Online Banking Project

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Introduction

Our project program was created with basic update and query functionality in order to be used by a banking company for online banking transactions. The Database must therefore easily be able to handle queries involving multiple customer accounts and display them uniformly in a user interface that is functional as well as easy to navigate. The capability to quickly update balances and transfer funds across accounts easily are of great importance. The backend of the program is written in mySQL the open source DBMS utility. The front end of our implemented database is written in JavaScript, and is designed for online banking functionality. The online implementation stores user account data, both for the user to track and change.

Due to the nature of modelling a database for a bank, security considerations are of paramount importance. Also data integrity constraints must be chosen on a basis of complete integrity over performance. The GUI is created with customer usability in mind, as the end users will be bank tellers, and customers accessing the DB from their laptops. specific constraints on the database based on the business (security issues, business specific considerations).

The objective is to create, populate, and maintain a database for an online banking service. The view for users includes a customer view, banker view, and also an admin view. The GUI for customer view will include options to deposit to accounts, view account info, make payments, as well as transfer funds. Everyday banking operations are intended to be accessible to even the most naive of users.

System Design and Development

The first stage in development was meeting and deciding on the business context of our database. Online Banking was the business context that we decided worked best. The business requirement analysis consisted of us brainstorming features and possible table relations for the database. We decided to focus our early development efforts on planning and creating the backend to our database. We designed a ER diagram(included below) using paper and pencil, taking into consideration the two user pools: bankers and customers.

When designing the front end to the banking website the major issues were creating two different views for the users, as well as separating the permissions for these two groups. Making sure that each group has access only to the data and queries that are relevant.

Actions available in the Customer view:
- Transfer money between personal accounts
- Change their password
- Apply for a loan
- Make a loan payment
- View account information
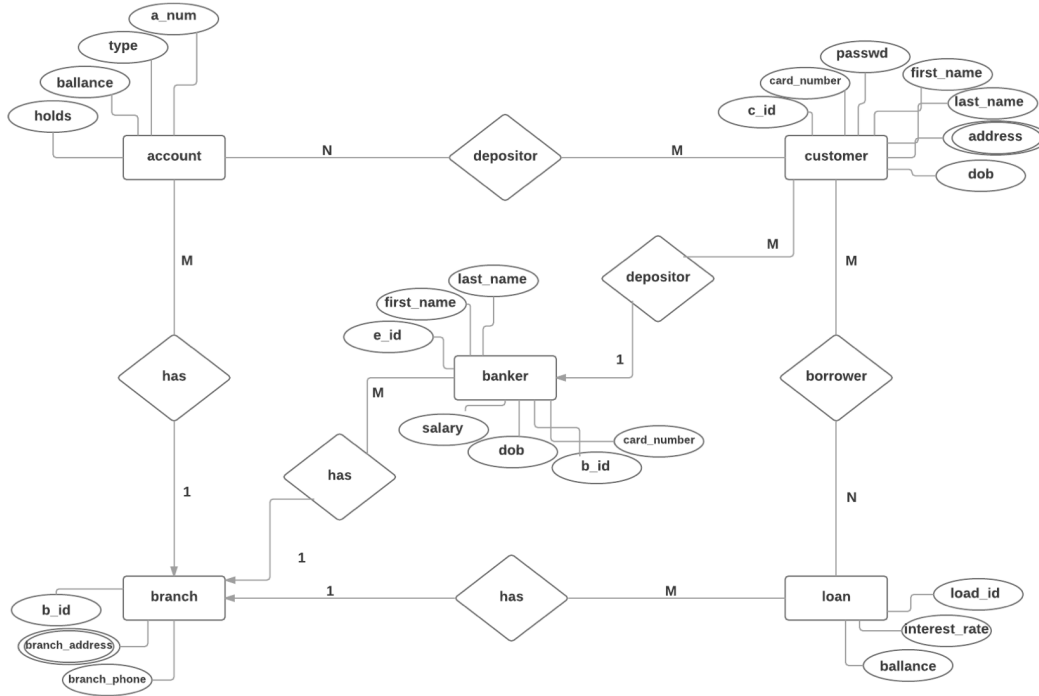- View personal information

Actions available in the Banker view:
- Create customer
- Delete customer
- Change customer account info(except account balances)
- Approve a loan
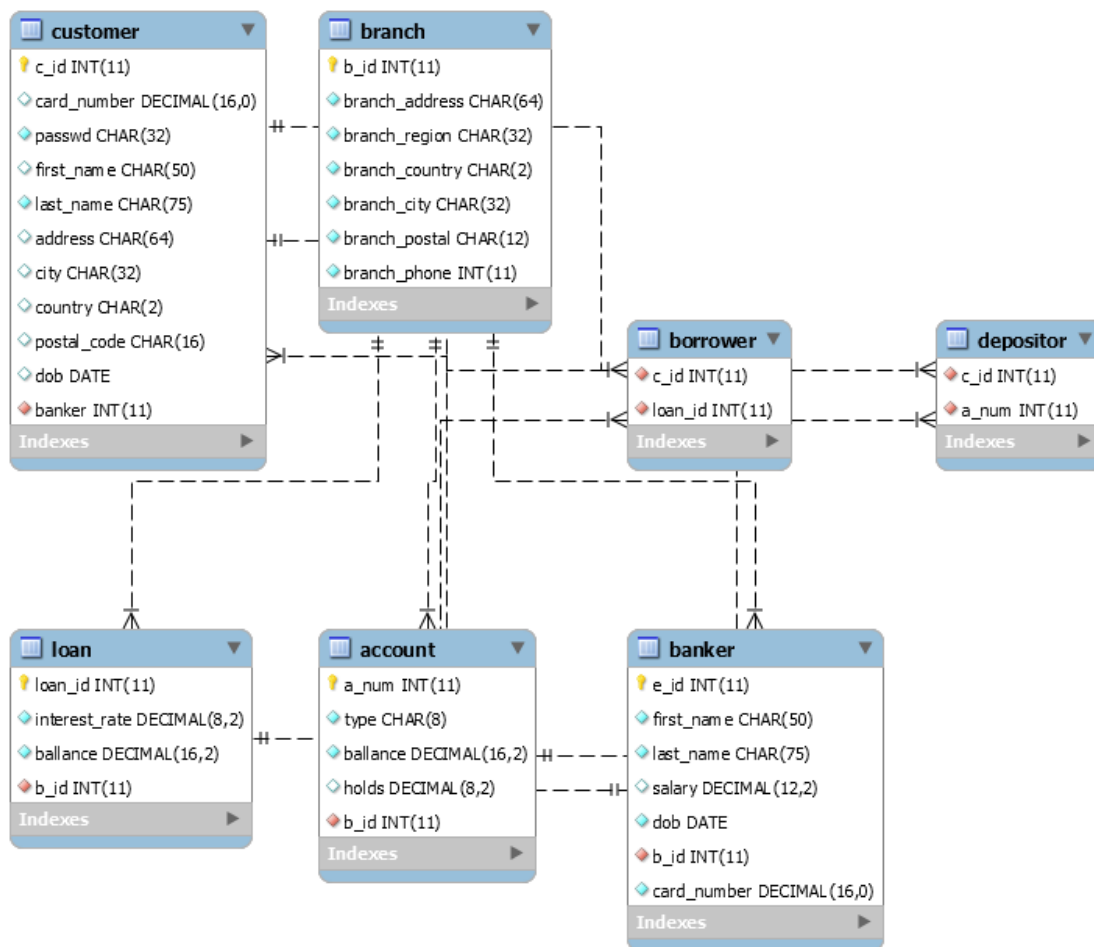- View a list of their customers with their information.

ER diagram

Table Schema

customer
- 🔑 c_id INT(11)
- ◇ card_number DECIMAL(16,0)
- ◇ passwd CHAR(32)
- ◇ first_name CHAR(50)
- ◇ last_name CHAR(75)
- ◇ address CHAR(64)
- ◇ city CHAR(32)
- ◇ country CHAR(2)
- ◇ postal_code CHAR(16)
- ◇ dob DATE
- ◆ banker INT(11)
- Indexes

branch
- 🔑 b_id INT(11)
- ◇ branch_address CHAR(64)
- ◇ branch_region CHAR(32)
- ◇ branch_country CHAR(2)
- ◇ branch_city CHAR(32)
- ◇ branch_postal CHAR(12)
- ◇ branch_phone INT(11)
- Indexes

borrower
- ◆ c_id INT(11)
- ◆ loan_id INT(11)
- Indexes

depositor
- ◆ c_id INT(11)
- ◆ a_num INT(11)
- Indexes

loan
- 🔑 loan_id INT(11)
- ◇ interest_rate DECIMAL(8,2)
- ◇ ballance DECIMAL(16,2)
- ◆ b_id INT(11)
- Indexes

account
- 🔑 a_num INT(11)
- ◇ type CHAR(8)
- ◇ ballance DECIMAL(16,2)
- ◇ holds DECIMAL(8,2)
- ◆ b_id INT(11)
- Indexes

banker
- 🔑 e_id INT(11)
- ◇ first_name CHAR(50)
- ◇ last_name CHAR(75)
- ◇ salary DECIMAL(12,2)
- ◇ dob DATE
- ◆ b_id INT(11)
- ◇ card_number DECIMAL(16,0)
- Indexes

Normalization Analysis

After the ER and rough relational table schema were designed, we proceeded to create the database in mySQL. We emloyed First Normal Form normalization throughout the database creation process. Information fields are very specific throughout all tables, in order to allow more refined queries. One large hurdle we encountered was data redundancy in the Customer table. We initially wanted to have accountID in the customers table, but we instead had to create the relation to Accounts from the Branch table. We made this change in order to accomodate for customers having more than one account at any given time. Also in this normalization step we added another column to the account table to keep track of the account Type.

After making the above mentioned changes, our table schema was normalized according to Second Normal Form. No tables were found to have a transient relation between any two attributes. Therefore our database was in accordance with Third Normal Form.

Results Demonstration

Customer function to transfer money between accounts (same customer):

This query deals with multiple accounts and thus must use transfer data between different account types. These transfers would traverse Borrower and Depositer relationships in certain circumstances. As such, data integrity must be insured using unique ids for the two customer-account relationships.
An example of the queries executed by the transfer command as follows:

Customer loan application function:

A customer may apply for a loan, this function sends an application form to the customers associated banker in order to be reviewed.
Examples of the loan forms for both user groups below:

Both views must execute queries when this function is used, but no data is modified until after approval. The queries execurted by this command are as follows:

Customer Loan payment function:

When a customer uses the loan payment function, they are prompted to enter an amount, as well as an account from which the payment will be made.

If the account selected by the user has a balance that is greater than the entered payment amount a prompt is sent to the user.

Customer money transfer between accounts (to other customer's account)

This function is slightly more complex than the transfer function for accounts with the same associated customer. When using this function, the user is prompted to enter the card number of the targer accounts associated customer, as well as the accounts id. Also, an input field for the amount is presented in the transfer form below.

The queries executed by this transfer command involve moving data from one table to another, which is shown by the code below.

