COMP1004 Exam

Basel Akasha

Q1

a)

Entities:

Note: (These don’t include the foreign keys). The foreign keys can be determined from the relationships and their cardinality.

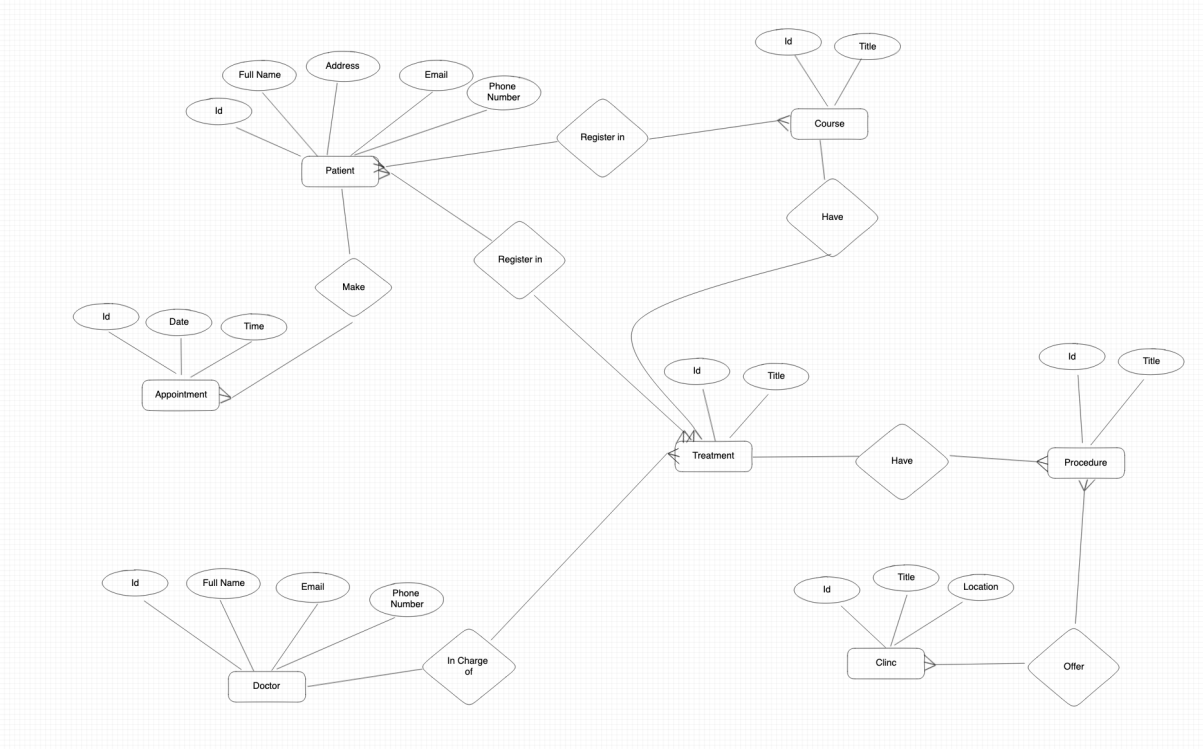
- Clinic
  - Attributes:
    - Id (primary key)
    - Title
    - Location
- Treatment
  - Attributes:
    - Id (primary key)
    - Title
- Procedure
  - Attributes:
    - Id (primary key)
    - Title
- Doctor
  - Attributes:
    - Id (primary key)
    - FullName
    - PhoneNumber
    - Email
- Patient
  - Attributes:
    - Id (primary key)
    - FullName
    - Address
    - Email
    - PhoneNumber
- Course
  - Attributes:
    - Id (primary key)
    - Title
- Appointment
  - Attributes
    - Id (primary key)

- Date
- Time

Relationships:

- Treatments can have many procedures. (One-to-Many)
- Procedure can be offered at different clinics (Many-to-Many)
- Doctors in charge of multiple treatments (Many-to-Many)
- Patients can register in many treatments (Many-to-Many)
- A course can have multiple treatments (One-to-Many)
- Patients can register for multiple courses. (Many-to-Many)
- Patients can make appointments for a procedure (Many-to-Many)

b)



