR(5) PRIMARY KEY,
    province_name VARCHAR(100) NOT NULL
);

INSERT INTO province_names (province_id, province_name) VALUES
```

```
('NS', 'Nova Scotia'),
('ON', 'Ontario'),
('QC', 'Quebec'),
('BC', 'British Columbia');

-- Table: patients
CREATE TABLE patients (
    patient_id INT PRIMARY KEY AUTO_INCREMENT,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    gender CHAR(1),
    birth_date DATE,
    city VARCHAR(100),
    province_id VARCHAR(5),
    weight INT,
    height INT,
    allergies VARCHAR(255),
    FOREIGN KEY (province_id) REFERENCES province_names(province_id)
);

INSERT INTO patients (first_name, last_name, gender, birth_date, city, province_id, wei
('John', 'Doe', 'M', '2010-05-12', 'Halifax', 'NS', 110, 175, NULL),
('Jane', 'Smith', 'F', '2009-08-21', 'Toronto', 'ON', 115, 165, 'Peanuts'),
('Chris', 'Brown', 'M', '2010-01-11', 'Sydney', 'NS', 120, 180, NULL),
('Cathy', 'Miller', 'F', '2010-03-02', 'Halifax', 'NS', 105, 170, 'Dust'),
('Mark', 'Lee', 'M', '2008-06-15', 'Vancouver', 'BC', 130, 185, NULL);

-- Table: admissions
CREATE TABLE admissions (
    admission_id INT PRIMARY KEY AUTO_INCREMENT,
    patient_id INT,
    admission_date DATE,
    discharge_date DATE,
    diagnosis VARCHAR(255),
    FOREIGN KEY (patient_id) REFERENCES patients(patient_id)
);

INSERT INTO admissions (patient_id, admission_date, discharge_date, diagnosis) VALUES
(1, '2022-01-10', '2022-01-15', 'Fever'),
(2, '2022-02-01', '2022-02-01', 'Checkup'),
(1, '2022-03-05', '2022-03-07', 'Fracture'),
(3, '2022-03-10', '2022-03-20', 'Asthma'),
(5, '2022-04-01', '2022-04-15', 'Diabetes');
```