

Sistemas de Informação e Bases de Dados

1º Semestre 2016/2017

Projeto

Parte III

Grupo 21

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POPULAÇÃO DE TABELAS

```
mysql> select*from patient;
+-----+-----+-----+-----+
| patient_id | name       | birthday | address |
+-----+-----+-----+-----+
| 13456789   | Regateiro  | 1999-11-11 | Rua 13456789 |
| 272727     | Luis Mendes | 1996-10-16 | Rua Laura Alves |
| ER1        | Luis       | 1995-09-12 | Rua 1 |
| ER2        | Ricardo    | 1990-02-25 | Rua 2 |
| ER3        | Miguel     | 1990-11-11 | Rua 3456 |
| ER4        | Josefina   | 1990-11-11 | Rua 3456 |
| kkk        | kkk        | 1996-10-16 | Rua Laura Alves |
| NOR1       | Joao       | 1999-11-09 | Rua 3 |
| NOR2       | Joana      | 1999-05-17 | Rua 4 |
| TESTETASK3 | Bernardo   | 1995-07-15 | Rua TASK3 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select*from appointment;
+-----+-----+-----+-----+
| patient_id | doctor_id | app_date  | office |
+-----+-----+-----+-----+
| 13456789   | T2        | 2016-12-02 | 2016 |
| 272727     | C2        | 2016-12-27 | 1001 |
| 272727     | T3        | 2016-12-26 | 1234 |
| ER1        | C1        | 2016-11-10 | 1000 |
| ER1        | C2        | 2016-11-22 | 2222 |
| ER1        | C2        | 2016-11-30 | 2222 |
| ER1        | T2        | 2016-11-12 | 1004 |
| ER1        | T2        | 2016-11-22 | 1111 |
| ER1        | T2        | 2016-11-29 | 2016 |
| ER1        | T3        | 2016-11-22 | 1000 |
| ER2        | C1        | 2016-11-10 | 1001 |
| ER4        | T3        | 2016-11-28 | 3333 |
| kkk        | T1        | 2016-12-27 | 1234 |
| NOR1       | T1        | 2016-11-12 | 1003 |
| NOR1       | T3        | 2016-11-25 | 1000 |
| NOR1       | T3        | 2016-11-28 | 1000 |
| NOR2       | C2        | 2016-11-11 | 1001 |
| NOR2       | T3        | 2016-11-13 | 1005 |
| TESTETASK3 | T1        | 2016-12-08 | 1620 |
+-----+-----+-----+-----+
19 rows in set (0.00 sec)
```

Fig. 1 – Tabelas *patient* e *appointment*

CODE – TASK 1

```
Task1.php  checkpoint.php  Task2.php  Task3.php
1 <?php session_destroy(); ?>
2 <html>
3 <head><title>Task1</title></head>
4 <body>
5 <form action="checkpoint.php" method="post">
6 <fieldset><legend>Procura na base de dados do centro de saude</legend>
7 <p>Nome do paciente: <input type="text" name="patient_name"/>
8 <input type="submit" value="Verificar"/></p>
9 </fieldset>
10 </form>
11 </body>
12 </html>
```

Fig. 2 – Código de *Task1.php*

Vamos experimentar a nossa implementação com o paciente “Luis”.