Customer function to view personal account information:

This function is a simple selection of customer information that is stored on the customer table. The query is as follows.

Banker function to create customer:

This function would be used by a banker in order to create a new entry in the customer table. The banker is prompted to enter all the relevant information (NOT NULL fields) and a new entry is created.

This function calls a single query, which inserts the data entered, given that it satisfies the tables data constraints.

Additional features:

Views Implemented:

Three views have been implemented to facilitate web development.

customer_info

Shows the customer as well as his banker; names supplement id numbers for clarity.
Returns (c_id, customer_first_name, customer_last_name, address, city, country, postal_code,
dob, b_id, banker_first_name, banker_last_name)

account_info

Shows detailed account info; concatenating the account table and depositor table.
Returns (a_num, type, ballance, holds, c_id)

loan_info

Show detailed loan info; concatenating the loan table and the borrower table.
Returns (loan_id, interest_rate, ballance, c_id)

Procedures Implemented:

Five procedures have been implemented to facilitate web development.
The procedures are called within the php servers backend and implemented
within the databases.

getAccountInfo(string type, c_id account)

Given an account type, e.g.. checking or savings, and an account number,
this procedure returns the account balance and holds.

transferToAcc(a_num from, a_num to, int amount)

Given two account numbers, a source and destination, and an amount, this
procedure will transfer funds between accounts.

loanPayment(loan_id loan, a_num account, int amount)

Given a loan number destination (destination of payment), account number
(source of payment), and amount to transfer, this procedure will transfer
funds from a given account to a given loan.
  eg. bill payment.

setPassword(string passwd, c_id id)

Given a password and customer id, this procedure will change a users
password within the database.

payHolds(a_num account, int amount)

Given an account, will pay given amount on account's holds.

Trigger Implemented:

acc_check ON account

Triggers on account update and observes the NEW ballance. If an update
updates an account to a negative value (overdraft in account ballance)
this trigger increments the account's holds by 20.

Transaction Implemented:

Implemented the transfer between account (transferToAcc) as a transaction.
Transaction is implemented within php.

Conclusion

Backend development of the database was done primarily by Sam, with database
structure input from Padraec, as well as business analysis by Padraec and Mate. Front
end development done by Mate, report done by Padraec with input from all group

members.

In completing this project, my group has gained a stronger understanding of the steps involved in planning and actualizing a development project. Along with the general project management and group collaboration skills, a deeper understanding of front and back end database development has been gained by all group members. A much better understanding of the SQL language, as well as the mySQL workbench utility was gained from this project. Finally we learned how to host a database on Bluenose, and query it using SQL.

References

Tutorial-Ass2. (2015, October 5) Retrieved December 7 , 2014, from bluenose.cs.dal.ca/users/marker/prof2141

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Tutorial-Proj1. (2015, November 7) Retrieved December 7 , 2014, from server bluenose.cs.dal.ca/users/marker/prof2141

Tutorial-Proj2. (2015, November 22) Retrieved December 7 , 2014, from server bluenose.cs.dal.ca/users/marker/prof2141

Tisseau, J. (2009, March 26). Sliding Login Panel with jQuery 1.3.2. Retrieved December 26, 2015.

