

Εθνικό Μετσόβιο Πολυτεχνείο

Σχολή: Ηλεκτρολόγων Μηχανικών & Μηχανικών Υπολογιστών

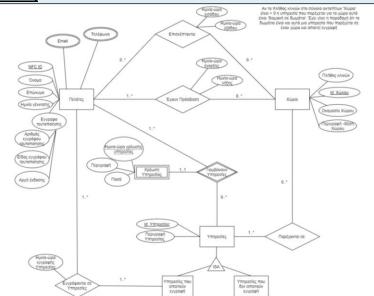
Ροή Λ: Βάσεις Δεδομένων (6° Εξάμηνο)

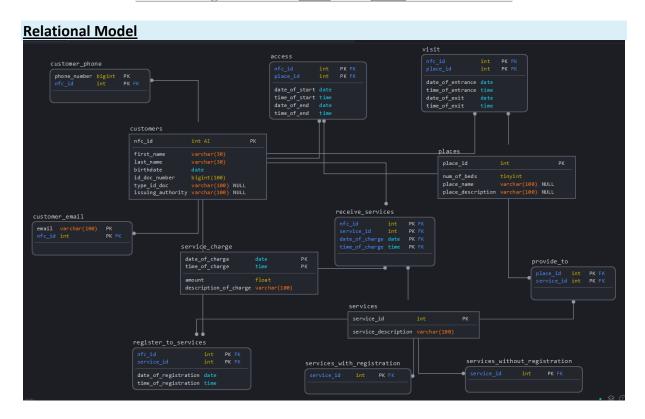
Project-2021

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ASDF PALACE

ER Model – Απλή λύση





Database Structure with Constrains

```
CREATE TABLE customers
   nfc_id int not null auto_increment,
    first name varchar(30) not null,
    last_name varchar(30) not null,
    birthdate date not null,
    id doc number bigint(100) not null,
    type_id_doc varchar(100),
    issuing_authority varchar(100),
   constraint primary key(nfc_id)
);
CREATE TABLE places
   num_of_beds tinyint not null,
    place id int not null,
    place_name varchar(100),
    place_description varchar(100),
   constraint primary key (place_id)
);
CREATE TABLE visit
nfc_id int not null,
place_id int not null,
date of entrance date not null,
time of entrance time not null,
date_of_exit date not null,
time of exit time not null,
constraint primary key (nfc id, place id),
constraint foreign key (nfc_id) references customers(nfc_id) on update cascade
on delete cascade,
constraint foreign key (place id) references places(place id) on update cascad
e on delete cascade
);
CREATE TABLE access
nfc_id int not null,
place id int not null,
date_of_start date not null,
time_of_start time not null,
date of end date not null,
```

```
time_of_end time not null,
constraint primary key (nfc id, place id),
constraint foreign key (nfc_id) references customers(nfc_id) on update cascade
on delete cascade,
constraint foreign key (place id) references places(place id) on update cascad
e on delete cascade
);
CREATE TABLE services
    service id int not null,
    service_description varchar(100) not null,
   constraint primary key (service id)
);
CREATE TABLE service_charge
date_of_charge date not null,
time_of_charge time not null,
amount float not null,
description_of_charge varchar(100) not null,
constraint primary key (date_of_charge, time_of_charge)
);
CREATE TABLE receive_services
nfc_id int not null,
service_id int not null,
date_of_charge date not null,
time_of_charge time not null,
constraint primary key (nfc_id,date_of_charge,time_of_charge,service_id),
constraint foreign key (nfc_id) references customers(nfc_id) on update cascade
on delete cascade,
constraint foreign key (date_of_charge,time_of_charge) references service_char
ge(date_of_charge,time_of_charge) on update cascade on delete cascade,
constraint foreign key (service_id) references services(service_id) on update
cascade on delete cascade
);
CREATE TABLE provide_to
    place_id int not null,
   service id int not null,
```

```
constraint primary key (service id, place id),
    constraint foreign key (service id) references services(service id) on upd
ate cascade on delete cascade,
    constraint foreign key (place id) references places(place id) on update ca
scade on delete cascade
);
CREATE TABLE services with registration
   service_id int not null,
    constraint primary key (service_id),
    constraint foreign key (service_id) references services(service_id) on upd
ate cascade on delete cascade
);
CREATE TABLE services_without_registration
    service_id int not null,
    constraint primary key (service_id),
    constraint foreign key (service_id) references services(service_id) on upd
ate cascade on delete cascade
);
CREATE TABLE register_to_services
nfc id int not null,
service_id int not null,
date_of_registration date not null,
time_of_registration time not null,
constraint primary key(nfc_id,service_id),
constraint foreign key (service_id) references services(service_id) on update
cascade on delete cascade,
constraint foreign key (nfc_id) references customers(nfc_id) on update cascade
on delete cascade
);
CREATE TABLE customer phone
   phone_number bigint not null,
    nfc_id int not null,
    constraint primary key (nfc_id, phone_number),
    constraint foreign key (nfc_id) references customers(nfc_id) on update cas
cade on delete cascade
```

```
CREATE TABLE customer_email
(
    email varchar(100) not null,
    nfc_id int not null,
    constraint primary key (nfc_id, email),
    constraint foreign key (nfc_id) references customers(nfc_id) on update cas cade on delete cascade
);
```

*Αιτιολόγηση των περιορισμών στο βίντεο

Σύστημα και γλώσσες προγραμματισμού που χρησιμοποιήθηκαν

Server:

- Xammp
- Apache
- MySQL

Data_generation:

- Python (απευθείας σύνδεση με τη βάση)
- Excel (για csv αρχεία)

Εργαλεία:

- phpMyAdmin
- sqldbm

Βήματα εγκατάστασης

- 1. Στήσιμο του σέρβερ xampp
- 2. Είσοδος στο phpMyAdmin
- 3. Εκτέλεση του κώδικα SQL
- 4. Εισαγωγή δεδομένων από τα αρχεία csv
- 5. Εκτέλεση του κώδικα python για συμπλήρωση όλων των δεδομένων
- 6. Άνοιγμα των αρχείων php στο browser
- 7. Τέλος!

Όλος ο κώδικας SQL που χρησιμοποιήθηκε

Έχει παρουσιαστεί παραπάνω η δομή της βάσης μας που αποτελεί το μεγαλύτερο μέρος του κώδικα SQL. Παρακάτω παρουσιάζονται τα indexes και views που έχουμε ορίσει:

Indexes:

```
CREATE INDEX visit_place
ON visit (place_id);

CREATE INDEX what_service
ON services (service_description);
```

```
CREATE INDEX time_received
ON receive_services (date_of_charge,time_of_charge);
```

Views:

```
CREATE VIEW customer_info AS

SELECT

DISTINCT c.first_name,
    c.last_name,
    c.birthdate,
    c.nfc_id,
    c.id_doc_number,
    c.type_id_doc,
    c.issuing_authority,
    p.phone_number,
    e.email

FROM
    customers c
    LEFT JOIN customer_phone p on c.nfc_id = p.nfc_id
    LEFT JOIN customer_email e on p.nfc_id = e.nfc_id
```

```
CREATE VIEW sales_info AS

SELECT

DISTINCT SUM(s.amount),

s.description_of_charge

FROM

service_charge as s

GROUP by

2

ORDER BY

1 DESC
```

Υπόλοιπα αρχεία

Εδώ παρουσιάζονται τα: app.js, Main.php, More_info.php, Sales.php, Services.php, Statistics.php, styles.css