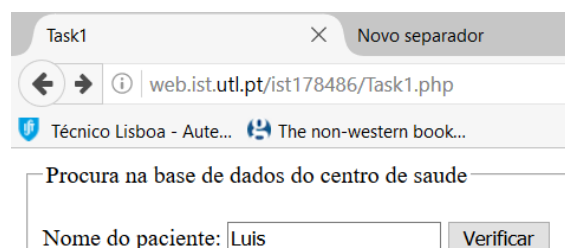


Fig. 3 - Página da inicial

A verificação do nome é feita na página ‘*checkpoint*’. Todos os nomes da tabela ‘*patient*’ que contêm “Luis” surgem enlistados na *webpage* e é dada a opção de escolher o paciente pretendido. Caso não haja nenhum paciente registado com o nome inserido, apresenta-se a hipótese de se registar esse paciente e marcar uma consulta.

```
checkpoint.php  Task3.php  MarcacaoTask3.php  Task1.php  Task2.php  MarcacaoTask2.php
1 <?php session_start(); ?>
2 <html>
3 <head><title>CheckPatient</title></head>
4 <body>
5 <?php $host = "db.tecnico.ulisboa.pt"; $user = "ist178486"; $pass = "nhdd2783";
6 $dsn = "mysql:host=$host;dbname=$user";
7 try{ $connection = new PDO($dsn, $user, $pass); }
8 catch(PDOException $exception) { echo("<p>Error: "); echo($exception->getMessage()); echo("<p>"); exit(); }
9 try{
10 $patient_name = $_REQUEST['patient_name'];
11 $stmt = $connection->prepare("SELECT name FROM patient WHERE name like '%$patient_name%' ORDER BY name");
12 $stmt->bindParam(':patient_name', $patient_name);
13 $stmt->execute();
14 $data = $stmt->fetchAll(PDO::FETCH_COLUMN,0);
15 if ( $data[0] <> FALSE ){
16 >> <p>O paciente existe na base de dados. </br> Selecione-o e marque uma consulta. </p>
17 <table width="400">
18 <?php foreach($data as $row){
19 >> <tr><td> <?php echo($row); ?> </td><td>
20 <form action="Task2.php" method="post"><input type="hidden" name="patient_name" value="<?php echo($row) ?>"/>
21 <input type="submit" value="Avancar para Task2"/></form></td></tr>
22 <?php }
23 echo("</table>");
24 }else{
25 $SESSION['patient_name'] = $_REQUEST['patient_name'];
26 >> <form action="Task3.php" method="post">
27 <p>O paciente nao existe na base de dados. </br> Registe-o e marque uma consulta. </p>
28 <p><input type="submit" value="Avancar para Task3"/></p>
29 </form>
30 <?php }
31 $stmt = null; $connection = null; }
32 catch(PDOException $exception) { echo("<p>Error: "); echo($exception->getMessage()); echo("<p>"); exit(); }
33 >> </fieldset>
34 </body>
35 </html>
```

Fig. 4 – Código de *checkpoint.php*

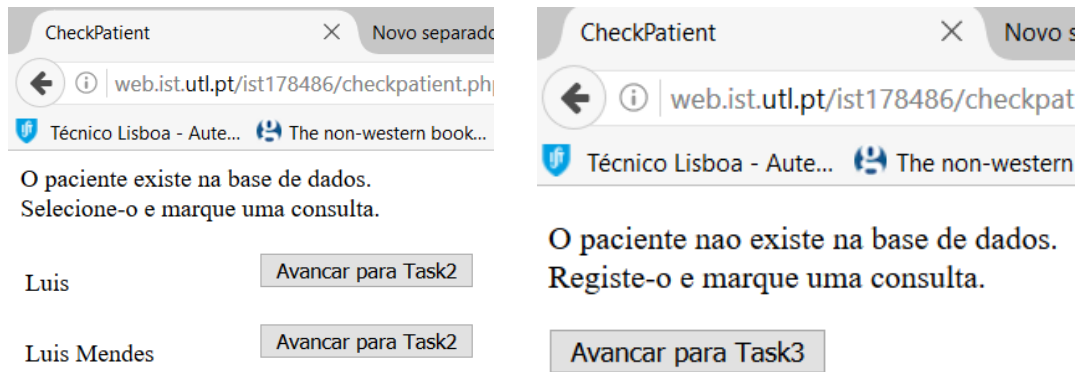


Fig. 5 – (a) Webpage quando há resultados e (b) webpage quando não são encontrados resultados

CODE – TASK 2

```

1 <?php session_start(); ?>
2 <html>
3 <head><title>Task2</title></head>
4 <body>
5 <form action="MarcacaoTask2.php" method="post">
6 <fieldset><legend>Marcacao de uma consulta</legend>
7 <table>
8 <tr><td>Medico:</td><td>
9 <select name="doctor_name">
10 <?php
11 $host = "db.ist.utl.pt"; $user = "ist178486"; $pass = "nhdd2783";
12 $dsn = "mysql:host=$host;dbname=$user";
13 try{$connection = new PDO($dsn, $user, $pass); }
14 catch(PDOException $exception){ echo("<p>Error: "); echo($exception->getMessage()); echo("</p>"); exit();}
15 $SESSION['patient_name'] = $_REQUEST['patient_name'];
16 try{
17 $sql = "SELECT name FROM doctor ORDER BY name";
18 $result = $connection->query($sql);
19 foreach($result as $row){
20 $doctor_name = $row['name']; echo("<option value=\"\$doctor_name\">\$doctor_name</option>"); }
21 $connection = null;
22 }
23 catch(PDOException $exception){ echo("<p>Error: "); echo($exception->getMessage()); echo("</p>"); exit();}
24 </select></td></tr>
25 <tr><td>Data (YYYY-MM-DD):</td><td><input type="text" name="app_date"/></td></tr>
26 <tr><td>Sala:</td><td><input type="text" name="office"/></td></tr>
27 <p><input type="submit" value="Confirmar"/></p>
28 </fieldset>
29 </form>
30 </body>
31 </html>

```

Fig. 6 – Código de Task2.php

Selecionámos o paciente “Luis Mendes” da figura 5(a) e prosseguimos para Task2. Vamos agora marcar a consulta.