Source Code

Interface

```php
<?php


//require('connect.php');
require('common.php');
?>

<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
<title>Account Information</title>

    <link rel="stylesheet" type="text/css"
href="css/info_page.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />

    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>
    <link rel="icon" type="image/png"
        href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />
```

```php
        <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>

<body>

<div id ="outerborder">
    <div id = "innerborder">
<div id="main">
    <h1>Account Information</h1>
    <?php

        if (isset($_SESSION['id'])):

    ?>
    <h2><?php echo $_SESSION['usr']?></h2>
    <hr>
    <div class="container">
    <form action="" method="post">
        <h2>Select one of your accounts</h2>
        <input list="accounts" name="accounts">
        <datalist id="accounts">
        <?php
            $query = "SELECT type from account as
a, customer as c, depositor as d WHERE c.c_id =
'$_SESSION[id]' and c.c_id = d.c_id and a.a_num =
d.a_num";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            while ($row =
mysqli_fetch_assoc($result)){
                echo '<option value= "'.
$row['type'].'">';
            }
        ?>
        </datalist>
    <input type="submit">
    </form>
```

```php
    </div>

    <?php
        // Get account type from form and display.
        if(isset($_POST['accounts'])){
            $account = $_POST['accounts'];
            echo '<div class="container">
<h2><strong>'.$account.':</strong></h2><hr> ';
            $query = "CALL
getAccountInfo('$account', $_SESSION[id]);";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            $row = mysqli_fetch_assoc($result);
            echo '<h2> BALANCE: $ '.
$row['ballance'].'</h2><br>';
            echo '<h2> HOLDS: $ '.
$row['holds'].'</h2></div>';
        }
    ?>

    <?php
        else:
            echo '<h1>Please, <a
href="home.php">login</a> and come back later!</
h1>';
        endif;
    ?>
   </div>
  </div>

 </body>
</html>
<?php


//require('connect.php');
require('common.php');
?>

<!DOCTYPE html>
```

```html
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
<title>Change Password</title>

    <link rel="stylesheet" type="text/css"
href="css/info_page.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />

    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>
    <link rel="icon" type="image/png"
       href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />

    <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>

<body>

<div id ="outerborder">
    <div id = "innerborder">
<div id="main">
    <h1>Change Password</h1>
    <?php

       if (isset($_SESSION['id'])):

    ?>
    <h2><?php echo $_SESSION['usr']?></h2>
    <hr>
    <div class="container">
    <form action="" method="post">
```

```php
        <h2>Old Password</h2>
        <input type="password" name="oldpass">
        <br>
        <h2>New Passowrd</h2>
        <input type="password" name="newpass">
    <input type="submit">
    </form>

    </div>

    <?php
        if(isset($_POST['oldpass'])){
            $query = "SELECT passwd from customer
where c_id = '$_SESSION[id]' and passwd =
'$_POST[oldpass]'";
            $result = mysqli_query($con, $query);
            $count = mysqli_num_rows($result);
            if($count == 1)
            {
                mysqli_query($con, "CALL
setPassword('$_POST[newpass]', '$_SESSION[id]';");
                echo '<h1>Success!</h1>';
            }
            else
                echo '<h2><font color="red">Wrong
username and/or password!</font></h2>';

        }
        // Display error if exists

    ?>

    <?php
        else:
            echo '<h1>Please, <a
href="home.php">login</a> and come back later!</
h1>';
        endif;
    ?>
   </div>
  </div>
```

```php
 </body>
</html>
<?php

define('INCLUDE_CHECK',true);

define("__ROOT__", dirname(dirname(__FILE__)));
// Those two files can be included only if
INCLUDE_CHECK is defined


session_name('bank_login');
// Starting the session

session_start();

//connect to database
require 'connect.php';



// If user is logged in, and if the currentcookie
is not set (ie, the browser was
// closed), and if remember me was unchecked at log
in, destroy session (if
// remember me was checked, the session is
retained.
if(isset($_SESSION['id']) && (!
isset($_COOKIE['bank_user'])) && !
(isset($_SESSION['rememberMe'])))
{

    $_SESSION = array();
    session_destroy();

    // Destroy the session
}


if (isset($_POST['submit']))
```

```php
{
    // Checking whether the Login form has been
submitted

    $err = array();
    // Will hold our errors


    if(!$_POST['username'] || !$_POST['password'])
        $err[] = 'All the fields must be filled
in!';

    if(!count($err))
    {
        $_POST['username'] =
mysql_real_escape_string($_POST['username']);
        $_POST['password'] =
mysql_real_escape_string($_POST['password']);
        $_POST['rememberMe'] = (int)
$_POST['rememberMe'];


        // Escaping all input data


          $usr = $_POST['username'];
          $pswd = $_POST['password'];
          // Check for employee or customer.
          if ($usr < 4521999999999999){
              $_SESSION['banker'] = true;
              $sqlquery = "SELECT CONCAT(first_name,
\" \", last_name) AS 'Name', e_id FROM banker WHERE
card_number='$usr' AND first_name='$pswd'";
              $result = mysqli_query($con, $sqlquery);
          }
          else{
              $sqlquery = "SELECT CONCAT(first_name,
\" \", last_name) AS 'Name', c_id FROM customer
WHERE card_number='$usr' AND passwd='$pswd'";
              $result = mysqli_query($con,
$sqlquery);
          }
          // Match user and password.
```

```php
    $count = mysqli_num_rows($result);
    if($count == 1)
    {

        // User and password match... countinue
        $row = mysqli_fetch_assoc($result);

        // Store some data in the session
        $_SESSION['usr']=$row['Name'];
        if (isset($_SESSION['banker']))
            $_SESSION['id'] = $row['e_id'];
        else
            $_SESSION['id'] = $row['c_id'];

        // Remember user only if checked.
        if ($_POST['rememberMe'] != 0)
            $_SESSION['rememberMe'] =
$_POST['rememberMe'];

        // Set cookie for two weeks
        setcookie('bank_user', 'new user',
2*7*24*60*60, '/');


        // Remove previous error messages

        unset($_SESSION['msg']);

    }
    else $err[]='Wrong username and/or
password!';
        // Free result set
        mysqli_free_result($result);
    }

    if($err)
    $_SESSION['msg']['login-err'] = implode('<br /
>',$err);
        // Save the error messages in the session
```

```php
    header("Location: index.php");
    exit;
}

if(isset($_GET['logoff']))
{
    $_SESSION = array();
     $_POST = array();
    session_destroy();

    header("Location: index.php");
    exit;
}


$script = '';

if (isset($_SESSION['msg']))
{
    // The script below shows the sliding panel on
page load

    $script = '
    <script type="text/javascript">

        $(function(){

            $("div#panel").show();
            $("#toggle a").toggle();
        });

    </script>';

}

?>


<!DOCTYPE html>
<html >
```

```html
<head> <link rel="icon" type="image/png"
       href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />
       <link rel="shortcut icon" type="image/png"
       href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />
</head>
<!-- Panel -->
<div id="toppanel">
    <div id="panel">
        <div class="content clearfix">

            <?php

            if (!isset($_SESSION['id'])):

            ?>
            <div class="left">
                <h1>Welcome to Online Banking at
Dalhousie</h1>
                <h2>Login to access your account</h2>

                <p class="grey">To login, use your
card number as your username. If it is your first
time logging in, use the password
                    given to you by your banker.</
p>
                <h2>No Account?</h2>
                <p class="grey">No Problem! Simply
send fill out the form, and a banker will contact
you shortly.</p>
            </div>


        <div class="left">
            <!-- Login Form -->
            <form class="clearfix" action=""
method="post">
                <h1>Account Login</h1>
```

```php
                <?php

                if(isset($_SESSION['msg']
['login-err']))
                {
                    echo '<div class="err">'.
$_SESSION['msg']['login-err'].'</div>';
                    unset($_SESSION['msg']
['login-err']);
                }
            ?>

                <label class="grey"
for="username">Username:</label>
                <input class="field" type="text"
name="username" id="username" value="" size="23" />
                <label class="grey"
for="password">Password:</label>
                <input class="field"
type="password" name="password" id="password"
size="23" />
                <label><input name="rememberMe"
id="rememberMe" class="mycheckbox" type="checkbox"
checked="checked" value="1" />  Remember me</
label>
                <div class="clear"></div>
                <input type="submit" name="submit"
value="Login" class="bt_login" />
            </form>
        </div>
        <div class="left right">

            <!-- Register Form -->
            <form action="" method="post">
                <h1>New to online banking? Request
to meet with a banker!</h1>

                <?php

                if(isset($_SESSION['msg']['reg-
```

```php
err']))
					{
						echo '<div class="err">'.
$_SESSION['msg']['reg-err'].'</div>';
						unset($_SESSION['msg']
['reg-err']);
					}

					if(isset($_SESSION['msg']['reg-
success']))
					{
						echo '<div
class="success">'.$_SESSION['msg']['reg-
success'].'</div>';
						unset($_SESSION['msg']
['reg-success']);
					}
				?>

				<label class="grey"
for="username">Your Name:</label>
				<input class="field" type="text"
name="username" id="username" value="" size="23" />
				<label class="grey"
for="email">Email:</label>
				<input class="field" type="text"
name="email" id="email" size="23" />
				<label>A banker will e-mail you
with information about applying.</label>
				<input type="submit" name="submit"
value="Submit" class="bt_register" />
			</form>
		</div>
		</div></div>

		<?php

	else:

	?>
	<div class="left">
```

```php
            <h1>Thank you for choosing us, for
your online banking.</h1>
            <h2>Transactions</h2>
              <p class="grey">Navigate through
the Members panel to complete various bank
transactions. </p>
            <h2>Information?</h2>
            <p class="grey">View account and
customer information by navigating the user
panel.</p>
        </div>

        <?php
            if (!isset($_SESSION['banker'])){
        echo'<div class="left">

        <h1>Services</h1>

        <p></p>
        <p><a
href="transfer_bw_accounts.php">Transfer between
accounts</a></p>
        <p><a href="loan_payment.php">Make a
payment</a></p>
        <p><a href="change_password.php">Change