Main.php

```
<?php
 include_once 'includes/dbh.inc.php';
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8" />
   <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Hotel Covid</title>
   <!-- font-awesome -->
    k
     rel="stylesheet"
     href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.14.0/css/all.min.css"
   <!-- styles -->
    <link rel="stylesheet" href="styles.css" />
  </head>
  <body>
    <button class="sidebar-toggle">
     <i class="fas fa-bars"></i></i>
    </button>
    <aside class="sidebar">
     <div class="sidebar-header">
        <button class="close-btn"><i class="fas fa-times"></i></button>
     </div>
     <a href="Main.php">Home</a>
       <1i>>
          <a href="Services.php">Services</a>
        <1i>>
          <a href="Statistics.php">Statistics</a>
       <1i>>
         <a href="Sales.php">Sales</a>
```

Services.php

```
<?php
 include_once 'includes/dbh.inc.php';
<!DOCTYPE html>
<html lang="en">
 <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Services</title>
    <!-- font-awesome -->
    link
     rel="stylesheet"
     href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.14.0/css/all.min.css"
    <!-- styles -->
    <link rel="stylesheet" href="styles.css" />
  </head>
  <body id="services_section">
    <button class="sidebar-toggle">
      <i class="fas fa-bars"></i></i>
    </button>
    <aside class="sidebar">
     <div class="sidebar-header">
        <button class="close-btn"><i class="fas fa-times"></i></button>
     </div>
     <!-- links -->
      <1i>>
```

```
<a href="Main.php">Home</a>
        <1i>>
          <a href="Services.php">Services</a>
        <1i>>
          <a href="Statistics.php">Statistics</a>
        <1i>>
          <a href="Sales.php">Sales</a>
        <1i>>
            <a href="More_info.php">More info</a>
          </aside>
  <section id="container">
    <h2 id="services text">Find Services</h2>
    <br>
    <form id="views" action="Services.php" method="GET">
        <div id="component">
            <label for="available date">
                <h3>Choose a date</h3>
            </label>
            <input type="date" id="available date" name="availability" value="</pre>
0" min="2020-1-1" max="31-12-2021">
        </div>
        <br>
        <div id="component">
            <h3>Choose a service</h3>
            <select name="services" id="dropdown">
                <option selected value="none">None</option>
                <option value="room">Room</option>
                <option value="tennis court">Tennis Court</option>
                <option value="gym">Gym</option>
                <option value="pool">Pool</option>
                <option value="conference room">Conference Room</option>
                <option value="bar/restaurant">Bar/Restaurant</option>
                <option value="library">Library</option>
            </select>
        </div>
        <br>
        <div id="component">
            <label for="price">
                <h3>Choose a price</h3>
           </label>
```

```
<input type="range" name="price" min="100" max="200" onchange="updateTextInpu</pre>
t(this.value);">
           <input type="text" id="price_text" value="">
           <input type="text" name="price" value="">
       </div>
       <br>
       <button type="submit" id="submit">
           <h3>Submit</h3>
       </button>
   </form>
  </section>
   <!-- javascript -->
   <script src="app.js"></script>
  </body>
   <!-- PHP starts here -->
  <?php
   $conn = new mysqli("localhost", "root", "", "asdf_palace3");
   if ($conn->connect_error) {
       die("Connection failed:" . $conn->connect_error);
   $date = $_GET['availability'];
   $services = $_GET['services'];
   $price = $_GET['price'];
   if (isset($date) && $services == 'none' && $price == 0) {
       $sql = "SELECT nfc_id,first_name,last_name,place_id,place_name
       from customers,places
       where (nfc_id,place_id) in
       (SELECT nfc_id, place_id from visit where date_of_entrance = '$date')"
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
           if (mysqli_num_rows($result) > 0) {
               echo "";
               echo "";
               echo "nfc_id";
               echo ">first_name";
               echo "last_name";
               echo "place_id";
               echo "place name";
```

```
echo "";
            while ($row = mysqli fetch array($result)) {
                echo "";
                echo "" . $row['nfc_id'] . "";
                echo "" . $row['last_name'] . "";
                echo "" . $row['place_id'] . "";
                echo "" . $row['place_name'] . "";
                echo "";
            }
            echo "";
            // Free result set
            mysqli_free_result($result);
      } else {
         echo "No results";
      }
   } else if (isset($services) && empty($date) && $price == 0) {
      $sql = "SELECT nfc_id,first_name,last_name,place_id,place_name
      from customers,places
      where (nfc_id,place_id) in
      (SELECT nfc_id, place_id from visit where place_id in (SELECT place id
 from provide_to where service_id in (SELECT service_id from services where
service description = '$services') ))";
      $result = $conn->query($sq1);
      if ($result->num_rows > 0) {
         if (mysqli_num_rows($result) > 0) {
            echo "";
            echo "";
            echo "nfc_id";
            echo ">first_name";
            echo "last_name";
            echo "place_id";
            echo "place_name";
            echo "";
            while ($row = mysqli_fetch_array($result)) {
                echo "";
                echo "" . $row['nfc_id'] . "";
                echo "" . $row['place_id'] . "";
                echo "" . $row['place_name'] . "";
                echo "";
            echo "";
            // Free result set
            mysqli free result($result);
```

```
} else {
         echo "No results";
  } else if (isset($price) && empty($date) && $services == 'none') {
     $sql = "SELECT nfc_id,first_name,last_name,place_id,place_name
     from customers,places
     where (nfc_id,place_id) in
      (SELECT nfc_id, place_id
     from visit
     where nfc_id in
      (select nfc id
     from receive_services
     where (date_of_charge, time_of_charge) in (select date_of_charge, time
_of_charge
          from service_charge
          where amount ='$price')
     )) ";
     $result = $conn->query($sq1);
     if ($result->num_rows > 0) {
         if (mysqli_num_rows($result) > 0) {
            echo "";
            echo "";
            echo "nfc_id";
            echo ">first_name";
            echo "last_name";
            echo "place_id";
            echo "place_name";
            echo "";
            while ($row = mysqli_fetch_array($result)) {
               echo "";
               echo "" . $row['nfc_id'] . "";
               echo "" . $row['last_name'] . "";
               echo "" . $row['place_id'] . "";
               echo "";
            echo "";
```

```
// Free result set
          mysqli free result($result);
   } else {
      echo "No results";
} else if (isset($services) && isset($date) && $price == 0) {
   $sql = "SELECT nfc_id,first_name,last_name,place_id,place_name
   from customers,places
   where (nfc id, place id) in
   (SELECT nfc_id, place_id
   from visit
   where date_of_entrance = '$date' and place_id in (select place_id
     from provide_to
    where service_id in
     (select service_id
     from services
     where service_description = '$services')
   ) )";
   $result = $conn->query($sq1);
   if ($result->num_rows > 0) {
      if (mysqli_num_rows($result) > 0) {
          echo "";
          echo "";
          echo "nfc_id";
          echo ">first_name";
          echo "last_name";
          echo "place id";
          echo "place_name";
          echo "";
          while ($row = mysqli_fetch_array($result)) {
             echo "";
             echo "" . $row['nfc_id'] . "";
             echo "" . $row['first_name'] . "";
             echo "" . $row['last_name'] . "";
             echo "" . $row['place_id'] . "";
             echo "";
```

```
echo "";
               // Free result set
               mysqli_free_result($result);
       } else {
           echo "No results";
   } else if (isset($services) && isset($price) && empty($date)) {
       $sql = "SELECT nfc_id,first_name,last_name,place_id,place_name
       from customers,places
       where (nfc_id,place_id) in
       (SELECT nfc_id, place_id
       from visit
       where place_id in (select place_id
       from provide_to
       where service_id in (select service_id
          from services
          where service_description = '$services')
       nfc_id in
       (select nfc_id
       from receive_services
       where (date_of_charge, time_of_charge) in (select date_of_charge, time
_of_charge
             from service_charge
             where amount = '$price')
       $result = $conn->query($sq1);
```

```
if ($result->num_rows > 0) {
          if (mysqli num rows($result) > 0) {
             echo "";
             echo "";
             echo "nfc_id";
             echo "first_name";
             echo "last_name";
             echo "place_id";
             echo "place_name";
             echo "";
             while ($row = mysqli_fetch_array($result)) {
                 echo "";
                 echo "" . $row['nfc_id'] . "";
                 echo "" . $row['first_name'] . "";
                 echo "" . $row['last_name'] . "";
                 echo "" . $row['place id'] . "";
                 echo "" . $row['place_name'] . "";
                 echo "";
             }
             echo "";
             mysqli_free_result($result);
      } else {
          echo "No results";
   } else if (isset($price) && isset($date) && $services == 'none') {
      $sql = "SELECT nfc_id,first_name,last_name,place_id,place_name
      from customers,places
      where (nfc_id,place_id) in
      (SELECT nfc_id, place_id
      from visit
      where date_of_entrance = '$date' and nfc_id in
      (select nfc_id
      from receive_services
      where (date_of_charge, time_of_charge) in (select date_of_charge, time
_of_charge
           from service_charge
           where amount = '$price')
```

```
) )";
   $result = $conn->query($sq1);
   if ($result->num rows > 0) {
      if (mysqli_num_rows($result) > 0) {
          echo "";
          echo "";
          echo "nfc_id";
          echo "first_name";
          echo "last_name";
          echo "place_id";
          echo "place_name";
          echo "";
          while ($row = mysqli_fetch_array($result)) {
             echo "";
             echo "" . $row['nfc_id'] . "";
             echo "" . $row['first name'] . "";
             echo "" . $row['last_name'] . "";
             echo "" . $row['place_id'] . "";
             echo "";
          }
          echo "";
          mysqli_free_result($result);
      }
   } else {
      echo "No results";
} else if (isset($price) && isset($date) && isset($services)) {
   $sql = "SELECT nfc_id,first_name,last_name,place_id,place_name
   from customers,places
   where (nfc_id,place_id) in
   (select nfc_id, place_id
   from visit
   where date_of_entrance = '$date'
   and
   place_id in (select place_id
   from provide_to
   where service_id in (select service_id from services
   where service description = '$services') )
```

```
and nfc id in
      (select nfc_id from receive_services where (date_of_charge,time_of_ch
arge)
       in (select date_of_charge,time_of_charge from service_charge where am
ount = '$price') )
      $result = $conn->query($sq1);
      if ($result->num_rows > 0) {
         if (mysqli_num_rows($result) > 0) {
             echo "";
             echo "";
             echo "nfc_id";
             echo ">first name";
             echo "last_name";
             echo "place_id";
             echo "place_name";
             echo "";
             while ($row = mysqli_fetch_array($result)) {
                echo "";
                echo "" . $row['nfc_id'] . "";
                echo "" . $row['first_name'] . "";
                echo "" . $row['last_name'] . "";
                echo "" . $row['place_id'] . "";
                echo "";
             echo "";
             mysqli_free_result($result);
      } else {
         echo "No results";
   $conn->close();
 /html>
```