Task2 Novo separador

web.ist.utl.pt/ist178486/Task2.php

Técnico Lisboa - Aute... The non-western book...

Marcacao de uma consulta

Medico: Alice

Data (YYYY-MM-DD): 2016-12-10

Sala: 1002

Confirmar

Fig. 7 – Dados da consulta

A marcação da data é feita a partir de ‘*MarcacaoTask2*’. É feita a verificação da data ser anterior à data atual e a data calhar num fim-de-semana.

```

1 <?php session_start(); ?>
2 <html>
3 <head><title>SubmitTask2</title></head>
4 <body>
5 <?php $host = "db.tecnico.ulisboa.pt"; $user = "ist178486"; $pass = "nhdd2783"; $dsn = "mysql:host=$host;dbname=$user";
6 $connection = new PDO($dsn, $user, $pass); }
7 catch(PDOException $exception) { echo("<p>Error: "); echo($exception->getMessage()); echo("</p>"); exit(); }
8 try{
9 $connection->beginTransaction();
10 $doctor_name = $_REQUEST['doctor_name'];
11 $stmt = $connection->prepare("SELECT doctor_id FROM doctor WHERE name = :doctor_name");
12 $stmt->bindParam(':doctor_name', $doctor_name);
13 $stmt->execute();
14 $data = $stmt->fetchAll(PDO::FETCH_COLUMN,0); $doctor_id = $data[0];
15 $patient_name = $_SESSION['patient_name'];
16 $stmt = $connection->prepare("SELECT patient_id FROM patient WHERE name = :patient_name");
17 $stmt->bindParam(':patient_name', $patient_name);
18 $stmt->execute();
19 $data = $stmt->fetchAll(PDO::FETCH_COLUMN,0); $patient_id = $data[0];
20 $app_date = $_REQUEST['app_date'];
21
22 if( date('w', strtotime($app_date)) % 6 == 0 ) {
23 echo("<p>Nao ha consultas ao fim-de-semana.");
24 }
25 <form action="Task2.php" method="post"><input type="submit" value="Remarcar consulta"/></form>
26 <form action="Task1.php" method="post"><input type="submit" value="Regressar a Task1"/></form></p>
27 <?php
28 $now = time();
29 $today = date("Y-n-d", $now);
30 if( strtotime($app_date) < strtotime($today) ){
31 echo("<p>Ainda nao inventaram maquinas do tempo. Nao se pode marcar consultas no passado.");
32 }
33 <form action="Task2.php" method="post"><input type="submit" value="Remarcar consulta"/></form>
34 <form action="Task1.php" method="post"><input type="submit" value="Regressar a Task1"/></form></p>
35 <?php
36 $office = $_REQUEST['office'];
37 $stmt = $connection->prepare("INSERT INTO appointment VALUES (:patient_id, :doctor_id, :app_date, :office)");
38 $stmt->bindParam(':patient_id', $patient_id); $stmt->bindParam(':doctor_id', $doctor_id);
39 $stmt->bindParam(':app_date', $app_date); $stmt->bindParam(':office', $office);
40 $stmt->execute(); $connection->commit(); $connection = null;
41 echo ("<p>New records created successfully</p>"); }
42 catch(PDOException $exception) { echo("<p>Error: "); echo($exception->getMessage()); echo("</p>");
43 $stmt = null; $connection->rollback(); $connection = null; exit(); }
44 }
45 </body>
46 </html>

```

Fig. 8 – Código de *MarcacaoTask2.php*

A data inserida na figura 7 calha num fim-de-semana. Vejamos o resultado depois de ‘*Confirmar*’:

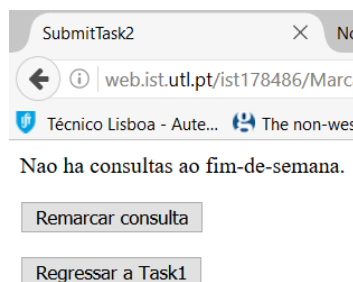


Fig. 9 – *Webpage* quando a consulta é marcada num fim-de-semana

E quando a data pertence ao passado?