Password</a></p>

        </div>

        <div class="left right">
        <h1>Welcome, '.$_SESSION['usr'].'</h1>
        <p></p>
        <p><a href="account_info.php">Account
Information</a></p>
        <p><a href="personal_info.php">Personal
Information</a></p>
        <p><a href="?logoff">Log off</a></p>
        </div></div></div>';

        }
        else{
```

```php
            echo'<div class="left">
            <h1>Services</h1>

            <p></p>
            <p><a
href="transfer_bw_accounts.php">Customer List</a></
p>
            <p><a href="edit_hold.php">Edit
Customer Holds</a></p>

            </div>

            <div class="left right">
            <h1>Welcome,'.$_SESSION['usr'].'</h1>
            <p></p>
            <p><a href="?logoff">Log off</a></p>
            </div></div></div>';
            }?>
            <?php
                endif;
            ?>
     <!-- /login -->

     <!-- The tab on top -->
     <div class="tab">
        <ul class="login">
            <li class="left"> </li>
             <li>Hello <?php echo
isset($_SESSION['usr']) ? $_SESSION['usr'] :
'Guest';?>!</li>
            <li class="sep">|</li>
            <li id="toggle">
                <a id="open" class="open" href="#"><?
php echo isset($_SESSION['id'])?'Open Panel':'Log
In | Request';?></a>
                <a id="close" style="display: none;"
class="close" href="#">Close Panel</a>

            </li>
            <li class="right"> </li>
        </ul>
```

```html
        </div> <!-- / top -->

</div> <!--panel -->

    <div id="foot">
            <div class="wrap">
                <img src = "http://passages.ie.dal.ca/
Dal_Logo.png" alt="HTML5 Icon" height="80">
            </div>
        </div>

</div>

</html>
```
```php
<?php

if(!defined('INCLUDE_CHECK')) die('You are not
allowed to execute this file directly');

$db_host      = 'localhost';
$db_user      = 'root';
$db_pass      = '';
$db_database = 'onlinebanking';
$app_name        = "Dal Online Bank";

$con = new mysqli($db_host, $db_user, $db_pass,
$db_database) or die($connection->connect_error);


?>
```
```php
<?php


//require('connect.php');
require('common.php');
?>
```
```html
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
```

```html
charset=utf-8" />
<title>Edit Holds</title>

    <link rel="stylesheet" type="text/css"
href="css/info_page.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />

    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>
    <link rel="icon" type="image/png"
        href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />

    <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>

<body>

<div id ="outerborder">
    <div id = "innerborder">
<div id="main">
    <h1>Edit Holds</h1>
   <?php

        if (isset($_SESSION['id'])):

    ?>
    <h2><?php echo $_SESSION['usr']?></h2>
    <hr>
    <div class="container">
    <form action="" method="post">
        <h2>From:</h2>
        <input list="accounts" name="accounts">
        <datalist id="accounts">
```

```php
        <?php
                $query = "SELECT a.a_num FROM account
as a, banker as b, customer as c, depositor as d
Where c.c_id = d.c_id and d.a_num = a.a_num and
b.e_id = '$_SESSION[id]' and c.banker = b.e_id";
                $result = mysqli_query($con, $query);
                echo mysqli_error($con);
                while ($row =
mysqli_fetch_assoc($result)){
                        echo '<option value= "'.
$row['c_id'].'">';
                }
        ?>
        </datalist>

    </div>

    <?php
            echo '<div class="container"> <h2><New
Amount:</h2>';
            echo '<input type="number"
name="amount">';
            echo '<input type="submit"></form></
div>';
            echo '<div class="container">';
            if(!isset($_POST['accounts']) || !
isset($_POST['amount']))
                    $err[] = 'All the fields must be
filled in!';
            else
            {
                mysqli_query($con, "CALL
payHolds('$_POST[accounts]', '$_POST[amount]');");
                echo '<div class="container">
<h2>Holds:</h2>';
                $query = "SELECT holds FROM account
Where a_num = '$_POST[accounts]'";
                $result = mysqli_query($con,
$query);
                echo mysqli_error($con);
                $curr =
```

```php
mysqli_fetch_assoc($result);
                echo '<h2><strong>Hold: '.
$curr['holds'].'</strong></h2>';
            }
            echo '</div>';
?>

    <?php
        else:
            echo '<h1>Please, <a
href="home.php">login</a> and come back later!</
h1>';
        endif;
    ?>
    </div>
  </div>

 </body>
</html>
    <?php
    $dbhost  = 'localhost';    // Unlikely to
require changing
    $dbname  = 'online_bank';   // Modify these...
    $dbuser  = 'root';   // ...variables according
    $dbpass  = '';   // ...to your installation
    $appname = "Dal Online Bank"; // ...and
preference

    $connection = new mysqli($dbhost, $dbuser,
$dbpass, $dbname) or
        die($connection->connect_error);

    echo "Dalhousie Online Bank</br>";
    /*
    $sqlquery = "select * from customer";
    $results = mysqli_query($connection,
$sqlquery);

    while ( $row = mysqli_fetch_array($results))
    {
        echo $row['first_name']." ".
```

```php
$row['last_name'];
        echo "</br>";
    }
 */
?>


<?php

require('common.php');
?>


<!DOCTYPE html>
<html>

<head>
<meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
<title>Bank of Dalousie CS</title>

    <link rel="stylesheet" type="text/css"
href="css/home.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />
    <link rel="icon" href="http://www.dal.ca/etc/
designs/dalhousie/clientlibs/global/default/images/
favicon/DALSocialMediaMark-Blk.png" type="image/
png"sizes="16x16" />


    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>

    <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>
<body>
<div class="pageContent">
```

```html
    <div id="main">
      <!--<div class="container"></div>--!>
        <h1>Goldberg Bank of Dalhousie (or whatever
name)</h1>
        <h2>A Database Management project -
Dalhousie Computer Science 2015</h2>


        <div class="container">

          <p>This is an example site to offer a
user interface to interact with an online banking
database. Test out the home page by clicking the
<strong>Log In | Register</strong> button above.
You may submit a request a banker to make an
account, or log in as a user. </p>
          <p>You make log in as Dr. Gao, with card
number <strong>'8800'</strong> and password:
<strong>'testaccount'</strong> to view the customer
website. </p>
          <p>Additionally sign in as Mr. Goldberg
with card number --------------- and password:
******** to view the banker website.</p>
          <div class="clear"></div>
        </div>

      <div class="container tutorial-info">
      This is a group project for CSCI 2141.
Members: Padraec Robinson, Sam Champagne, and Mate
Lakner.</div>
    </div>
</div>
</body>
</html>
<?php


//require('connect.php');
require('common.php');
?>
```

```html
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
<title>Make a Loan Payment</title>

    <link rel="stylesheet" type="text/css"
href="css/info_page.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />

    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>
    <link rel="icon" type="image/png"
        href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />

    <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>

<body>

<div id ="outerborder">
    <div id = "innerborder">
<div id="main">
    <h1>Make a Loan Payment</h1>
   <?php

        if (isset($_SESSION['id'])):

    ?>
    <h2><?php echo $_SESSION['usr']?></h2>
    <hr>
    <div class="container">
```

```php
    <form action="" method="post">
        <h2>From:</h2>
        <input list="accounts" name="accounts">
        <datalist id="accounts">
        <?php
            $query = "SELECT a.type, a.a_num from
account as a, customer as c, depositor as d WHERE
c.c_id = '$_SESSION[id]' and c.c_id = d.c_id and
a.a_num = d.a_num";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            while ($row =
mysqli_fetch_assoc($result)){
                echo '<option value= "'.
$row['a_num'].'">';
            }
        ?>
        </datalist>

    </div>

    <?php
            echo '<div class="container">
<h2>Select Loan:</h2>';
            echo '<input list="loans" name="loans">
<datalist id="loans">';
            $query = "SELECT l.loan_id from loan as
l, borrower as b  WHERE b.loan_id = l.loan_id and
b.c_id = '$_SESSION[id]'";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            while ($row =
mysqli_fetch_assoc($result)){
                echo '<option value= "'.
$row['loan_id'].'">';
            }
            echo '</datalist> </div>';
            echo '<div class="container">
<h2><Amount:</h2>';
            echo '<input type="number"
name="amount">';
```

```php
            echo '<input type="submit"></form></
div>';
            echo '<div class="container">';
            if(!isset($_POST['accounts']) || !
isset($_POST['loans']) || !isset($_POST['amount']))
                $err[] = 'All the fields must be
filled in!';
            else
            {
                // All entered, transfer money
                mysqli_query($con, "CALL
loanPayment('$_POST[accounts]', '$_POST[amount]',
'$_POST[loans]');");
                $query = "SELECT l.loan_id,
l.ballance from loan as l Where l.loan_id =
'$_POST[loans]'";
                $result = mysqli_query($con,
$query);

                echo mysqli_error($con);
                $curr =
mysqli_fetch_assoc($result);
                echo '<h2><strong>Loan - '.
$curr['loan_id'].'</strong></h2>';
                echo '<h2> BALANCE: $ '.
$curr['ballance'].'</h2><br>';
            }
            $query = "SELECT a.type, a.ballance,
a.a_num from account as a, customer as c, depositor
as d WHERE c.c_id = '$_SESSION[id]' and c.c_id =
d.c_id and a.a_num = d.a_num";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            while ($row =
mysqli_fetch_assoc($result)){
                $rows[] = $row;
            }
            foreach($rows as $curr){
                echo '<h2><strong>'.$curr['type'].'
- '.$curr['a_num'].'</strong></h2>';
                echo '<h2> BALANCE: $ '.
$curr['ballance'].'</h2><br>';
```

```php
            }
            echo '</div>';
?>

    <?php
        else:
            echo '<h1>Please, <a
href="home.php">login</a> and come back later!</
h1>';
        endif;
    ?>
    </div>
   </div>

 </body>
</html>
<?php


//require('connect.php');
require('common.php');
?>

<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
<title>Personal Information</title>

    <link rel="stylesheet" type="text/css"
href="css/info_page.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />

    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>
    <link rel="icon" type="image/png"
        href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
```

```php
DALSocialMediaMark-Blk.png" />

    <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>

<body>

<div id ="outerborder">