Statistics.php

```
<?php
  include_once 'includes/dbh.inc.php';
?>
```

```
<!DOCTYPE html>
<html lang="en">
   <meta charset="UTF-8" />
   <meta name="viewport" content="width=device-width, initial-scale=1.0" />
   <title>Statistics</title>
   link
     rel="stylesheet"
     href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.14.0/css/all.min.css"
   <!-- styles -->
   <link rel="stylesheet" href="styles.css" />
 </head>
 <body>
   <button class="sidebar-toggle">
     <i class="fas fa-bars"></i></i>
   </button>
   <aside class="sidebar">
     <div class="sidebar-header">
       <button class="close-btn"><i class="fas fa-times"></i></button>
     </div>
     <
         <a href="Main.php">Home</a>
       <1i>>
         <a href="Services.php">Services</a>
       <
         <a href="Statistics.php">Statistics</a>
       <
         <a href="Sales.php">Sales</a>
       <1i>>
           <a href="More_info.php">More info</a>
     </aside>
   <h2 id="services_text">Search for Statistics</h2>
   <form id="views" action="Statistics.php" method="GET">
```

```
<div id="component">
        <h3>When to look for?</h3>
        <select name="date" id="dropdown">
          <option selected value="none">None</option>
          <option value="last year">Last Year</option>
          <option value="last month">Last Month</option>
        </select>
      </div>
      <div id="component">
        <h3>What to show?</h3>
        <select name="services" id="dropdown">
          <option selected value="none">None</option>
          <option value="popular places">Popular Places</option>
          <option value="frequently used services">Frequently used services</o</pre>
ption>
          <option value="popular services">Popular Services</option>
        </select>
      </div>
      <div id="component">
        <h3>What is the age group?</h3>
        <select name="age" id="dropdown">
            <option selected value="none">None</option>
            <option value="1st">20-40</option>
            <option value="2st">41-60</option>
            <option value="3st">61+</option>
        </select>
   </div>
      <button type="submit" id="submit">
          <h3>Submit</h3>
      </button>
  </form>
  <?php
    $conn = new mysqli("localhost", "root", "", "asdf_palace3");
    if ($conn->connect_error) {
        die("Connection failed:" . $conn->connect_error);
    $date = $ GET['date'];
    $services = $_GET['services'];
   $age = $_GET['age'];
   if ($date == 'last year' && $services == 'popular places' && $age == '1st'
) {
        $sql = "SELECT DISTINCT place_id, COUNT(place_id) as number_of_visits
        from visit
        where (nfc_id in (select nfc_id
```

```
from customers
      where(birthdate<='2001-01-01' and birthdate>='1981-01-01'))
      and
      date_of_entrance>= '2021-01-01')
      GROUP by place_id
      ORDER by number_of_visits DESC";
      $result = $conn->query($sq1);
      if ($result->num rows > 0) {
          if (mysqli_num_rows($result) > 0) {
              echo "";
              echo "";
              echo "place id";
              echo "number_of_visits";
              echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['place_id'] . "";
                  echo "" . $row['number_of_visits'] . "";</rr>
                  echo "";
              echo "";
              mysqli_free_result($result);
      } else {
          echo "No results";
  if ($date == 'last month' && $services == 'popular places' && $age == '1st
) {
      $sql = "SELECT DISTINCT place_id, COUNT(place_id) as number_of_visits
      from visit
      where (nfc_id in (select nfc_id
      from customers
      where(birthdate<='2001-01-01' and birthdate>='1981-01-01'))
      and
      date_of_entrance>= '2021-12-01')
      GROUP by place_id
      ORDER by number of visits DESC";
```

```
$result = $conn->query($sq1);
       if ($result->num rows > 0) {
           if (mysqli_num_rows($result) > 0) {
              echo "";
              echo "";
              echo "place_id";
              echo "number_of_visits";
              echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['place_id'] . "";
                  echo "" . $row['number_of_visits'] . "";
                  echo "";
              echo "";
              // Free result set
              mysqli_free_result($result);
       } else {
          echo "No results";
   if ($date == 'last year' && $services == 'popular places' && $age == '2st'
) {
       $sql = "SELECT DISTINCT place_id, COUNT(place_id) as number_of_visits
       from visit
       where (nfc_id in (select nfc_id
       from customers
       where(birthdate<='1980-01-01' and birthdate>='1961-01-01'))
       and
       date_of_entrance>= '2021-01-01')
       GROUP by place_id
       ORDER by number_of_visits DESC";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
           if (mysqli_num_rows($result) > 0) {
              echo "";
              echo "";
              echo "place_id";
              echo ">number_of_visits";
              echo "";
```

```
while ($row = mysqli_fetch_array($result)) {
                echo "";
                echo "" . $row['place id'] . "";
                echo "" . $row['number_of_visits'] . "";
                echo "";
             echo "";
             mysqli_free_result($result);
         }
      } else {
         echo "No results";
  if ($date == 'last month' && $services == 'popular places' && $age == '2st
') {
      $sql = "SELECT DISTINCT place_id, COUNT(place_id) as number_of_visits
      from visit
      where (nfc_id in (select nfc_id
      from customers
      where(birthdate<='1980-01-01' and birthdate>='1961-01-01'))
      date_of_entrance>= '2021-12-01')
      GROUP by place id
      ORDER by number_of_visits DESC";
      $result = $conn->query($sq1);
      if ($result->num_rows > 0) {
         if (mysqli_num_rows($result) > 0) {
             echo "";
             echo "";
             echo "place_id";
             echo "number_of_visits";
             echo "";
             while ($row = mysqli_fetch_array($result)) {
                echo "";
                echo "" . $row['place_id'] . "";
                echo "";
             echo "";
             mysqli free result($result);
```

```
} else {
           echo "No results";
       }
   if ($date == 'last year' && $services == 'popular places' && $age == '3st'
) {
       $sql = "SELECT DISTINCT place_id, COUNT(place_id) as number_of_visits
       from visit
       where (nfc_id in (select nfc_id
       from customers
       where(birthdate<='1960-01-01'))</pre>
       and
       date_of_entrance>= '2021-01-01')
       GROUP by place id
       ORDER by number_of_visits DESC";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
           if (mysqli_num_rows($result) > 0) {
               echo "";
               echo "";
               echo "place_id";
               echo ">number_of_visits";
               echo "";
               while ($row = mysqli_fetch_array($result)) {
                   echo "";
                   echo "" . $row['place_id'] . "";
                   echo "" . $row['number_of_visits'] . "";
                   echo "";
               echo "";
               // Free result set
               mysqli_free_result($result);
       } else {
           echo "No results";
   if ($date == 'last month' && $services == 'popular places' && $age == '3st
') {
       $sql = "SELECT DISTINCT place_id, COUNT(place_id) as number_of_visits
       from visit
```

```
where (nfc id in (select nfc id
       from customers
       where(birthdate<='1960-01-01'))</pre>
       and
       date_of_entrance>= '2021-12-01')
       GROUP by place_id
       ORDER by number_of_visits DESC";
       $result = $conn->query($sq1);
       if ($result->num rows > 0) {
           if (mysqli_num_rows($result) > 0) {
               echo "";
               echo "";
               echo "place_id";
               echo "number_of_visits";
               echo "";
               while ($row = mysqli_fetch_array($result)) {
                   echo "";
                  echo "" . $row['place_id'] . "";
                   echo "" . $row['number_of_visits'] . "";
                   echo "";
               echo "";
               // Free result set
               mysqli_free_result($result);
       } else {
           echo "No results";
       }
   if ($date == 'last year' && $services == 'frequently used services' && $ag
e == '1st') {
       $sql = "SELECT DISTINCT service_id, count(service_id) as most_used_ser
vices
       from receive_services
       where nfc_id in (select nfc_id
       from customers
       where birthdate<='2001-01-01' and birthdate>='1981-01-01')
```

```
date of charge>= '2021-01-01'
       group by service id
       ORDER BY most used services DESC";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
          if (mysqli_num_rows($result) > 0) {
              echo "";
              echo "";
              echo "service_id";
              echo "most_used_services";
              echo "";
              while ($row = mysqli fetch array($result)) {
                  echo "";
                  echo "" . $row['most_used_services'] . "";";
                  echo "";
              echo "";
              mysqli_free_result($result);
       } else {
          echo "No results";
   if ($date == 'last month' && $services == 'frequently used services' && $a
ge == '1st') {
       $sql = "SELECT DISTINCT service_id, count(service id) as most used ser
vices
       from receive_services
       where nfc_id in (select nfc_id
       from customers
       where birthdate<='2001-01-01' and birthdate>='1981-01-01')
       and
       date_of_charge>= '2021-12-01'
       group by service_id
       ORDER BY most_used_services DESC";
       $result = $conn->query($sql);
```

```
if ($result->num_rows > 0) {
          if (mysqli num rows($result) > 0) {
             echo "";
             echo "";
             echo ">service id";
             echo "most_used_services";
             echo "";
             while ($row = mysqli_fetch_array($result)) {