c)

```
CREATE TABLE Clinc (
  Id INT AUTO_INCREMENT,
  Title VARCHAR(255) NOT NULL,
  Location varchar(255),
  PRIMARY KEY (Id)
 );

 CREATE TABLE Doctor (
  Id INT AUTO_INCREMENT,
    FullName varchar(255) NOT NULL,
    PhoneNumber varchar(255),
    Email varchar(255),
    PRIMARY KEY (Id)
 );

  CREATE TABLE Patient (
```

```
 Id INT AUTO_INCREMENT,
   FullName varchar(255) NOT NULL,
   Address varchar(255),
   PhoneNumber varchar(255),
   Email varchar(255),
   PRIMARY KEY (Id)
);

CREATE TABLE Course (
   Id INT AUTO_INCREMENT,
   Title varchar(255) NOT NULL,
   PRIMARY KEY (Id)
);

 CREATE TABLE Treatement (
 Id INT AUTO_INCREMENT,
   Title varchar(255) NOT NULL,
   Fk_Course INT,
   PRIMARY KEY (Id),
   FOREIGN KEY (Fk_Course) REFERENCES Course(Id)
);


-- Procedure is a reserved keywork so a _ has been added at the end
CREATE TABLE Procedure_ (
 Id INT AUTO_INCREMENT,
   Title varchar(255) NOT NULL,
   Fk_treatment INT,
   FOREIGN KEY (Fk_treatment) REFERENCES Treatement(Id),
   PRIMARY KEY (Id)
);

CREATE TABLE Appointment (
   Id INT AUTO_INCREMENT,
   date_ DATE,
   time_ TIME,
   Fk_Patient INT,
   PRIMARY KEY (Id),
   FOREIGN KEY (Fk_Patient) REFERENCES Patient(Id)
);

-- Bridge tables
CREATE TABLE ProcedureClinc (
  Fk_Procedure INT,
  FK_Clinc INT,
  FOREIGN KEY (Fk_Procedure) REFERENCES Procedure_(Id),
  FOREIGN KEY (FK_Clinc) REFERENCES Clinc(Id)
);

Create TABLE DoctorTreatment (
  Fk_Doctor INT,
  FK_Treatement INT,
  FOREIGN KEY (Fk_Doctor) REFERENCES Doctor(Id),
  FOREIGN KEY (FK_Treatement) REFERENCES Treatement(Id)
);

CREATE TABLE PatientTreatmentRegistration (
  Fk_Patient INT,
  FK_Treatement INT,
  FOREIGN KEY (Fk_Patient) REFERENCES Patient(Id),
  FOREIGN KEY (FK_Treatement) REFERENCES Treatement(Id)
);

CREATE TABLE PatientCourseRegistration (
  Fk_Patient INT,
  FK_Course INT,
  FOREIGN KEY (Fk_Patient) REFERENCES Patient(Id),
  FOREIGN KEY (FK_Course) REFERENCES Course(Id)
);
```

d)

```
INSERT INTO Patient(FullName, Address, PhoneNumber, Email) VALUES ("Joe Smith", "Nottingham NG7 3LD", "077010101010", "email@example.c
```

f)

```
INSERT INTO Procedure_(Title, FK_Treatement) VALUES ("Eye Procedure", 1);
```

g)

```
INSERT INTO Doctor(FullName, PhoneNumber, Email) VALUES ("Dr. John Smith", "077010101010", "email@example.com");
```

h)

```
UPDATE ProcedureClinc SET FK_Clinc = 2 WHERE FK_CLINC = 1;
```

i)

```
DELETE FROM Appointment WHERE Fk_Patient = 1;
DELETE FROM PatientCourseRegistration WHERE PatientCourseRegistration = 1;
DELETE FROM PatientTreatmentRegistration WHERE PatientTreatmentRegistration =1;
DELETE FROM Patient WHERE ID = 1;
```

Q2

a)

```
<!DOCTYPE html>
<html>
<head></head>
<body>
  <ul>
    <li>Text</li>
  </ul>
  <ol>
    <li>Text</li>
    <li>Text</li>
    <ol>
      <li>Text</li>
    </ol>
  </ol>
  <ul>
    <li>Text</li>
    <li>Text</li>
  </ul>
</body>
</html>
```

b)

```
<!DOCTYPE html>
<html>
<head></head>
<body>
  <table border>
    <tr>
      <td></td>
      <td>00</td>
      <td>00</td>
      <td>00</td>
    </tr>
    <tr>
      <td>00</td>
      <td colspan='2' rowspan='2' style="text-align: center">00</td>
      <td>00</td>
    </tr>
    <tr>
      <td>00</td>

      <td>00</td>
    </tr>
    <tr>
      <td>00</td>
      <td>00</td>
```

```
      <td>00</td>
      <td></td>
    </tr>
  </table>
</body>
</html>
```

c)

```
body {
  color: blue;
}

p {
 color: red;
}

p:nth-last-of-type(1){
  color: orange;
}
```

d)

```
<!DOCTYPE html>
<html>
<head></head>
<body>
  <h1>Hello World</h1>
  Select Mode:
  <div>
    <input class='radio-inputs' id='night' type="radio" name='mode' value='night'>
    <label for="night">Night</label>
  </div>
  <div>
    <input class='radio-inputs' id='day' type="radio" name='mode' value='day'>
    <label for="day">Day</label>
  </div>
  <style>
    body {
      background: white;
      color: black;
    }
    .night-mode {
      background: black;
      color: white;
    }
  </style>
  <script>
    var inputs = document.getElementsByClassName("radio-inputs");
    // Listen to the change even on both radio buttons
    for (var i = 0; i < inputs.length; i++) {
      inputs[i].onchange = function (event) {
        // Set the class according to the user choice
        if (event.target.value == 'night') {
          document.body.classList.add("night-mode");
        }
        else {
          document.body.classList.remove("night-mode");
        }
      }
    }
  </script>
</body>
</html>
```