    <div id = "innerborder">
<div id="main">
    <h1>Personal Information</h1>
    <?php

        if (isset($_SESSION['id'])):

    ?>
    <hr>

    <?php
        // Get customer information
            echo '<div class="container">
<h2><strong>'.$_SESSION['usr'].':</strong></h2><hr>
';
            $query = "SELECT * FROM customer_info
WHERE c_id = '$_SESSION[id]'";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            $row = mysqli_fetch_assoc($result);
            echo '<h2> Address: '.
$row['address'].'</h2><br>';
            echo '<h2> City: '.
$row['city'].'</h2><br>';
            echo '<h2> Postal Code: '.
$row['postal_code'].'</h2><br>';
            echo '<h2> Date of Birth: '.
$row['dob'].'</h2><br>';
            echo '<h2> Banker:  '.
```

```php
$row['banker_fname'].' '.$row['banker_lname'].'</h2><br>';
            echo '</div>';
    ?>

    <?php
        else:
            echo '<h1>Please, <a href="home.php">login</a> and come back later!</h1>';
        endif;
    ?>
   </div>
  </div>

 </body>
</html>
<?php

session_name('bank_login');
session_set_cookie_params(2*7*24*60*60);
session_start();

?>

<!DOCTYPE html>
<html>

<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Registered users only!</title>

    <link rel="stylesheet" type="text/css" href="demo.css" media="screen" />

</head>

<body>

<div id="main">
```

```php
    <div class="container">
      <h1>Registered Users Only!</h1>
      <h2>Login to view this resource!</h2>
      </div>

      <div class="container">

      <?php
    if(isset($_SESSION['id']))
    echo '<h1>Hello, '.$_SESSION['usr'].'! You are
registered and logged in!</h1>';
      else echo '<h1>Please, <a
href="demo.php">login</a> and come back later!</
h1>';
      ?>
      </div>

   <div class="container tutorial-info">
      </div>
</div>

      <div id="foot">
           <div class="wrap">
             <img src = "http://passages.ie.dal.ca/
Dal_Logo.png" alt="HTML5 Icon" height="80">
           </div>

</body>
</html>
<?php


//require('connect.php');
require('common.php');
?>

<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
```

```html
<title>Personal Information</title>

    <link rel="stylesheet" type="text/css"
href="css/info_page.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />

    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>
    <link rel="icon" type="image/png"
        href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />

    <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>

<body>

<div id ="outerborder">
    <div id = "innerborder">
<div id="main">
    <h1>Personal Information</h1>
    <?php

        if (isset($_SESSION['id'])):

    ?>
    <hr>

    <?php
        // Get customer information
            echo '<div class="container">
<h2><strong>'.$_SESSION['usr'].':</strong></h2><hr>
';
            $query = "SELECT * FROM customer_info
```

```php
WHERE c_id = '$_SESSION[id]'";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            $row = mysqli_fetch_assoc($result);
            echo '<h2> Address: $ '.
$row['address'].'</h2><br>';
            echo '<h2> City: $ '.
$row['city'].'</h2><br>';
            echo '<h2> Postal Code: $ '.
$row['postal_code'].'</h2><br>';
            echo '<h2> Date of Birth: $ '.
$row['dob'].'</h2><br>';
            echo '<br>'
            echo '<h2> Accounts: $ '.
$row['acconts'].'</h2><br>';
            echo '<br>'
            echo '<h2> Banker: $ '.
$row['banker_fname'].' '.$row['banker_lname'].'</
h2><br>';
            echo '</div>';
    ?>

    <?php
        else:
            echo '<h1>Please, <a
href="home.php">login</a> and come back later!</
h1>';
        endif;
    ?>
   </div>
  </div>

 </body>
</html>
<?php


//require('connect.php');
require('common.php');
?>
```

```html
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=utf-8" />
<title>Transfer Between Accounts</title>

    <link rel="stylesheet" type="text/css"
href="css/info_page.css" media="screen" />
    <link rel="stylesheet" type="text/css"
href="login_panel/css/slide.css" media="screen" />

    <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.3.2/
jquery.min.js"></script>
    <link rel="icon" type="image/png"
        href="http://www.dal.ca/etc/designs/
dalhousie/clientlibs/global/default/images/favicon/
DALSocialMediaMark-Blk.png" />

    <script src="login_panel/js/slide.js"
type="text/javascript"></script>

    <?php echo $script; ?>

</head>

<body>

<div id ="outerborder">
    <div id = "innerborder">
<div id="main">
    <h1>Transfer Between Accounts</h1>
  <?php

        if (isset($_SESSION['id'])):

    ?>
    <h2><?php echo $_SESSION['usr']?></h2>
    <hr>
    <div class="container">
```

```php
    <form action="" method="post">
        <h2>From:</h2>
        <input list="accounts" name="accounts">
        <datalist id="accounts">
        <?php
            $query = "SELECT a.type, a.a_num from
account as a, customer as c, depositor as d WHERE
c.c_id = '$_SESSION[id]' and c.c_id = d.c_id and
a.a_num = d.a_num";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            while ($row =
mysqli_fetch_assoc($result)){
                echo '<option value= "'.
$row['a_num'].'">';
            }
        ?>
        </datalist>

    </div>

    <?php
            echo '<div class="container"> <h2>To:</
h2>';
            echo '<input list="accounts2"
name="accounts2"> <datalist id="accounts2">';
            $query = "SELECT a.type, a.a_num from
account as a, customer as c, depositor as d WHERE
c.c_id = '$_SESSION[id]' and c.c_id = d.c_id and
a.a_num = d.a_num and a.type != '$account'";
            $result = mysqli_query($con, $query);
            echo mysqli_error($con);
            while ($row =
mysqli_fetch_assoc($result)){
                echo '<option value= "'.
$row['a_num'].'">';
            }
            echo '</datalist> </div>';
            echo '<div class="container">
<h2><Amount:</h2>';
            echo '<input type="number"
```

```php
name="amount">';
			echo '<input type="submit"></form></
div>';
			if(!isset($_POST['accounts']) || !
isset($_POST['accounts2']) || !
isset($_POST['amount']))
				$err[] = 'All the fields must be
filled in!';
			else
			{
				// All entered, transfer money
				mysqli_query($con, "CALL
transferToAcc('$_POST[accounts]', '$_POST[amount]',
'$_POST[accounts2]');");
			}
			echo '<div class="container">';
			$query = "SELECT a.type, a.ballance,
a.a_num from account as a, customer as c, depositor
as d WHERE c.c_id = '$_SESSION[id]' and c.c_id =
d.c_id and a.a_num = d.a_num";
			$result = mysqli_query($con, $query);
			echo mysqli_error($con);
			while ($row =
mysqli_fetch_assoc($result)){
				$rows[] = $row;
			}
			foreach($rows as $curr){
				echo '<h2><strong>'.$curr['type'].'
– '.$curr['a_num'].'</strong></h2>';
				echo '<h2> BALANCE: $ '.
$curr['ballance'].'</h2><br>';
			}
			echo '</div>';
?>

	<?php
		else:
			echo '<h1>Please, <a
href="home.php">login</a> and come back later!</
h1>';
		endif;
```

```
      ?>
    </div>
  </div>

 </body>
</html>
body,h1,h2,h3,p,quote,small,form,input,ul,li,ol,lab
el{
    /* The reset rules */
    margin:0px;
    padding:0px;
}

html {
    background: url("https://static.dal.ca/faculty/
computerscience/_jcr_content/
bgBanner.adaptive.full.high.jpg/
1425919188240.jpg") /*no-repeat center center
fixed;
    -webkit-background-size: cover;
    -moz-background-size: cover;
    -o-background-size: cover;
    background-size: cover;    -- Uncomment for
wider screen compatibilty */
}
body{
    color:black;
    font-size:13px;

    font-family:Arial, Helvetica, sans-serif;
    width: 100%;
}

h1{
    font-size:28px;
    font-weight:bold;
    font-family:"Trebuchet MS",Arial, Helvetica,
sans-serif;
    letter-spacing:1px;
    color:black;
}
```

```css
h2{
    font-family:"Arial
Narrow",Arial,Helvetica,sans-serif;
    font-size:11px;
    font-weight:normal;
    letter-spacing:1px;
    padding-left:2px;
    text-transform:uppercase;
    white-space:nowrap;
    margin-top:4px;
    color:#515050;
}

#main p{
    padding-bottom:8px;
}

.clear{
    clear:both;
}

#main{
    width:800px;
    /* Centering it in the middle of the page */
    margin:60px auto;
}

.container{
    margin-top:20px;
     background-color: rgba(216,184,10, 0.7);
    border:1px solid #4d4d4d;
    padding:15px;

    /* Rounded corners */
    -moz-border-radius:20px;
    -khtml-border-radius: 20px;
    -webkit-border-radius: 20px;
    border-radius:20px;
     overflow:auto;
}
```

```css
.err{
    color:red;
}

.success{
    color:#00CC00;
}

a, a:visited {
    color:#00BBFF;
    text-decoration:none;
    outline:none;
}

a:hover{
    text-decoration:underline;
}

.tutorial-info{
    text-align:center;
    padding:10px;
}

.wrap {
    position:left;
    margin:0 auto;
}

#foot {
    background:#272727;
    width:100%;
    float:left;
    position:fixed;
    bottom:0;
    z-index:999999;
}
body,h1,h2,h3,p,quote,small,form,input,ul,li,ol,label{
    /* The reset rules */
    margin:0px;
```

```css
    padding:0px;
}

html {
    background: url("https://static.dal.ca/faculty/
computerscience/_jcr_content/
bgBanner.adaptive.full.high.jpg/
1425919188240.jpg") /*no-repeat center center
fixed;
    -webkit-background-size: cover;
    -moz-background-size: cover;
    -o-background-size: cover;
    background-size: cover;     -- Uncomment for
wider screen compatibilty */
}

#outerborder{
    background:#084008;
    position: absolute;
    bottom: 0;
    left: 12.5%;
    width: 75%;
    height: 90%;
    -webkit-box-shadow: -1px 1px 2px 2px
rgba(0,0,0,0.5);
      -moz-box-shadow: -1px 1px 2px 2px
rgba(0,0,0,0.5);
      box-shadow: -1px 1px 2px 2px rgba(0,0,0,0.5);
    /* Rounded corners */
    -moz-border-radius:3px;
    -khtml-border-radius: 3px;
    -webkit-border-radius: 3px;
    border-radius:3px;
    border:1px solid white;
     overflow:auto;
}

#innerborder{
    background:#dfdfdf;
    position: fixed;
    bottom: 0;
```

```css
    left: 15%;
    width: 70%;
    height: 85%;
    -webkit-box-shadow: -1px 1px 2px 4px
rgba(0,0,0,0.8);
    -moz-box-shadow: -1px 1px 2px 4px
rgba(0,0,0,0.8);
    box-shadow:  1px 4px 14px rgba(0,0,0,0.5);
    /* Rounded corners */
    -moz-border-radius:3px;
    -khtml-border-radius: 3px;
    -webkit-border-radius: 3px;
    border-radius:3px;
    border:1px solid black;
    overflow:auto;
}

body{
    color:black;
    font-size:13px;

    font-family:Arial, Helvetica, sans-serif;
    width: 100%;
}

h1{
    font-size:28px;
    font-weight:bold;
    font-family:"Trebuchet MS",Arial, Helvetica,
sans-serif;
    letter-spacing:1px;
    color:black;
}

h2{
    font-family:"Arial
Narrow",Arial,Helvetica,sans-serif;
    font-size:11px;
    font-weight:normal;
    letter-spacing:1px;
    padding-left:2px;
```

```css
    text-transform:uppercase;
    white-space:nowrap;
    margin-top:4px;
    color:black;
}

h3{
    font-family:"Arial
Narrow",Arial,Helvetica,sans-serif;
    font-size:11px;
    font-weight:normal;
    letter-spacing:1px;
    padding-left:2px;
    text-transform:uppercase;
    white-space:nowrap;
    margin-top:4px;
    color:black;
}

#main p{
    padding-bottom:8px;