                echo "";
                echo "";
             echo "";
             // Free result set
             mysqli free result($result);
      } else {
          echo "No results";
   if ($date == 'last year' && $services == 'frequently used services' && $ag
e == '2st') {
      $sql = "SELECT DISTINCT service_id, count(service_id) as most_used_ser
vices
      from receive_services
      where nfc_id in (select nfc_id
      from customers
      where birthdate<='1980-01-01' and birthdate>='1961-01-01')
      and
      date_of_charge>= '2021-01-01'
      group by service_id
       ORDER BY most_used_services DESC";
      $result = $conn->query($sq1);
      if ($result->num_rows > 0) {
          if (mysqli_num_rows($result) > 0) {
             echo "";
             echo "";
             echo ">service_id";
             echo ">most_used_services";
             echo "";
```

```
while ($row = mysqli_fetch_array($result)) {
                echo "";
                echo "" . $row['most_used_services'] . "";
                echo "";
             echo "";
             mysqli_free_result($result);
         }
      } else {
         echo "No results";
   if ($date == 'last month' && $services == 'frequently used services' && $a
ge == '2st') {
      $sql = "SELECT DISTINCT service_id, count(service_id) as most_used_ser
vices
      from receive_services
      where nfc_id in (select nfc_id
      from customers
      where birthdate<='1980-01-01' and birthdate>='1961-01-01')
      and
      date_of_charge>= '2021-12-01'
      group by service_id
       ORDER BY most_used_services DESC";
      $result = $conn->query($sq1);
      if ($result->num_rows > 0) {
         if (mysqli_num_rows($result) > 0) {
             echo "";
             echo "";
             echo ">service_id";
             echo "most_used_services";
             echo "";
             while ($row = mysqli_fetch_array($result)) {
                echo "";
                echo "" . $row['service_id'] . "";
                echo "";
             echo "";
```

```
// Free result set
              mysqli free result($result);
       } else {
           echo "No results";
   if ($date == 'last year' && $services == 'frequently used services' && $ag
e == '3st') {
       $sql = "SELECT DISTINCT service_id, count(service_id) as most_used_ser
       from receive_services
       where nfc id in (select nfc id
       from customers
       where birthdate<='1960-01-01')
       and
       date_of_charge>= '2021-01-01'
       group by service_id
       ORDER BY most_used_services DESC";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
           if (mysqli_num_rows($result) > 0) {
               echo "";
               echo "";
              echo "service_id";
               echo ">most_used_services";
               echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['service_id'] . "";
                  echo "" . $row['most_used_services'] . "";
                  echo "";
               echo "";
               // Free result set
              mysqli_free_result($result);
       } else {
           echo "No results";
       }
```

```
if ($date == 'last month' && $services == 'frequently used services' && $a
ge == '3st') {
       $sql = "SELECT DISTINCT service_id, count(service_id) as most_used_ser
vices
       from receive services
       where nfc_id in (select nfc_id
       from customers
       where birthdate<='1960-01-01')
       and
       date of charge>= '2021-12-01'
       group by service_id
        ORDER BY most_used_services DESC";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
           if (mysqli_num_rows($result) > 0) {
               echo "";
              echo "";
              echo "service id";
               echo "most_used_services";
               echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['service_id'] . "";
                  echo "" . $row['most_used_services'] . "";
                  echo "";
               }
               echo "";
               // Free result set
              mysqli_free_result($result);
       } else {
           echo "No results";
   if ($date == 'last year' && $services == 'popular services' && $age == '1s
t') {
       $sql = "SELECT service_id , count(nfc_id) as most_popular_services
       from receive_services
       where nfc id in (select nfc id
```

```
from customers
       where birthdate<='2001-01-01' and birthdate>='1981-01-01')
       date_of_charge>= '2021-01-01'
       group by service_id
       order by most popular services DESC";
       $result = $conn->query($sq1);
       if ($result->num rows > 0) {
           if (mysqli num rows($result) > 0) {
               echo "";
               echo "";
              echo ">service_id";
               echo "most_popular_services";
               echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['service_id'] . "";
                  echo "" . $row['most_popular_services'] . "";
                  echo "";
               echo "";
              // Free result set
              mysqli_free_result($result);
       } else {
           echo "No results";
       }
   if ($date == 'last month' && $services == 'popular services' && $age == '1
st') {
       $sql = "SELECT service_id , count(nfc_id) as most_popular_services
       from receive_services
       where nfc_id in (select nfc_id
       from customers
       where birthdate<='2001-01-01' and birthdate>='1981-01-01')
```

```
date of charge>= '2021-12-01'
   group by service_id
   order by most popular services DESC";
   $result = $conn->query($sq1);
   if ($result->num_rows > 0) {
       if (mysqli_num_rows($result) > 0) {
           echo "";
           echo "";
           echo ">service_id";
           echo ">most_popular_services";
           echo "";
           while ($row = mysqli_fetch_array($result)) {
               echo "";
               echo "" . $row['service_id'] . "";
               echo "" . $row['most_popular_services'] . "";";
               echo "";
           echo "";
           mysqli_free_result($result);
    } else {
       echo "No results";
if ($date == 'last year' && $services == 'popular services' && $age == '2s
   $sql = "SELECT service_id , count(nfc_id) as most_popular_services
   from receive_services
   where nfc_id in (select nfc_id
   from customers
   where birthdate<='1980-01-01' and birthdate>='1961-01-01')
   and
   date_of_charge>= '2021-01-01'
   group by service_id
   order by most popular services DESC";
```

```
$result = $conn->query($sq1);
       if ($result->num rows > 0) {
          if (mysqli_num_rows($result) > 0) {
              echo "";
              echo "";
              echo ">service_id";
              echo "most_popular_services";
              echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['most_popular_services'] . "";";
                  echo "";
              echo "";
              // Free result set
              mysqli_free_result($result);
       } else {
          echo "No results";
   if ($date == 'last month' && $services == 'popular services' && $age == '2
st') {
       $sql = "SELECT service_id , count(nfc_id) as most_popular_services
       from receive_services
       where nfc_id in (select nfc_id
       from customers
       where birthdate<='1980-01-01' and birthdate>='1961-01-01')
       and
       date_of_charge>= '2021-12-01'
       group by service_id
       order by most_popular_services DESC";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
          if (mysqli_num_rows($result) > 0) {
              echo "";
              echo "";
```

```
echo ">service_id";
              echo "most_popular_services";
              echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['service_id'] . "";
                  echo "" . $row['most_popular_services'] . "";
                  echo "";
              echo "";
              mysqli_free_result($result);
       } else {
          echo "No results";
   if ($date == 'last year' && $services == 'popular services' && $age == '3s
t') {
       $sql = "SELECT service_id , count(nfc_id) as most_popular_services
       from receive_services
       where nfc_id in (select nfc_id
       from customers
       where birthdate<='1960-01-01')
       and
       date_of_charge>= '2021-01-01'
       group by service_id
       order by most_popular_services DESC";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
          if (mysqli_num_rows($result) > 0) {
              echo "";
              echo "";
              echo "service id";
              echo "most_popular_services";
              echo "";
              while ($row = mysqli_fetch_array($result)) {
                  echo "";
                  echo "" . $row['service id'] . "";
```

```
echo "";
             echo "";
             // Free result set
             mysqli free result($result);
       } else {
          echo "No results";
       }
   if ($date == 'last month' && $services == 'popular services' && $age == '3
st') {
      $sql = "SELECT service_id , count(nfc_id) as most_popular_services
      from receive services
      where nfc_id in (select nfc_id
      from customers
      where birthdate<='1960-01-01')
      and
      date_of_charge>= '2021-12-01'
      group by service_id
      order by most_popular_services DESC";
      $result = $conn->query($sq1);
      if ($result->num_rows > 0) {
          if (mysqli_num_rows($result) > 0) {
             echo "";
             echo "";
             echo ">service_id";
             echo "most_popular_services";
             echo "";
             while ($row = mysqli_fetch_array($result)) {
                 echo "";
                 echo "" . $row['service_id'] . "";
                 echo "" . $row['most_popular_services'] . "";";
                 echo "";
             echo "";
             mysqli free result($result);
```

```
}
} else {
    echo "No results";
}
if ($date == 'none' | $services == 'none' | $age == 'none') {
    echo "<h3>Write all the attributes</h3>";
}
?>

<!-- javascript -->
    <script src="app.js"></script>
    </body>
</html>
```