e)

```
<!DOCTYPE html>
<html>
  <head></head>
  <body>
    <input type="text" id='field1' />
    <input type="text" id='field2' />
    <input type="text" id='field3' />
    <button id='submit'>Submit</button>
    <script>
```

```
        var submit_button = document.getElementById("submit");
        var field1 = document.getElementById("field1");
        var field2 = document.getElementById("field2");
        var field3 = document.getElementById("field3");

        submit_button.onclick = function (event){
            field3.value = field1.value + "" + field2.value;
        }
    </script>
  </body>
</html>
```

f)

```
var rows = document.getElementsByTagName("tr");
console.log(rows);
for(var row_number = 0; row_number < rows.length; row_number++){
  // row number is zero indexed so we add one and check the devision by 2 reminder
  if((row_number + 1) % 2 == 0){
    rows[row_number].style.color = "red";
  }
}
```

g)

```
var button = document.getElementById("count");
  button.onclick = function(event){
  button.value = Number(button.value) + 1;
}
```

h)

```
var pargraphs = document.getElementsByTagName("p");
var paragraphs_texts = [];

// Get the texts and store them in the array
for(var i=0; i<pargraphs.length; i++){
  paragraphs_texts.push(pargraphs[i].innerText);
}

// Sort the list then reverse it
paragraphs_texts = paragraphs_texts.sort().reverse();

// Put back the text
for(var i=0; i<pargraphs.length; i++){
  pargraphs[i].innerText = paragraphs_texts[i];
}
```

Q3

a)

```
<?php $page_title = "Hello World"; ?>
<html>
  <head>
    <title><?php echo $page_title ?></title>
  </head>
  <body>
    <h1>Hello World</h1>
    <style>
      h1 {
        color: red;
      }
    </style>
  </body>
</html>
```

b)

```
<html>
  <head>
    <title>Title</title>
  </head>
  <body>
    <ul>
      <?php
        for ($i = 15; $i >= 7; $i--) {
            echo "<li>{$i}</li>";
        }
       ?>
    </ul>
  </body>
</html>
```

c)

```
<html>
  <head>
    <title>Title</title>
  </head>
  <body>
    <?php
      $days = array(
          1 => "Monday",
          2 => "Tuesday",
          3 => "Wednesday",
          4 => "Thursday",
          5 => "Friday",
          6 => "Saturday",
          7 => "Sunday"
      );

      if (!isset($_POST["number"]) || Qis_numeric($_POST["number"])) {
        echo "Error. Please provide number";
      }
      else if ($number < 1 && $number > 7) {
        echo "Error. The provided number needs to be between 1 and 7 ";
      }
      else {
          $number = intval($_POST["number"]);
          echo "You have entered the number for the day: ";
          echo $days[$number];
      }
    ?>
  </body>
</html>
```

d)

```
<html>
  <head>
    <title>Title</title>
  </head>
  <body>
    <?php
      foreach ($_POST as $name => $value) {
        echo "Name:" . $name;
        echo "Value" . $value;
        echo "_____________________";
      }
    ?>
  </body>
</html>
```

e)

```
<?php
  $connection = new mysqli("hostplaceholder", "userplaceholder", "passwordplaceholder", "People");
  if($connection->connect_error){
    die($connection->connect_error);
  }
```

```
?>

<html>
  <head>
    <title>Title</title>
  </head>
  <body>
    <?php
      $query = "SELECT * FROM Names";
      $statement = $connection->prepare($query);
      $statement->execute();
      $statement->bind_result($name);
    ?>

    <table>
      <thead>
        <tr>
          <th>Name</th>
        </tr>
      </thead>
      <tbody>
        <?php
          while($statement->fetch()){
            echo "<tr><td> $name </td></tr>";
          }
        ?>
      </tbody>
    </table>
  </body>
</html>
```

f)

```
<?php
  $connection = new mysqli("hostplaceholder", "userplaceholder", "passwordplaceholder", "People");
  if($connection->connect_error){
    die($connection->connect_error);
  }
?>

<html>
  <head>
    <title>Title</title>
  </head>
  <body>
      <?php
        $name = $_POST["name"];
        $query = "INSERT INTO Names VALUES(?)";
        $statement = $connection->prepare($query);
        $statement->bind_param("s", $name);
        $result = $statement->execute();
      ?>
      <?php
        if(!result){
          echo "There was an error while adding the new name";
        }
        else {
          echo "The name has been added to the database";
        }
      ?>
  </body>
</html>
```

g)

```
<?php
  $connection = new mysqli("hostplaceholder", "userplaceholder", "passwordplaceholder", "Computer");
  if($connection->connect_error){
    die($connection->connect_error);
  }
?>

<html>
  <head>
    <title>Title</title>
  </head>
  <body>
    <?php
      $query = "SELECT * FROM DiskDrives ORDER BY utilisation DESC";
```

```
      $statement = $connection->prepare($query);
      $statement->execute();
      $statement->bind_result($drive, $utilisation);
    ?>
    <!-- NOTE: -->
    <!-- I ran out of time but a code can be added here to loop through the results and display them -->
    <!-- The colours can be changed using an if condition in the while loop which sets the class for the table cell depenedin on its v

  </body>
</html>
```