}

.clear{
    clear:both;
}

#main{
    width:800px;
    /* Centering it in the middle of the page */
    margin:20px auto;
}

.container{
    margin-top:20px;
     background-color: #c0c0c0;
    border:1px solid #E0E0E0;
    padding:15px;

    /* Rounded corners */
    -moz-border-radius:20px;
```

```css
    -khtml-border-radius: 20px;
    -webkit-border-radius: 20px;
    border-radius:5px;
     overflow:auto;
}

.err{
    color:red;
}

.success{
    color:#00CC00;
}

a, a:visited {
    color:#00BBFF;
    text-decoration:none;
    outline:none;
}

a:hover{
    text-decoration:underline;
}

.tutorial-info{
    text-align:center;
    padding:10px;
}

.wrap {
     position:left;
     margin:0 auto;
}

#foot {
    background:#272727;
    width:100%;
    float:left;
    position:fixed;
    bottom:0;
    z-index:999999;
```

```
}
$(document).ready(function() {

    // Expand Panel
    $("#open").click(function(){
        $("div#panel").slideDown("slow");

    });

    // Collapse Panel
    $("#close").click(function(){
        $("div#panel").slideUp("slow");
    });

    // Switch buttons from "Log In | Register" to
"Close Panel" on click
    $("#toggle a").click(function () {
        $("#toggle a").toggle();
    });

});/*
Name: Sliding Login Panel with jQuery 1.3.2
Author: Jeremie Tisseau
Author URI: http://web-kreation.com/
Script URI: http://web-kreation.com/index.php/
tutorials/nice-clean-sliding-login-panel-built-
with-jquery/
Date: March 26, 2009
Version: 1.0

    The CSS, XHTML and design is released under
Creative Common License 3.0:
    http://creativecommons.org/licenses/by-sa/3.0/

*/

/***** clearfix *****/
.clear {clear: both;height: 0;line-height: 0;}
.clearfix:after {content: ".";display:
block;height: 0;clear: both;visibility: hidden;}
.clearfix {display: inline-block;}
```

```css
/* Hides from IE-mac \*/
* html .clearfix {height: 1%;}
.clearfix {display: block;}
/* End hide from IE-mac */
.clearfix {height: 1%;}
.clearfix {display: block;}

/* Panel Tab/button */
.tab {
    background: url(../images/tab_b.png) repeat-x 0
0;
    height: 42px;
    position: relative;
     top: 0;
     z-index: 999;
}

.tab ul.login {
    display: block;
    position: relative;
    float: right;
    clear: right;
    height: 42px;
    width: auto;
    font-weight: bold;
    line-height: 42px;
    margin: 0;
    right: 150px;
    color: white;
    font-size: 12px;
    text-align: center;
}

.tab ul.login li.left {
    background: url(../images/tab_l.png) no-repeat
left 0;
    height: 42px;
    width: 30px;
    padding: 0;
    margin: 0;
    display: block;
```

```css
    float: left;
}

.tab ul.login li.right {
    background: url(../images/tab_r.png) no-repeat
left 0;
    height: 42px;
    width: 30px;
    padding: 0;
    margin: 0;
    display: block;
    float: left;
}

.tab ul.login li {
    text-align: left;
    padding: 0 6px;
    display: block;
    float: left;
    height: 42px;
    background: url(../images/tab_m.png) repeat-x 0
0;
}

.tab ul.login li a {
    color: #FFD700;
}

.tab ul.login li a:hover {
    color: white;
}

.tab .sep {color:#414141}

.tab a.open, .tab a.close {
    height: 20px;
    line-height: 20px !important;
    padding-left: 30px !important;
    cursor: pointer;
    display: block;
    width: 100px;
```

```css
    position: relative;
    top: 11px;
}

.tab a.open {background: url(../images/bt_open.png)
no-repeat left 0;}
.tab a.close {background: url(../images/
bt_close.png) no-repeat left 0;}
.tab a:hover.open {background: url(../images/
bt_open.png) no-repeat left -19px;}
.tab a:hover.close {background: url(../images/
bt_close.png) no-repeat left -19px;}

/* sliding panel */
#toppanel {
    position: absolute;   /*Panel will overlap
content */
    /*position: relative;*/   /*Panel will "push"
the content down */
    top: 0;
    width: 100%;
    z-index: 999;
    text-align: center;
    margin-left: auto;
    margin-right: auto;
}

#panel {
    width: 100%;
    height: 250px;
    color: #999999;
    background: #272727;
    overflow: hidden;
    position: relative;
    z-index: 3;
    display: none;
}

#panel h1 {
    font-size: 1.6em;
    padding: 5px 0 10px;
```

```css
        margin: 0;
        color: white;
}

#panel h2{
        font-size: 1.2em;
        padding: 10px 0 5px;
        margin: 0;
        color: white;
        font-family:Arial, Helvetica, sans-serif;
        font-weight:bold;
}

#panel p {
        margin: 5px 0;
        padding: 0;
}

#panel a {
        text-decoration: none;
        color: #FFD700;
}

#panel a:hover {
        color: white;
}

#panel a-lost-pwd {
        display: block;
        float: left;
}

#panel .content {
        width: 960px;
        margin: 0 auto;
        padding-top: 15px;
        text-align: left;
        font-size: 0.85em;
}

#panel .content .left {
```

```css
    width: 280px;
    float: left;
    padding: 0 15px;
    border-left: 1px solid #333;
}

#panel .content .right {
    border-right: 1px solid #333;
}

#panel .content form {
    margin: 0 0 10px 0;
}

#panel .content label {
    float: left;
    padding-top: 8px;
    clear: both;
    width: 280px;
    display: block;
}

#panel .content input.field {
    border: 1px #1A1A1A solid;
    background: #414141;
    margin-right: 5px;
    margin-top: 4px;
    width: 200px;
    color: white;
    height: 16px;
}

#panel .content input:focus.field {
    background: #545454;
     outline: none !important;
}


/* BUTTONS */
/* Login and Register buttons */
#panel .content input.bt_login,
```

```css
#panel .content input.bt_register {
    display: block;
    float: left;
    clear: left;
    height: 24px;
    text-align: center;
    cursor: pointer;
    border: none;
    font-weight: bold;
    margin: 10px 0;
}

#panel .content input.bt_login {
    width: 74px;
    background: transparent url(../images/
bt_login.png) no-repeat 0 0;
}

#panel .content input.bt_register {
    width: 94px;
    color: white;
    background: transparent url(../images/
bt_register.png) no-repeat 0 0;
}

#panel .lost-pwd {
    display: block;
    float:left;
    clear: right;
    padding: 15px 5px 0;
    font-size: 0.85em;
    text-decoration: underline;
}

body,h1,h2,h3,p,quote,small,form,input,ul,li,ol,label{
    /* The reset rules */
    margin:0px;
    padding:0px;
}
```

```css
html {
    background: url("https://static.dal.ca/faculty/
computerscience/_jcr_content/
bgBanner.adaptive.full.high.jpg/
1425919188240.jpg") /*no-repeat center center
fixed;
    -webkit-background-size: cover;
    -moz-background-size: cover;
    -o-background-size: cover;
    background-size: cover;     -- Uncomment for
wider screen compatibilty */
}
body{
    color:black;
    font-size:13px;

    font-family:Arial, Helvetica, sans-serif;
    width: 100%;
}

h1{
    font-size:28px;
    font-weight:bold;
    font-family:"Trebuchet MS",Arial, Helvetica,
sans-serif;
    letter-spacing:1px;
    color:black;
}

h2{
    font-family:"Arial
Narrow",Arial,Helvetica,sans-serif;
    font-size:11px;
    font-weight:normal;
    letter-spacing:1px;
    padding-left:2px;
    text-transform:uppercase;
    white-space:nowrap;
    margin-top:4px;
    color:#515050;
}
```

```css
#main p{
    padding-bottom:8px;
}

.clear{
    clear:both;
}

#main{
    width:800px;
    /* Centering it in the middle of the page */
    margin:60px auto;
}

.container{
    margin-top:20px;
     background-color: rgba(216,184,10, 0.7);
    border:1px solid #4d4d4d;
    padding:15px;

    /* Rounded corners */
    -moz-border-radius:20px;
    -khtml-border-radius: 20px;
    -webkit-border-radius: 20px;
    border-radius:20px;
     overflow:auto;
}

.err{
    color:red;
}

.success{
    color:#00CC00;
}

a, a:visited {
    color:#00BBFF;
    text-decoration:none;
    outline:none;
```

```css
}

a:hover{
    text-decoration:underline;
}

.tutorial-info{
    text-align:center;
    padding:10px;
}

.wrap {
    position:left;
    margin:0 auto;
}

#foot {
    background:#272727;
    width:100%;
    float:left;
    position:fixed;
    bottom:0;
    z-index:999999;
}
body,h1,h2,h3,p,quote,small,form,input,ul,li,ol,label{
    /* The reset rules */
    margin:0px;
    padding:0px;
}

html {
    background: url("https://static.dal.ca/faculty/
computerscience/_jcr_content/
bgBanner.adaptive.full.high.jpg/
1425919188240.jpg") /*no-repeat center center
fixed;
    -webkit-background-size: cover;
    -moz-background-size: cover;
    -o-background-size: cover;
    background-size: cover;      -- Uncomment for
```

```css
wider screen compatibilty */
}

#outerborder{
    background:#084008;
    position: absolute;
    bottom: 0;
    left: 12.5%;
    width: 75%;
    height: 90%;
    -webkit-box-shadow: -1px 1px 2px 2px
rgba(0,0,0,0.5);
     -moz-box-shadow: -1px 1px 2px 2px
rgba(0,0,0,0.5);
       box-shadow: -1px 1px 2px 2px rgba(0,0,0,0.5);
    /* Rounded corners */
    -moz-border-radius:3px;
    -khtml-border-radius: 3px;
    -webkit-border-radius: 3px;
    border-radius:3px;
    border:1px solid white;
     overflow:auto;
}

#innerborder{
    background:#dfdfdf;
    position: fixed;
    bottom: 0;
    left: 15%;
    width: 70%;
    height: 85%;
    -webkit-box-shadow: -1px 1px 2px 4px
rgba(0,0,0,0.8);
     -moz-box-shadow: -1px 1px 2px 4px
rgba(0,0,0,0.8);
       box-shadow:  1px 4px 14px rgba(0,0,0,0.5);
    /* Rounded corners */
    -moz-border-radius:3px;
    -khtml-border-radius: 3px;
    -webkit-border-radius: 3px;
    border-radius:3px;
```

```css
    border:1px solid black;
     overflow:auto;
}

body{
     color:black;
    font-size:13px;

     font-family:Arial, Helvetica, sans-serif;
    width: 100%;
}

h1{
    font-size:28px;
    font-weight:bold;
    font-family:"Trebuchet MS",Arial, Helvetica,
sans-serif;
    letter-spacing:1px;
    color:black;
}

h2{
    font-family:"Arial
Narrow",Arial,Helvetica,sans-serif;
    font-size:11px;
    font-weight:normal;
    letter-spacing:1px;
    padding-left:2px;
    text-transform:uppercase;
    white-space:nowrap;
    margin-top:4px;
    color:black;
}

h3{
    font-family:"Arial
Narrow",Arial,Helvetica,sans-serif;
    font-size:11px;
    font-weight:normal;
    letter-spacing:1px;
    padding-left:2px;
```

```css
    text-transform:uppercase;
    white-space:nowrap;
    margin-top:4px;
    color:black;
}

#main p{
    padding-bottom:8px;
}

.clear{
    clear:both;
}

#main{
    width:800px;
    /* Centering it in the middle of the page */
    margin:20px auto;
}

.container{
    margin-top:20px;
     background-color: #c0c0c0;
    border:1px solid #E0E0E0;
    padding:15px;

    /* Rounded corners */
    -moz-border-radius:20px;
    -khtml-border-radius: 20px;
    -webkit-border-radius: 20px;
    border-radius:5px;
     overflow:auto;
}

.err{
    color:red;
}

.success{
    color:#00CC00;
}
```

```css
a, a:visited {
    color:#00BBFF;
    text-decoration:none;
    outline:none;
}

a:hover{
    text-decoration:underline;
}

.tutorial-info{
    text-align:center;
    padding:10px;
}

.wrap {
    position:left;
    margin:0 auto;
}

#foot {
    background:#272727;
    width:100%;
    float:left;
    position:fixed;
    bottom:0;
    z-index:999999;
}
```