Sales.php

```
<?php
  include_once 'includes/dbh.inc.php';
?>
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Sales</title>
    <!-- font-awesome -->
    link
     rel="stylesheet"
      href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.14.0/css/all.min.css"
    <!-- styles -->
    <link rel="stylesheet" href="styles.css" />
  </head>
  <body>
    <button class="sidebar-toggle">
      <i class="fas fa-bars"></i>
    </button>
    <aside class="sidebar">
      <div class="sidebar-header">
        <button class="close-btn"><i class="fas fa-times"></i></button>
      </div>
```

```
<1i>>
       <a href="Main.php">Home</a>
     <
       <a href="Services.php">Services</a>
     <1i>>
       <a href="Statistics.php">Statistics</a>
     <
       <a href="Sales.php">Sales</a>
     <
         <a href="More_info.php">More info</a>
       </aside>
 <h2 id="services_text">Sales and Customers Info</h2>
 <form id="views_sales" action="Sales.php" method="GET">
     <div id="component">
         <select name="services" id="dropdown">
             <option value="none">None</option>
             <option value="sales">Sales</option>
             <option value="customers">Customers</option>
         </select>
     </div><br>
     <button type="submit" id="submit">
         <h3>Submit</h3>
     </button>
 </form>
 <!-- javascript -->
 <script src="app.js"></script>
</body>
<?php
 $conn = new mysqli("localhost", "root", "", "asdf_palace3");
 if ($conn->connect_error) {
     die("Connection failed:" . $conn->connect_error);
 $services = $_GET['services'];
 if ($services == 'sales') {
     $sql = "SELECT * from sales_info";
```

```
$result = $conn->query($sq1);
   if ($result->num rows > 0) {
     if (mysqli num rows($result) > 0) {
         echo "";
        echo "";
        echo "description_of_charge";
        echo "Total amount ($)";
        echo "";
        while ($row = mysqli_fetch_array($result)) {
           echo "";
           echo "" . $row['description_of_charge'] . "";";
           echo "";
        echo "";
        // Free result set
        mysqli free result($result);
if ($services == 'customers') {
  $sql = "SELECT * from customer_info";
  $result = $conn->query($sq1);
  if ($result->num rows > 0) {
      if (mysqli_num_rows($result) > 0) {
        echo "";
        echo "";
        echo "first name";
        echo "last_name";
        echo "birthdate";
        echo "nfc_id";
        echo "id documents";
        echo "type_of_document";
        echo "authority_of_id";
        echo "phone";
        echo ">email";
        echo "";
        while ($row = mysqli_fetch_array($result)) {
           echo "";
           echo "" . $row['first_name'] . "";
           echo "" . $row['last_name'] . "";
           echo "" . $row['birthdate'] . "";
           echo "" . $row['nfc_id'] . "";
           echo "" . $row['type_id_doc'] . "";
           echo "" . $row['phone number'] . "";
```