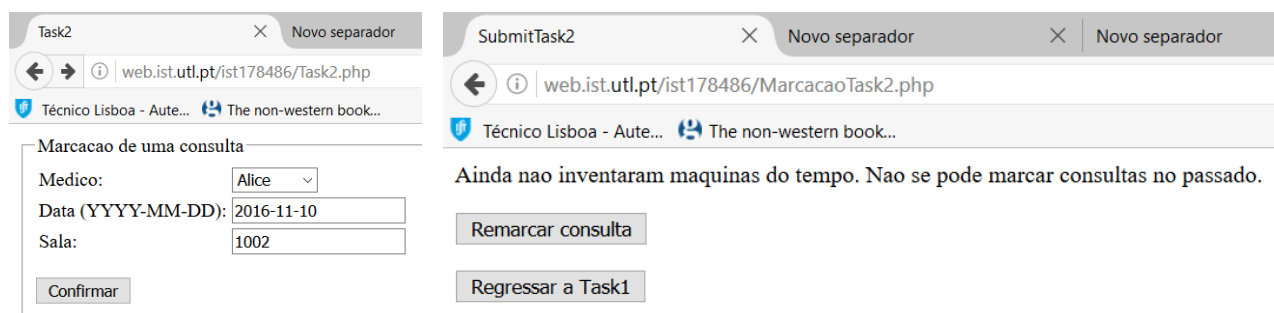
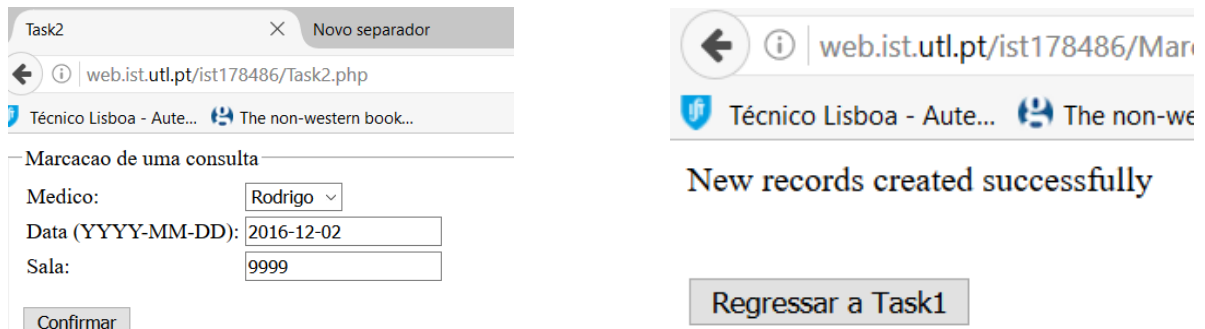


Fig. 10 – (a) Dados inseridos na *webpage* e em (b) a resposta obtida

Quando a inserção assegura todas as condições impostas obtemos a figura 11.



The figure consists of two browser window screenshots. The left window, titled 'Task2', shows a web form for scheduling an appointment. The form has the following fields: 'Medico:' with a dropdown menu showing 'Rodrigo', 'Data (YYYY-MM-DD):' with the value '2016-12-02', and 'Sala:' with the value '9999'. There is a 'Confirmar' button at the bottom. The right window shows the same URL but with a success message: 'New records created successfully'. Below the message is a button labeled 'Regressar a Task1'.

Fig. 11 – (a) Dados inseridos na *webpage* e em (b) a resposta obtida

A nova tabela '*appointment*' já com a consulta marcada é apresentada na figura 12. A nova consulta encontra-se na terceira entrada da tabela.

```
mysql> select*from appointment;
```

patient_id	doctor_id	app_date	office
13456789	T2	2016-12-02	2016
272727	C2	2016-12-27	1001
272727	T2	2016-12-02	9999
272727	T3	2016-12-26	1234
ER1	C1	2016-11-10	1000
ER1	C2	2016-11-22	2222
ER1	C2	2016-11-30	2222
ER1	T2	2016-11-12	1004
ER1	T2	2016-11-22	1111
ER1	T2	2016-11-29	2016
ER1	T3	2016-11-22	1000
ER2	C1	2016-11-10	1001
ER4	T3	2016-11-28	3333
kkk	T1	2016-12-27	1234
NOR1	T1	2016-11-12	1003
NOR1	T3	2016-11-25	1000
NOR1	T3	2016-11-28	1000
NOR2	C2	2016-11-11	1001
NOR2	T3	2016-11-13	1005
TESTETASK3	T1	2016-12-08	1620