DATABASE

-- MySQL dump 10.13 Distrib 5.5.44, for debian-linux-gnu
(i686)
--

```
-- Host: localhost    Database: onlinebanking
-- -------------------------------------------------------
-- Server version        5.5.44-0+deb7u1

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8 */;
/*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
/*!40103 SET TIME_ZONE='+00:00' */;
/*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS,
FOREIGN_KEY_CHECKS=0 */;
/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO'
*/;
/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;

--
-- Current Database: `onlinebanking`
--

CREATE DATABASE /*!32312 IF NOT EXISTS*/ `onlinebanking` /*!40100
DEFAULT CHARACTER SET latin1 */;

USE `onlinebanking`;

--
-- Table structure for table `account`
--

DROP TABLE IF EXISTS `account`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `account` (
  `a_num` int(11) NOT NULL,
  `type` char(8) NOT NULL,
  `ballance` decimal(16,2) NOT NULL,
  `holds` decimal(8,2) DEFAULT NULL,
  `b_id` int(11) NOT NULL,
  PRIMARY KEY (`a_num`),
  KEY `fk_branch_id` (`b_id`),
  CONSTRAINT `fk_branch_id` FOREIGN KEY (`b_id`) REFERENCES `branch`
(`b_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `account`
--

LOCK TABLES `account` WRITE;
/*!40000 ALTER TABLE `account` DISABLE KEYS */;
INSERT INTO `account` VALUES (1,'checking',17020.12,0.00,1),
(2,'checking',118.43,0.00,1),(3,'checking',352.01,0.00,1),
(4,'checking',0.00,20.00,1),(5,'checking',1029.10,0.00,1),
(6,'checking',1048.49,0.00,1),(7,'checking',11748.49,0.00,1),
(8,'checking',9183.81,0.00,1),(9,'checking',383.74,0.00,1),
(10,'checking',49.05,0.00,1),(11,'checking',4023.05,0.00,1),
(12,'checking',429.55,0.00,1),(13,'checking',632.13,0.00,1),
(14,'checking',732.41,0.00,1),(15,'checking',29.43,0.00,1),
```

```
(16,'checking',0.00,20.00,1),(17,'checking',23.01,0.00,1),
(18,'checking',2.11,0.00,1),(19,'checking',222.86,0.00,1),
(20,'checking',921.93,0.00,1),(21,'savings',11230.00,0.00,2),
(22,'checking',872.00,0.00,2),(23,'checking',122.18,0.00,2),
(24,'savings',71000.00,0.00,2),(25,'checking',7123.29,0.00,2),
(26,'checking',824.08,0.00,2),(27,'checking',980.92,0.00,2),
(28,'checking',41.40,0.00,2),(29,'checking',410.80,0.00,2),
(30,'savings',23000.00,0.00,2),(31,'savings',2214.00,0.00,2),
(32,'checking',1243.00,0.00,2),(33,'checking',431.34,0.00,2),
(34,'checking',135.01,0.00,2),(35,'checking',1304.30,0.00,2),
(36,'checking',43.30,0.00,2),(37,'checking',934.90,0.00,2),
(38,'checking',0.00,20.00,2),(39,'checking',124.99,0.00,2),
(40,'checking',999.99,0.00,3),(41,'checking',9343.33,0.00,3),
(42,'checking',99.24,0.00,3),(43,'savings',41000.24,0.00,3),
(44,'checking',3904.95,0.00,3),(45,'checking',2943.24,0.00,3),
(46,'checking',7102.40,0.00,3),(47,'checking',431.03,0.00,3),
(48,'checking',9373.34,0.00,3),(49,'checking',5343.24,0.00,3),
(50,'savings',235.00,0.00,3),(51,'savings',59412.00,0.00,3),
(52,'checking',42523.00,0.00,3),(53,'checking',424.14,0.00,3),
(54,'checking',862.35,0.00,3),(55,'checking',932.23,0.00,3),
(56,'savings',99999999999999.99,0.00,3);
/*!40000 ALTER TABLE `account` ENABLE KEYS */;
UNLOCK TABLES;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8 */ ;
/*!50003 SET character_set_results = utf8 */ ;
/*!50003 SET collation_connection  = utf8_general_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = '' */ ;
DELIMITER ;;
/*!50003 CREATE*/ /*!50017 DEFINER=`root`@`localhost`*/ /*!50003
TRIGGER acc_check BEFORE UPDATE ON account
FOR EACH ROW
BEGIN
  IF NEW.ballance < 0 THEN
    SET NEW.holds = OLD.holds + 20;
  END IF;
END */;;
DELIMITER ;
/*!50003 SET sql_mode              = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;

--
-- Temporary table structure for view `account_info`
--

DROP TABLE IF EXISTS `account_info`;
/*!50001 DROP VIEW IF EXISTS `account_info`*/;
SET @saved_cs_client      = @@character_set_client;
SET character_set_client = utf8;
/*!50001 CREATE TABLE `account_info` (
  `a_num` tinyint NOT NULL,
  `type` tinyint NOT NULL,
  `ballance` tinyint NOT NULL,
  `holds` tinyint NOT NULL,
  `c_id` tinyint NOT NULL
```

```
) ENGINE=MyISAM */;
SET character_set_client = @saved_cs_client;

--
-- Table structure for table `banker`
--

DROP TABLE IF EXISTS `banker`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `banker` (
  `e_id` int(11) NOT NULL,
  `first_name` char(50) NOT NULL,
  `last_name` char(75) NOT NULL,
  `salary` decimal(12,2) DEFAULT NULL,
  `dob` date NOT NULL,
  `b_id` int(11) NOT NULL,
  `card_number` decimal(16,0) NOT NULL,
  PRIMARY KEY (`e_id`),
  KEY `fk_work_id` (`b_id`),
  CONSTRAINT `fk_work_id` FOREIGN KEY (`b_id`) REFERENCES `branch`
(`b_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `banker`
--

LOCK TABLES `banker` WRITE;
/*!40000 ALTER TABLE `banker` DISABLE KEYS */;
INSERT INTO `banker` VALUES (1,'James','Anderson',
45000.00,'1964-04-21',1,4521124353940201),(2,'Mark','Walker',
42000.00,'1967-02-12',1,4521124353940202),(3,'Mike','Mitchell',
42000.00,'1969-01-04',1,4521124353940203),(4,'Christopher','Allen',
40000.00,'1972-10-07',1,4521124353940204),(5,'Jeff','Carter',
39000.00,'1970-09-29',1,4521124353940205),(6,'Sarah','Hall',
47000.00,'1961-12-24',2,4521124353940206),(7,'Daniel','Hall',
45000.00,'1963-08-17',2,4521124353940207),(8,'John','Phillips',
45000.00,'1965-04-14',2,4521124353940208),(9,'Andre','Turcotte',
48000.00,'1965-03-17',2,4521124353940209),(10,'Joseph','Allen',
42000.00,'1965-03-23',2,4521124353940210),(11,'Marie','Sartre',
42000.00,'1974-07-30',3,4521124353940211),(12,'Donald','King',
50000.00,'1969-10-02',3,4521124353940212),(13,'Elizabeth','Collins',
48000.00,'1972-01-09',3,4521124353940213),(14,'Ricardo','Hernandez',
46000.00,'1972-05-04',3,4521124353940214),(15,'James','Green',
43000.00,'1977-04-15',3,4521124353940215);
/*!40000 ALTER TABLE `banker` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `borrower`
--

DROP TABLE IF EXISTS `borrower`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `borrower` (
  `c_id` int(11) NOT NULL,
  `loan_id` int(11) NOT NULL,
```

```sql
  KEY `c_id` (`c_id`),
  KEY `loan_id` (`loan_id`),
  CONSTRAINT `borrower_ibfk_1` FOREIGN KEY (`c_id`) REFERENCES
`customer` (`c_id`) ON DELETE CASCADE,
  CONSTRAINT `borrower_ibfk_2` FOREIGN KEY (`loan_id`) REFERENCES
`loan` (`loan_id`) ON DELETE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `borrower`
--

LOCK TABLES `borrower` WRITE;
/*!40000 ALTER TABLE `borrower` DISABLE KEYS */;
INSERT INTO `borrower` VALUES (1,1),(2,3),(2,2),(4,4),(9,5),(11,6),
(14,7),(16,8),(18,9),(21,10),(22,11),(25,12),(25,13),(28,14),(39,15),
(31,16),(32,17),(34,18),(41,19),(45,20),(44,21),(10,22),(46,23),
(37,24),(42,25);
/*!40000 ALTER TABLE `borrower` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `branch`
--

DROP TABLE IF EXISTS `branch`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `branch` (
  `b_id` int(11) NOT NULL,
  `branch_address` char(64) NOT NULL,
  `branch_region` char(32) NOT NULL,
  `branch_country` char(2) NOT NULL,
  `branch_city` char(32) NOT NULL,
  `branch_postal` char(12) NOT NULL,
  `branch_phone` int(11) NOT NULL,
  PRIMARY KEY (`b_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `branch`
--

LOCK TABLES `branch` WRITE;
/*!40000 ALTER TABLE `branch` DISABLE KEYS */;
INSERT INTO `branch` VALUES (1,'1871 Hollis St-Suite
100','NS','CA','Halifax','B3J 0C3',2147483647),(2,'700 Place d
\'Youville','QC','CA','Quebec City','G1R 3P2',2147483647),(3,'200 Bay
St','ON','CA','Toronto','M5J 2J5',2147483647);
/*!40000 ALTER TABLE `branch` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `customer`
--

DROP TABLE IF EXISTS `customer`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
```

```
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `customer` (
  `c_id` int(11) NOT NULL,
  `card_number` decimal(16,0) DEFAULT NULL,
  `passwd` char(32) NOT NULL,
  `first_name` char(50) DEFAULT NULL,
  `last_name` char(75) NOT NULL,
  `address` char(64) DEFAULT NULL,
  `city` char(32) DEFAULT NULL,
  `country` char(2) DEFAULT NULL,
  `postal_code` char(16) DEFAULT NULL,
  `dob` date DEFAULT NULL,
  `banker` int(11) NOT NULL,
  PRIMARY KEY (`c_id`),
  UNIQUE KEY `unique_card` (`card_number`),
  KEY `fk_banker_id` (`banker`),
  CONSTRAINT `fk_banker_id` FOREIGN KEY (`banker`) REFERENCES `banker`
(`e_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `customer`
--

LOCK TABLES `customer` WRITE;
/*!40000 ALTER TABLE `customer` DISABLE KEYS */;
INSERT INTO `customer` VALUES
(1,4540025121478301,'123456','Carol','Parker','22 robinson
dr.','Halifax','CA','B7L 1K3','1982-03-20',1),
(2,4540025121478302,'58b4e38f66bcdb546380845d6af27187','Syndrom','Parki
nson','10 brunswick dr.','Halifax','CA','B7L 1K1','1982-04-11',1),
(3,4540025121478303,'e9fbf92f363e00e495b75aea68a20395','Lisa','Garcia',
'37 brunswick dr.','Halifax','CA','B3L 1K1','1984-05-08',1),
(4,4540025121478304,'58b4e38f66bcdb546380845d6af27187','Jeff','Evans','
71 brunswick dr.','Halifax','CA','B3L 1K4','1983-07-11',2),
(5,4540025121478305,'f73d7a272eaae495900df632965c5265','Chicken','Cambp
ell','11 Robie dr.','Halifax','CA','B3L 1J8','1983-11-09',2),
(6,4540025121478306,'07631128992a7461d6226b02724a7a47','Summer','Camp',
'11 Sackville dr.','Halifax','CA','B3K 1J2','1967-01-07',2),
(7,4540025121478307,'ed44beb2b63aaebfc5061ff49c413995','Herald','Jenkin
s','11 Sackville dr.','Halifax','CA','B3I 1J9','1923-01-08',3),
(8,4540025121478308,'d114cdfe5aaa6925112d87b4878ae06d','Marie','Baker',
'92 Crow cr.','Halifax','CA','B3T 1K9','1935-02-04',3),
(9,4540025121478309,'6bcac4aeff5cd16ca48da2d9be231ebe','Frank','Bastard
','41 Springfield dr.','Halifax','CA','B3T 1H2','1941-04-11',4),
(10,4404330022180209,'f4ef214abe2f7ef7aa5a20255e93cbf4','Alexander','Ro
binson','41 Sackville dr.','Halifax','CA','B3T 1L2','1943-03-12',4),
(11,4404330022180210,'d0c6f41c48021a0e8335accf867188f4','Kenneth','Robi
nson','41 Sackville dr.','Halifax','CA','B3T 1L1','1951-12-17',4),
(12,4404330022180211,'a6d70b0b180dae9ac94e90d5fa39aba5','Max','Martin',
'19 Queen dr.','Halifax','CA','B3T 1T1','1999-11-11',5),
(13,4404330022180212,'a6d70b0b180dae9ac94e90d5fa39aba5','Thomas','Marti
n','19 Queen dr.','Halifax','CA','B3T 1T1','1963-02-01',5),
(14,4404330022180213,'a6d70b0b180dae9ac94e90d5fa39aba5','Jennifer','Mar
tin','19 Queen dr.','Halifax','CA','B3T 1T1','1963-04-12',5),
(15,4404330022180214,'2b867b11b2d488d36d5c8981fed12ff1','Kenneth','Whit
e','1900 Watter st.','Halifax','CA','B3T 1X1','1988-02-22',5),
(16,4404330022180215,'9f906341c724e96c30450e73578ac487','Anne','Ste-
Piere','8231 Ste-Foy','Quebec City','CA','G1T 1X1','1982-02-20',6),
```