More info

```
<?php
 include_once 'includes/dbh.inc.php';
<!DOCTYPE html>
<html lang="en">
   <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>More Info</title>
   <!-- font-awesome -->
   link
      rel="stylesheet"
      href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.14.0/css/all.min.css"
   <!-- styles -->
    <link rel="stylesheet" href="styles.css" />
  </head>
  <body>
    <button class="sidebar-toggle">
      <i class="fas fa-bars"></i></i>
    </button>
    <aside class="sidebar">
      <div class="sidebar-header">
        <button class="close-btn"><i class="fas fa-times"></i></button>
```

```
</div>
   <!-- links -->
   <1i>>
       <a href="Main.php">Home</a>
     <
       <a href="Services.php">Services</a>
     <1i>>
       <a href="Statistics.php">Statistics</a>
     <
       <a href="Sales.php">Sales</a>
     <
         <a href="More_info.php">More_info</a>
   </aside>
 <h2 id="services_text">Do i have covid-19?</h2>
 <form id="views_sales" action="More_info.php" method="GET">
   <div id="component">
     <select name="services" id="dropdown">
       <option selected value="none">None</option>
       <option value="history of case">Visit History</option>
       <option value="possible patients">Possible Covid Patients
     </select>
   </div>
   <div id="component">
     <input type="text" name="nfc_id" placeholder="Give nfc_id" >
   <button type="submit" id="submit" class="nfc_id">
       <h3>Submit</h3>
   </button>
 </form>
 <!-- javascript -->
 <script src="app.js"></script>
</body>
<?php
 $conn = new mysqli("localhost", "root", "", "asdf_palace3");
 if ($conn->connect_error) {
     die("Connection failed:" . $conn->connect_error);
```

```
$services = $_GET['services'];
   $nfc_id = $_GET['nfc_id'];
   if ($services == 'history of case' & isset($nfc id)) {
       $sql = "SELECT * FROM visit WHERE nfc_id='$nfc_id'";
       $result = $conn->query($sq1);
       if ($result->num_rows > 0) {
          if (mysqli num rows($result) > 0) {
              echo "";
              echo "";
              echo "date_of_entrance";
              echo "time of entrance";
              echo "date_of_exit";
              echo "time_of_exit";
             echo "nfc_id";
              echo "place id";
              echo "";
             while ($row = mysqli_fetch_array($result)) {
                 echo "";
                 echo "" . $row['time_of_entrance'] . "";</rr>
                 echo "" . $row['time_of_exit'] . "";</rr>
                 echo "" . $row['nfc_id'] . "";
                 echo "" . $row['place id'] . "";
                 echo "";
              echo "";
              // Free result set
             mysqli_free_result($result);
       } else {
          echo "<h3>Not valid nfc_id</h3>";
   if ($services == 'possible patients' & isset($nfc_id)) {
       $sql = "SELECT DISTINCT v.nfc_id,v.date_of_entrance,v.time_of_entrance
,v.time of exit,v.place id
       FROM visit as v, visit as s
      WHERE ((v.time_of_entrance <TIMESTAMPADD(HOUR,1,s.time_of_exit) and v.
time_of_entrance>s.time_of_entrance) OR (v.time_of_exit <TIMESTAMPADD(HOUR,1,s
.time_of_exit) and v.time_of_exit>s.time_of_entrance) )
       AND v.place_id=s.place_id and v.date_of_entrance=s.date_of_entrance an
d v.nfc_id <>s.nfc_id
       and s.nfc_id='$nfc_id'";
       $result = $conn->query($sq1);
```

```
if ($result->num_rows > 0) {
        if (mysqli num rows($result) > 0) {
           echo "";
           echo "";
           echo "nfc_id";
           echo "date_of_entrance";
           echo "time_of_entrance";
           echo "time_of_exit";
           echo "place id";
           echo "";
           while ($row = mysqli_fetch_array($result)) {
              echo "";
              echo "" . $row['nfc_id'] . "";
              echo "" . $row['time_of_entrance'] . "";
              echo "" . $row['time of exit'] . "";
              echo "" . $row['place_id'] . "";
              echo "";
           echo "";
           mysqli_free_result($result);
     } else {
        echo "<h3>Not valid nfc_id</h3>";
  $conn->close();
/html>
```