Fig. 12 – Nova tabela '*appointment*'

CODE – TASK 3

```
Task3.php x Task1.php x checkpatient.php x Task2.php x MarcacaoTask3.php x MarcacaoTask2.php x
<?php session_start(); ?>
<html>
  <head><title>Task3</title></head>
  <body>
    <form action="MarcacaoTask3.php" method="post">
      <fieldset><legend>Dados do paciente</legend>
        <table><tr><td>ID:</td><td><input type="text" name="patient_id"/></td></tr>
        <tr><td>Dia de nascimento (YYYY-MM-DD):</td><td><input type="text" name="birthday"/></td></tr>
        <tr><td>Morada:</td><td><input type="text" name="address"/></td></tr>
        </table>
      </fieldset><br>
      <fieldset><legend>Marcacao de uma consulta</legend>
        <table>
          <tr><td>Medico:</td><td>
            <select name="doctor_name">
              <?php
                $host = "db.ist.utl.pt"; $user = "ist178486"; $pass = "nhdd2783";
                $dsn = "mysql:host=$host;dbname=$user";
                try{$connection = new PDO($dsn, $user, $pass); }
                catch(PDOException $exception){ echo("<p>Error: "); echo($exception->getMessage()); echo("<p>"); exit();}
                try{
                  $sql = "SELECT name FROM doctor ORDER BY name";
                  $result = $connection->query($sql);
                  foreach($result as $row){ $doctor_name = $row['name']; echo("<option value=\"\$doctor_name\">\$doctor_name</option>"); }
                  $connection = null;
                }
                catch(PDOException $exception){ echo("<p>Error: "); echo($exception->getMessage()); echo("<p>"); exit(); }
              </?php>
            </select></td></tr>
            <tr><td>Data (YYYY-MM-DD):</td><td><input type="text" name="app_date"/></td></tr>
            <tr><td>Sala:</td><td><input type="text" name="office"/></td></tr>
          </table>
          <p><input type="submit" value="Confirmar"/></p>
        </fieldset>
      </form>
    </body>
</html>
```

Fig. 13 – Código de *Task3.php*

```
Task3.php x MarcacaoTask3.php x Task1.php x checkpatient.php x Task2.php x MarcacaoTask2.php x
<?php session_start(); ?>
<html>
  <head><title>SubmitTask3</title></head>
  <body>
    <?php
      $host = "db.tecnico.ulisboa.pt"; $user = "ist178486"; $pass = "nhdd2783"; $dsn = "mysql:host=$host;dbname=$user";
      try{ $connection = new PDO($dsn, $user, $pass); }
      catch(PDOException $exception) { echo("<p>Error: "); echo($exception->getMessage()); echo("<p>"); exit(); }
      try{
        $connection->beginTransaction();
        $patient_id = $_REQUEST['patient_id']; $patient_name = $_SESSION['patient_name']; $birthday = $_REQUEST['birthday'];
        $address = $_REQUEST['address'];
        $stmt = $connection->prepare("INSERT INTO patient VALUES (:patient_id, :patient_name, :birthday, :address)");
        $stmt->bindParam(':patient_id', $patient_id); $stmt->bindParam(':patient_name', $patient_name);
        $stmt->bindParam(':birthday', $birthday); $stmt->bindParam(':address', $address);
        $stmt->execute();
        $doctor_name = $_REQUEST['doctor_name'];
        $stmt = $connection->prepare("SELECT doctor_id FROM doctor WHERE name = :doctor_name");
        $stmt->bindParam(':doctor_name', $doctor_name);
        $stmt->execute();
        $data = $stmt->fetchAll(PDO::FETCH_COLUMN,0); $doctor_id = $data[0];
        $app_date = $_REQUEST['app_date'];
        if( date('w', strtotime($app_date)) % 6 == 0 ) {
          echo("<p>Nao ha consultas ao fim-de-semana.");
          <p><form action="Task3.php" method="post"><input type="submit" value="Reinserir dados"/></form>
          <form action="Task1.php" method="post"><input type="submit" value="Regressar a Task1"/></form></p>
          exit(); }
      }
      $now = time();
      $today = date("Y-n-d", $now);
      if( strtotime($app_date) < strtotime($today) ){
        echo("<p>Ainda nao inventaram maquinas do tempo. Nao se pode marcar consultas no passado.");
        <p><form action="Task3.php" method="post"><input type="submit" value="Reinserir dados"/></form>
        <form action="Task1.php" method="post"><input type="submit" value="Regressar a Task1"/></form></p>
        exit(); }
      $office = $_REQUEST['office'];
      $stmt = $connection->prepare("INSERT INTO appointment VALUES (:patient_id, :doctor_id, :app_date, :office)");
      $stmt->bindParam(':patient_id', $patient_id); $stmt->bindParam(':doctor_id', $doctor_id);
      $stmt->bindParam(':app_date', $app_date); $stmt->bindParam(':office', $office);
      $stmt->execute(); $connection->commit(); $connection = null;
      echo ("<p>New records created successfully</p>");
      catch(PDOException $exception) { echo("<p>Error: "); echo($exception->getMessage()); echo("<p>");
        $stmt = null; $connection->rollback(); $connection = null; exit(); }
    </?php>
    <form action="Task1.php" method="post"><input type="submit" value="Regressar a Task1"/></form>
  </body>
</html>
```