App.js

```
const toggleBtn = document.querySelector(".sidebar-toggle");
const closeBtn = document.querySelector(".close-btn");
const sidebar = document.querySelector(".sidebar");

toggleBtn.addEventListener("click", function () {
    // if (sidebar.classList.contains("show-sidebar")) {
    // sidebar.classList.remove("show-sidebar");
    // } else {
    // sidebar.classList.add("show-sidebar");
    // }
    sidebar.classList.toggle("show-sidebar");
}
```

```
closeBtn.addEventListener("click", function () {
   sidebar.classList.remove("show-sidebar");
});
```

styles.css

```
Fonts
@import url("https://fonts.googleapis.com/css?family=Open+Sans|Roboto:400,700&
display=swap");
Variables
:root {
  --ff-primary: "Roboto", sans-serif;
  --ff-secondary: "Open Sans", sans-serif;
  --transition: all 0.3s linear;
 --spacing: 0.1rem;
  --radius: 0.25rem;
  --light-shadow: 0 5px 15px rgba(0, 0, 0, 0.1);
  --dark-shadow: 0 5px 15px rgba(0, 0, 0, 0.2);
  --max-width: 1170px;
  --fixed-width: 620px;
Global Styles
::after,
::before {
 margin: 0;
 padding: 0;
 box-sizing: border-box;
body {
  font-family: var(--ff-primary);
 background: rgb(250, 188, 18);
```

```
color: hsl(290, 94%, 34%);
  line-height: 1.5;
  font-size: 0.875rem;
ul {
 list-style-type: none;
a {
 text-decoration: none;
h1,
h2,
h3,
h4 {
 letter-spacing: var(--spacing);
 text-transform: capitalize;
 line-height: 1.25;
 margin-bottom: 0.75rem;
 font-family: var(--ff-primary);
h1 {
 font-size: 3rem;
h2 {
 font-size: 2rem;
h3 {
 font-size: 1.25rem;
h4 {
 font-size: 0.875rem;
 margin-bottom: 1.25rem;
 color: hsl(290, 73%, 59%);
@media screen and (min-width: 800px) {
 h1 {
   font-size: 4rem;
 h2 {
   font-size: 2.5rem;
 h3 {
    font-size: 1.75rem;
 h4 {
   font-size: 1rem;
```

```
body {
   font-size: 1rem;
  h1,
  h2,
 h3,
 h4 {
   line-height: 1;
/* section */
.section {
 padding: 5rem 0;
.section-center {
 width: 90vw;
 margin: 0 auto;
 max-width: 1170px;
@media screen and (min-width: 992px) {
 .section-center {
   width: 95vw;
main {
 min-height: 100vh;
 display: grid;
 place-items: center;
Sidebar
.sidebar-toggle {
 position: fixed;
 top: 2rem;
  right: 3rem;
 font-size: 2rem;
  background: transparent;
  border-color: transparent;
  color: hsl(290, 94%, 34%);
  transition: var(--transition);
```

```
cursor: pointer;
  animation: bounce 2s ease-in-out infinite;
.sidebar-toggle:hover {
  color: hsl(290, 73%, 59%);
@keyframes bounce {
 0% {
   transform: scale(1);
 50% {
   transform: scale(1.5);
 100% {
   transform: scale(1);
.sidebar-header {
 display: flex;
 justify-content: space-between;
 align-items: center;
 padding: 1rem 1.5rem;
.close-btn {
 font-size: 1.75rem;
 background: transparent;
 border-color: transparent;
 color: hsl(290, 94%, 34%);
 transition: var(--transition);
  cursor: pointer;
.close-btn:hover {
 color: hsl(290, 73%, 59%);
  transform: rotate(360deg);
.links a {
  border-bottom: #222;
 border-top: #222;
  border-width: 10px;
  display: block;
  font-size: 1.5rem;
 text-transform: capitalize;
  padding: 1rem 1.5rem;
  color: hsl(290, 94%, 34%);
  transition: var(--transition);
```

```
.links a:hover {
 color: hsl(290, 73%, 59%);
 padding-left: 1.75rem;
.sidebar {
 position: fixed;
 top: 0;
 left: 0;
 width: 100%;
 height: 100%;
 background: linear-gradient(45deg,rgb(250, 188, 18),rgb(247, 60, 3));
 display: grid;
 grid-template-rows: auto 1fr auto;
 row-gap: 1rem;
 box-shadow: var(--clr-red-dark);
 transition: var(--transition);
 transform: translate(-100%);
.show-sidebar {
 transform: translate(0);
#welcome_message{
   margin-top: 270px;
   margin-left: 270px;
```

test python06.py

```
import mysql.connector
import numpy as np
import array
import random

mydatabase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    port = "3306",
    database = "asdf_palace4"
)

check=4000*[None]
flag=0
cursor = mydatabase.cursor()
```

```
year=[2020,2021]
month=np.arange(1,13)
day=np.arange(1,24)
hour=np.arange(8,23)
minutes=np.arange(0,60)
seconds=np.arange(0,60)
nfc_id=np.arange(1,1001)
room_id1=np.arange(1,401)
room_id=array.array('i',room_id1)
service_id=[1,2,3,4] #
service_id2=[1,2,3,4,5,6,7]
amount=np.arange(20,41)
space=np.arange(0,3996)
combinations = [[a, b] for a in nfc_id
          for b in service id2 if a != b]
for i in range (0,2000):
   y = np.random.choice(year)
    m = np.random.choice(month)
    d = np.random.choice(day)
    h = np.random.choice(hour)
    mi = np.random.choice(minutes)
    sec = np.random.choice(seconds)
    registration_date1 = "-".join([str(y),str(m),str(d)])
    registration_time1 = ":".join([str(h),str(mi),str(sec)])
    registration_date2 = "-".join([str(y),str(m),str(d+5)])
    registration_time2 = ":".join([str(h),str(mi),str(sec)])
    #useful
    #registration_datetime1 = " ".join([str(registration_date1),str(registrati
on time1)])
    #registration_datetime2 = " ".join([str(registration_date2),str(registrati
on_time2)])
    c=np.random.choice(space)
    a=combinations[c][0]
    b=combinations[c][1]
    #print(a,b)
    for j in range(0,i):
        if (check[j]==c):
            flag=1
    if (flag==0):
        check[i]=c
    else:
        flag=0
        continue
    if b<5 :
```

```
sql1="""
        INSERT INTO register to services (nfc id, service id, date of registrati
on,time_of_registration) VALUES(%s,%s,%s,%s)"""
        data=(int(a),int(b),registration_date1,registration_time1)
        print (data)
        cursor.execute(sql1,data)
        mydatabase.commit()
    if (b==2):
        room=np.random.choice(room_id)
        room_id.remove(room)
        sql2="""INSERT INTO access (nfc_id,place_id,date_of_start,time_of_star
t, date of end, time of end)
            VALUES(%s,%s,%s,%s,%s,%s)"""
        data=(int(a),int(room),registration_date1,registration_time1,registrat
ion date2,registration time2)
        cursor.execute(sql2,data)
        mydatabase.commit()
        for j in range (5):
            room=401+j
            sql3="""INSERT INTO access (nfc_id,place_id,date_of_start,time_of_
start,date_of_end,time_of_end)
            VALUES(%s,%s,%s,%s,%s,%s)"""
            data=(str(a), str(room), registration_date1, registration_time1, regis
tration_date2,registration_time2)
            cursor.execute(sql3,data)
            mydatabase.commit()
            sq15="""INSERT INTO visit (nfc_id,place_id,date_of_entrance,time_o
f_entrance,date_of_exit,time_of_exit)
            VALUES(%s,%s,%s,%s,%s)"""
            day10=np.arange(d,d+5)
            current_day=np.random.choice(day10)
            date="-
".join([str(y),str(m+current_day//28),str(current_day%28+1)])
            current_hour=np.random.choice(hour)
            current_minute=np.random.choice(minutes)
            current_second=np.random.choice(seconds)
            time=":".join([str(current_hour),str(current_minute),str(current_s
econd)])
            exit_time=":".join([str(current_hour+2),str(current_minute),str(cu
rrent_second)])
            #final_date_entrance=" ".join([str(date),str(time)])
            #final_date_exit=" ".join([str(date),str(exit_time)])
            data=(str(a), str(room), date, time, date, exit_time)
            cursor.execute(sql5,data)
            mydatabase.commit()
```

```
sql6="""INSERT INTO service_charge (date_of_charge, time_of_charge,
amount, description of charge)
            VALUES(%s,%s,%s,\%s)"""
            data=(date,exit_time,str(np.random.choice(amount)),'tennis court')
            cursor.execute(sql6,data)
            mydatabase.commit()
            sql7="""INSERT INTO receive_services (nfc_id,service_id,date_of_ch
arge,time_of_charge)
            VALUES(%s,%s,%s,\widehat{\infty}s)"""
            data=(str(a),str(b),date,exit_time)
            cursor.execute(sql7,data)
            mydatabase.commit()
          room=440
          sql4="""INSERT INTO access (nfc id, place id, date of start, time of st
art,date_of_end,time_of_end)
                  VALUES(%s,%s,%s,%s,%s,%s)"""
ation_date2,registration_time2)
          cursor.execute(sql4,data)
          mydatabase.commit()
    elif (b==3):
        for j in range (5):
            room=406+j
            sql2="""INSERT INTO access (nfc_id,place_id,date_of_start,time_of_
start,date_of_end,time_of_end)
            VALUES(%s,%s,%s,%s,%s,%s)"""
            data=(str(a),str(room),registration_date1,registration_time1,regis
tration_date2,registration_time2)
            cursor.execute(sql2,data)
            mydatabase.commit()
            sql5="""INSERT INTO visit (nfc_id,place_id,date_of_entrance,time_o
f_entrance,date_of_exit,time_of_exit)
            VALUES(%s,%s,%s,%s,%s,%s)"""
            day10=np.arange(d,d+5)
            current_day=np.random.choice(day10)
            date="-
".join([str(y),str(m+current_day//28),str(current_day%28+1)])
            current_hour=np.random.choice(hour)
            current_minute=np.random.choice(minutes)
            current_second=np.random.choice(seconds)
            time=":".join([str(current_hour),str(current_minute),str(current_s
econd)])
            exit_time=":".join([str(current_hour+2),str(current_minute),str(cu
rrent second)])
```

```
#final_date_entrance=" ".join([str(date),str(time)])
            #final_date_exit=" ".join([str(date),str(exit_time)])
            data=(str(a),str(room),date,time,date,exit_time)
            cursor.execute(sql5,data)
            mydatabase.commit()
            sql6="""INSERT INTO service_charge (date_of_charge,time_of_charge,
amount,description_of_charge)
            VALUES(%s,%s,%s,\%s)"""
            data=(date,exit_time,str(np.random.choice(amount)),'gym')
            cursor.execute(sql6,data)
            mydatabase.commit()
            sql7="""INSERT INTO receive_services (nfc_id,service_id,date_of_ch
arge,time_of_charge)
            VALUES(%s,%s,%s,%s)"""
            data=(str(a),str(b),date,exit_time)
            cursor.execute(sql7,data)
            mydatabase.commit()
    elif (b==4):
        for j in range (5):
            room=411+j
            sql2="""INSERT INTO access (nfc_id,place_id,date_of_start,time_of_
start,date_of_end,time_of_end)
            VALUES(%s,%s,%s,%s,%s,%s)"""
            data=(str(a),str(room),registration_date1,registration_time1,regis
tration_date2,registration_time2)
            cursor.execute(sql2,data)
            mydatabase.commit()
            sql5="""INSERT INTO visit (nfc_id,place_id,date_of_entrance,time_o
f_entrance,date_of_exit,time_of_exit)
            VALUES(%s,%s,%s,%s,%s)"""
            day10=np.arange(d,d+5)
            current_day=np.random.choice(day10)
            date="-
".join([str(y),str(m+current_day//28),str(current_day%28+1)])
            current_hour=np.random.choice(hour)
            current_minute=np.random.choice(minutes)
            current_second=np.random.choice(seconds)
            time=":".join([str(current_hour),str(current_minute),str(current_s
econd)])
            exit_time=":".join([str(current_hour+2),str(current_minute),str(cu
rrent_second)])
            #final_date_entrance=" ".join([str(date),str(time)])
            #final_date_exit=" ".join([str(date),str(exit_time)])
            data=(str(a),str(room),date,time,date,exit_time)
```

```
cursor.execute(sql5,data)
            mydatabase.commit()
            sql6="""INSERT INTO service_charge (date_of_charge,time_of_charge,
amount, description of charge)
            VALUES(%s,%s,%s,%s)"""
            data=(date,exit_time,str(np.random.choice(amount)),'pool')
            cursor.execute(sql6,data)
            mydatabase.commit()
            sql7="""INSERT INTO receive_services (nfc_id,service_id,date_of_ch
arge,time_of_charge)
            VALUES(%s,%s,%s,%s)"""
            data=(str(a),str(b),date,exit_time)
            cursor.execute(sql7,data)
            mydatabase.commit()
    elif (b==5):
        for j in range (10):
            room=416+j
            sql2="""INSERT INTO access (nfc_id,place_id,date_of_start,time_of_
start,date_of_end,time_of_end)
            VALUES(%s,%s,%s,%s,%s,%s)"""
            data=(str(a), str(room), registration_date1, registration_time1, regis
tration_date2,registration_time2)
            cursor.execute(sql2,data)
            mydatabase.commit()
            sql5="""INSERT INTO visit (nfc_id,place_id,date_of_entrance,time_o
f_entrance,date_of_exit,time_of_exit)
            VALUES(%s,%s,%s,%s,%s)"""
            day10=np.arange(d,d+5)
            current_day=np.random.choice(day10)
            date="-
".join([str(y),str(m+current_day//28),str(current_day%28+1)])
            current_hour=np.random.choice(hour)
            current_minute=np.random.choice(minutes)
            current_second=np.random.choice(seconds)
            time=":".join([str(current_hour),str(current_minute),str(current_s
econd)])
            exit_time=":".join([str(current_hour+2),str(current_minute),str(cu
rrent_second)])
            #final_date_entrance=" ".join([str(date),str(time)])
            #final_date_exit=" ".join([str(date),str(exit_time)])
            data=(str(a), str(room), date, time, date, exit_time)
            cursor.execute(sql5,data)
            mydatabase.commit()
```

```
sql6="""INSERT INTO service_charge (date_of_charge, time_of_charge,
amount,description_of_charge)
            VALUES(%s,%s,%s,%s)"""
            data=(date,exit_time,str(np.random.choice(amount)),'conference roo
m')
            cursor.execute(sql6,data)
            mydatabase.commit()
            sql7="""INSERT INTO receive_services (nfc_id,service_id,date_of_ch
arge,time_of_charge)
            VALUES(%s,%s,%s,%s)"""
            data=(str(a),str(b),date,exit_time)
            cursor.execute(sql7,data)
            mydatabase.commit()
    elif (b==6):
        for j in range (9):
            room=426+j
            sql2="""INSERT INTO access (nfc_id,place_id,date_of_start,time of
start,date_of_end,time_of_end)
            VALUES(%s,%s,%s,%s,%s)"""
            data=(str(a),str(room),registration_date1,registration_time1,regis
tration_date2, registration_time2)
            cursor.execute(sql2,data)
            mydatabase.commit()
            sql5="""INSERT INTO visit (nfc_id,place_id,date_of_entrance,time_o
f_entrance,date_of_exit,time_of_exit)
            VALUES(%s,%s,%s,%s,%s,%s)"""
            day10=np.arange(d,d+5)
            current_day=np.random.choice(day10)
            date="-
".join([str(y),str(m+current_day//28),str(current_day%28+1)])
            current_hour=np.random.choice(hour)
            current_minute=np.random.choice(minutes)
            current_second=np.random.choice(seconds)
            time=":".join([str(current_hour),str(current_minute),str(current_s
econd)])
            exit_time=":".join([str(current_hour+2),str(current_minute),str(cu
rrent_second)])
            #final_date_entrance=" ".join([str(date),str(time)])
            #final_date_exit=" ".join([str(date),str(exit_time)])
            data=(str(a),str(room),date,time,date,exit_time)
            cursor.execute(sql5,data)
            mydatabase.commit()
            sql6="""INSERT INTO service_charge (date_of_charge,time_of_charge,
amount, description of charge)
```

```
VALUES(%s,%s,%s,%s)"""
            data=(date,exit time,str(np.random.choice(amount)),'bar/restaurant
')
            cursor.execute(sql6,data)
            mydatabase.commit()
            sql7="""INSERT INTO receive_services (nfc_id,service_id,date_of_ch
arge,time_of_charge)
           VALUES(%s,%s,%s,%s)"""
            data=(str(a),str(b),date,exit_time)
            cursor.execute(sql7,data)
            mydatabase.commit()
    elif (b==7):
        for j in range (6):
            room=435+j
            sql2="""INSERT INTO access (nfc_id,place_id,date_of_start,time_of_
start,date_of_end,time_of_end)
            VALUES(%s,%s,%s,%s,%s)"""
            data=(str(a),str(room),registration_date1,registration_time1,regis
tration_date2,registration_time2)
            cursor.execute(sql2,data)
            mydatabase.commit()
            sql5="""INSERT INTO visit (nfc_id,place_id,date_of_entrance,time_o
f_entrance,date_of_exit,time_of_exit)
           VALUES(%s,%s,%s,%s,%s)"""
            day10=np.arange(d,d+5)
            current_day=np.random.choice(day10)
            date="-
".join([str(y),str(m+current_day//28),str(current_day%28+1)])
            current_hour=np.random.choice(hour)
            current_minute=np.random.choice(minutes)
            current_second=np.random.choice(seconds)
            time=":".join([str(current_hour),str(current_minute),str(current_s
econd)])
            exit_time=":".join([str(current_hour+2),str(current_minute),str(cu
rrent_second)])
            #final_date_entrance=" ".join([str(date),str(time)])
            #final_date_exit=" ".join([str(date),str(exit_time)])
            data=(str(a),str(room),date,time,date,exit_time)
            cursor.execute(sql5,data)
            mydatabase.commit()
            sql6="""INSERT INTO service_charge (date_of_charge,time_of_charge,
amount,description_of_charge)
            VALUES(%s,%s,%s,%s)"""
            data=(date,exit_time,str(np.random.choice(amount)),'library')
```