Fig. 14 – Código de *MarcacaoTask3.php*

Foi adicionado um paciente ainda não registado chamado “NOVONOVO”.

(a) Dados inseridos na webpage

Task1 Novo separador

web.ist.utl.pt/ist178486/Task1.php

Técnico Lisboa - Auto... The non-western book...

Procura na base de dados do centro de saúde

Nome do paciente: NOVONOVO Verificar

(b) a resposta obtida

Task3 Novo separador

web.ist.utl.pt/ist178486/Task3.php

Técnico Lisboa - Auto... The non-western book...

Dados do paciente

ID: NOVONOVO

Dia de nascimento (YYYY-MM-DD): 1996-10-16

Morada: Rua IST

Marcacao de uma consulta

Medico: Maria

Data (YYYY-MM-DD): 2016-12-27

Sala: 7777

Confirmar

Fig. 15 – (a) Dados inseridos na *webpage* e em (b) a resposta obtida

Caso a data seja marcada num fim de semana ou numa data anterior à data atual aparecerão as mensagens de erro vistas na secção anterior.

A mensagem de confirmação das inserções pretendidas encontra-se na figura 15.

SubmitTask3 Novo separador

web.ist.utl.pt/ist178486/Marc...

Técnico Lisboa - Auto... The non-western book...

New records created successfully

Regressar a Task1

Fig. 15 – Mensagem de sucesso

As novas tabelas são apresentadas na figura 16 e confirmam a inserção dos dados colocados na figura 15 (ver penúltima linha).

(a) patient

```
mysql> select*from patient;
```

patient_id	name	birthday	address
13456789	Regateiro	1999-11-11	Rua 13456789
272727	Luis Mendes	1996-10-16	Rua Laura Alves
ER1	Luis	1995-09-12	Rua 1
ER2	Ricardo	1990-02-25	Rua 2
ER3	Miguel	1990-11-11	Rua 3456
ER4	Josefina	1990-11-11	Rua 3456
kkk	kkk	1996-10-16	Rua Laura Alves
NOR1	Joao	1999-11-09	Rua 3
NOR2	Joana	1999-05-17	Rua 4
NOVONOVO	NOVONOVO	1996-10-16	Rua IST
TESTETASK3	Bernardo	1995-07-15	Rua TASK3

11 rows in set (0.00 sec)

(b) appointment

```
mysql> select*from appointment;
```

patient_id	doctor_id	app_date	office
13456789	T2	2016-12-02	2016
272727	C2	2016-12-27	1001
272727	T2	2016-12-02	9999
272727	T3	2016-12-26	1234
ER1	C1	2016-11-10	1000
ER1	C2	2016-11-22	2222
ER1	C2	2016-11-30	2222
ER1	T2	2016-11-12	1004
ER1	T2	2016-11-22	1111
ER1	T2	2016-11-29	2016
ER1	T3	2016-11-22	1000
ER2	C1	2016-11-10	1001
ER4	T3	2016-11-28	3333
kkk	T1	2016-12-27	1234
NOR1	T1	2016-11-12	1003
NOR1	T3	2016-11-25	1000
NOR1	T3	2016-11-28	1000
NOR2	C2	2016-11-11	1001
NOR2	T3	2016-11-13	1005
NOVONOVO	T1	2016-12-26	7777
TESTETASK3	T1	2016-12-08	1620

21 rows in set (0.00 sec)

Fig. 16 – Novas tabelas *patient* (a) e *appointment* (b)