(17,4404330022180216,'e9c122f3bf5fb113a9a15dc07578de50','David','Lapierre','24 Commercial rue.','Quebec City','CA','G5L 1X3','1986-07-21',6),
(18,4404330022180217,'62fd7eef6738b488e68e5c556bb995c3','Rick','Pedro','42 Commercial rue.','Quebec City','CA','G2L 1X4','1993-02-03',6),
(19,4404330022180218,'b641b6638b0f61092bbaa45c99aa72c3','Simmon','Veilleux','Saint-Jean rue','Quebec City','CA','G2L 1D4','1990-05-05',7),
(20,4404330022180219,'b0e7224319b3c8569be631881474abcf','Peedee','Puffin','Charest ave','Quebec City','CA','G2P 1K4','1984-05-18',7),
(21,4404330022180220,'5f4dcc3b5aa765d61d8327deb882cf99','Sarge','Schau','1244 Saint-Jean ch.','Quebec City','CA','D2P 1R4','1977-09-22',8),
(22,4404330022180221,'bdc87b9c894da5168059e00ebffb9077','Jean-Paul','Trudeau','142 St Joseph','Quebec City','CA','G2P 1T4','1979-11-16',8),
(23,4404330022180222,'59f5719b74522b6d8fbf52f090a77eca','Simone','Trudeau','142 St Joseph','Quebec City','CA','G2P 1T4','1979-11-16',8),
(24,4404330022180223,'5f4dcc3b5aa765d61d8327deb882cf99','Raymond','Robertson','213 Drack rue','Quebec City','CA','G4T 3R2','1966-02-06',9),
(25,4404330022180224,'bdc87b9c894da5168059e00ebffb9077','Christopher','Robertson','213 Drack rue','Quebec City','CA','G4T 3R2','1974-12-14',9),
(26,4404330022180225,'277d3ebc1fc0a21d50db031c9849f868','Ray','Robertson','213 Drack rue','Quebec City','CA','G4T 3R2','2003-02-11',9),
(27,4404330022180226,'402fd6af80d80e346b96c89d37aae805','David','Rousseau','24 Saunier rue','Quebec City','CA','G4T 8T2','1992-09-19',10),
(28,4404330022180227,'61fd809f2d7cfdd91cddc057f3ab65f1','Sean','Richards','73 Sommait rue','Quebec City','CA','G5T 5C2','1993-11-19',10),
(29,4404330022180228,'a9975bb2c410306f9c90560657da79a2','Odessa','Rice','3 Cartier rue','Quebec City','CA','G5T 1C4','1956-05-29',10),
(30,4404330022180229,'5f4dcc3b5aa765d61d8327deb882cf99','Kevin','Rice','3 Cartier rue','Quebec City','CA','G5T 1C4','2009-11-21',10),
(31,4404330022180230,'dec891ce8418e5bc69177f5ae2388a32','Kim','Redds','41 Tongue st.','Toronto','CA','M4L 2C1','1991-03-21',11),
(32,4404330022180231,'84fe120fae9b787b3da40b70cae25cac','Mike','Black','41 Tongue st.','Toronto','CA','M4L 2C1','1998-08-11',11),
(33,4404330022180232,'7f51272ceab12ff751d93522da8edf2f','Jay','Dumbard','491 Stewart st.','Toronto','CA','M0J 1J1','1983-10-10',11),
(34,4404330022180233,'e8dca7cbed3f959b3ecb0b135b4b1707','Karrie','Garret','92 Garner st.','Toronto','CA','M4J 3D1','1943-02-22',11),
(35,4404330022180234,'0db9caf79e1c79f239411a52fc06b405','Santa','Drew','71 Garner st.','Toronto','CA','M4J 3D1','1945-12-31',11),
(36,4404330022180235,'451ebf12064b826f3c773f737808c254','Jack','Seymour','71 Hurt st.','Toronto','CA','M4J 30','1976-11-19',12),
(37,4404330022180236,'499ca86077111653321e583ef73dae7d','Lee','Kei','718 Tabbet st.','Toronto','CA','M4K 3D0','1979-03-19',12),
(38,4404330022180237,'0cbdf75e6c838aa0542d8c45c179b5fe','Lara','Kirk','882 Trevor st.','Toronto','CA','M3L 3D0','1990-04-29',13),
(39,4404330022180238,'31e80aacf74f7171e536a1287ee13603','Sandra','Fraser','8 Travis st.','Toronto','CA','M3L 0R3','1973-10-20',13),
(40,4404330022180239,'5d9a31605bf532bc3bd6e4250c77d5e2','Melissa','Power','9231 Turtle st.','Toronto','CA','M3L 2O0','1974-10-11',13),
(41,4404330022180240,'eb6d55628f5d2365000a0947f095998e','Sarah','Martin','9231 Turks st.','Toronto','CA','M4L 2R0','1987-06-14',13),
(42,4404330022180241,'9e732d703776f6a241f86029ca5a516f','Ronald','MacDonald','9231 Turks st.','Toronto','CA','M4L 2R0','1987-06-14',13),
(43,4404330022180242,'aa2d672f8cced0becb0f05f28bd64a91','Hannah','Cocks','914 Rock st.','Toronto','CA','M3L 2T0','1989-10-10',14),
(44,4404330022180243,'533e529b0b6b76985834dcf129ff1666','Drake','Cocks','914 Rock st.','Toronto','CA','M3L 2T0','1989-10-10',14),
(45,4404330022180244,'1510e7104e3918824dca89a13fcb9e34','Mike','Hawk','462 Rockalnd st.','Toronto','CA','M3T 5T4','1984-10-24',15),

```
(46,4404330022180245,'39d96ef52f8457e09897dbf36d2643e8','Mike','Littori
s','462 Rockalnd st.','Toronto','CA','M3T 5T4','1982-08-01',15),
(47,4404330022180246,'bfac43cf998743cf28ab2df433f405ae','Carol','Leak',
'462 Duvet st.','Toronto','CA','M3T 5R5','1990-10-12',15),
(48,4404330022180247,'0655205d2c277ecc9de8ce9ddc6893bd','Rick','Leak','
462 Duvet st.','Toronto','CA','M3T 5R5','1994-08-10',15);
/*!40000 ALTER TABLE `customer` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Temporary table structure for view `customer_info`
--

DROP TABLE IF EXISTS `customer_info`;
/*!50001 DROP VIEW IF EXISTS `customer_info`*/;
SET @saved_cs_client     = @@character_set_client;
SET character_set_client = utf8;
/*!50001 CREATE TABLE `customer_info` (
  `c_id` tinyint NOT NULL,
  `first_name` tinyint NOT NULL,
  `last_name` tinyint NOT NULL,
  `address` tinyint NOT NULL,
  `city` tinyint NOT NULL,
  `country` tinyint NOT NULL,
  `postal_code` tinyint NOT NULL,
  `dob` tinyint NOT NULL,
  `banker_id` tinyint NOT NULL,
  `banker_fname` tinyint NOT NULL,
  `banker_lname` tinyint NOT NULL
) ENGINE=MyISAM */;
SET character_set_client = @saved_cs_client;

--
-- Table structure for table `depositor`
--

DROP TABLE IF EXISTS `depositor`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `depositor` (
  `c_id` int(11) NOT NULL,
  `a_num` int(11) NOT NULL,
  KEY `c_id` (`c_id`),
  KEY `a_num` (`a_num`),
  CONSTRAINT `depositor_ibfk_1` FOREIGN KEY (`c_id`) REFERENCES
`customer` (`c_id`) ON DELETE CASCADE,
  CONSTRAINT `depositor_ibfk_2` FOREIGN KEY (`a_num`) REFERENCES
`account` (`a_num`) ON DELETE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `depositor`
--

LOCK TABLES `depositor` WRITE;
/*!40000 ALTER TABLE `depositor` DISABLE KEYS */;
INSERT INTO `depositor` VALUES (1,3),(2,4),(3,15),(4,14),(5,1),(6,2),
(7,2),(6,7),(7,13),(8,5),(9,8),(10,12),(11,9),(12,19),(13,20),(14,16),
(15,17),(9,18),(9,6),(15,10),(3,11),(16,39),(17,37),(18,21),(18,22),
```

```
(19,22),(19,23),(20,31),(20,34),(21,38),(22,33),(23,24),(24,26),
(25,25),(26,36),(26,35),(27,30),(28,27),(29,28),(30,29),(18,32),
(40,40),(31,56),(32,56),(33,41),(34,42),(35,43),(36,44),(39,45),
(37,46),(38,47),(38,48),(41,49),(42,50),(43,50),(44,51),(45,52),
(46,53),(47,54),(47,55),(48,56);
/*!40000 ALTER TABLE `depositor` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `loan`
--

DROP TABLE IF EXISTS `loan`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `loan` (
  `loan_id` int(11) NOT NULL,
  `interest_rate` decimal(8,2) NOT NULL,
  `ballance` decimal(16,2) NOT NULL,
  `b_id` int(11) NOT NULL,
  PRIMARY KEY (`loan_id`),
  KEY `fk_bank_id` (`b_id`),
  CONSTRAINT `fk_bank_id` FOREIGN KEY (`b_id`) REFERENCES `branch`
(`b_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `loan`
--

LOCK TABLES `loan` WRITE;
/*!40000 ALTER TABLE `loan` DISABLE KEYS */;
INSERT INTO `loan` VALUES (1,2.50,2500.00,1),(2,2.50,700.00,1),
(3,2.50,691.21,1),(4,2.50,24000.00,1),(5,5.00,390000.00,1),
(6,5.00,494300.00,1),(7,2.50,4300.00,1),(8,2.50,443300.00,2),
(9,2.50,853243.00,2),(10,5.00,3414.00,2),(11,5.00,593.00,2),
(12,5.00,835.00,2),(13,5.00,14534.00,2),(14,1.00,1453404.00,2),
(15,5.00,3553.00,2),(16,10.00,34532.00,3),(17,10.00,23452.00,3),
(18,7.50,93243.00,3),(19,7.50,23524.00,3),(20,7.50,543.00,3),
(21,7.50,4333.00,3),(22,7.50,345.00,3),(23,10.00,345000.00,3),
(24,10.00,345342.00,3),(25,7.50,5343.00,3);
/*!40000 ALTER TABLE `loan` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Temporary table structure for view `loan_info`
--

DROP TABLE IF EXISTS `loan_info`;
/*!50001 DROP VIEW IF EXISTS `loan_info`*/;
SET @saved_cs_client     = @@character_set_client;
SET character_set_client = utf8;
/*!50001 CREATE TABLE `loan_info` (
  `loan_id` tinyint NOT NULL,
  `interest_rate` tinyint NOT NULL,
  `ballance` tinyint NOT NULL,
  `c_id` tinyint NOT NULL
) ENGINE=MyISAM */;
SET character_set_client = @saved_cs_client;
```

```
--
-- Dumping routines for database 'onlinebanking'
--
/*!50003 DROP PROCEDURE IF EXISTS `getAccountInfo` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8 */ ;
/*!50003 SET character_set_results = utf8 */ ;
/*!50003 SET collation_connection  = utf8_general_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = '' */ ;
DELIMITER ;;
CREATE DEFINER=`root`@`localhost` PROCEDURE `getAccountInfo`(IN ty
CHAR(11), id INT)
BEGIN
  SELECT ballance, holds FROM account_info WHERE type=ty AND c_id=id;
END ;;
DELIMITER ;
/*!50003 SET sql_mode              = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;
/*!50003 DROP PROCEDURE IF EXISTS `loanPayment` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8 */ ;
/*!50003 SET character_set_results = utf8 */ ;
/*!50003 SET collation_connection  = utf8_general_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = '' */ ;
DELIMITER ;;
CREATE DEFINER=`root`@`localhost` PROCEDURE `loanPayment`(IN acc INT,
amnt DECIMAL(16,2), loan INT)
BEGIN
  UPDATE account
  SET ballance = ballance-amnt WHERE a_num=acc;
  UPDATE loan
  SET ballance = ballance-amnt WHERE loan_id=loan;
END ;;
DELIMITER ;
/*!50003 SET sql_mode              = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;
/*!50003 DROP PROCEDURE IF EXISTS `payHolds` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8 */ ;
/*!50003 SET character_set_results = utf8 */ ;
/*!50003 SET collation_connection  = utf8_general_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = '' */ ;
DELIMITER ;;
CREATE DEFINER=`root`@`localhost` PROCEDURE `payHolds`(IN account INT,
amnt DECIMAL(8,2))
BEGIN   UPDATE account   SET holds = holds-amnt   WHERE a_num =
```

```
account; END ;;
DELIMITER ;
/*!50003 SET sql_mode             = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;
/*!50003 DROP PROCEDURE IF EXISTS `setPassword` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8 */ ;
/*!50003 SET character_set_results = utf8 */ ;
/*!50003 SET collation_connection  = utf8_general_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = '' */ ;
DELIMITER ;;
CREATE DEFINER=`root`@`localhost` PROCEDURE `setPassword`(IN pass
CHAR(32), id INT)
BEGIN
  UPDATE customer SET passwd=pass WHERE c_id=id;
END ;;
DELIMITER ;
/*!50003 SET sql_mode             = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;
/*!50003 DROP PROCEDURE IF EXISTS `transferToAcc` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8 */ ;
/*!50003 SET character_set_results = utf8 */ ;
/*!50003 SET collation_connection  = utf8_general_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = '' */ ;
DELIMITER ;;
CREATE DEFINER=`root`@`localhost` PROCEDURE `transferToAcc`(IN acc1
INT, amnt DECIMAL(16,2), acc2 INT)
BEGIN
  UPDATE account
  SET ballance = ballance-amnt WHERE a_num=acc1;
  UPDATE account
  SET ballance = ballance+amnt WHERE a_num=acc2;
END ;;
DELIMITER ;
/*!50003 SET sql_mode             = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;

--
-- Current Database: `onlinebanking`
--

USE `onlinebanking`;

--
-- Final view structure for view `account_info`
--
```

```
/*!50001 DROP TABLE IF EXISTS `account_info`*/;
/*!50001 DROP VIEW IF EXISTS `account_info`*/;
/*!50001 SET @saved_cs_client          = @@character_set_client */;
/*!50001 SET @saved_cs_results         = @@character_set_results */;
/*!50001 SET @saved_col_connection     = @@collation_connection */;
/*!50001 SET character_set_client      = utf8 */;
/*!50001 SET character_set_results     = utf8 */;
/*!50001 SET collation_connection      = utf8_general_ci */;
/*!50001 CREATE ALGORITHM=UNDEFINED */
/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */
/*!50001 VIEW `account_info` AS select `a`.`a_num` AS
`a_num`,`a`.`type` AS `type`,`a`.`ballance` AS `ballance`,`a`.`holds`
AS `holds`,`d`.`c_id` AS `c_id` from (`account` `a` join `depositor`
`d`) where (`a`.`a_num` = `d`.`a_num`) */;
/*!50001 SET character_set_client      = @saved_cs_client */;
/*!50001 SET character_set_results     = @saved_cs_results */;
/*!50001 SET collation_connection      = @saved_col_connection */;

--
-- Final view structure for view `customer_info`
--

/*!50001 DROP TABLE IF EXISTS `customer_info`*/;
/*!50001 DROP VIEW IF EXISTS `customer_info`*/;
/*!50001 SET @saved_cs_client          = @@character_set_client */;
/*!50001 SET @saved_cs_results         = @@character_set_results */;
/*!50001 SET @saved_col_connection     = @@collation_connection */;
/*!50001 SET character_set_client      = utf8 */;
/*!50001 SET character_set_results     = utf8 */;
/*!50001 SET collation_connection      = utf8_general_ci */;
/*!50001 CREATE ALGORITHM=UNDEFINED */
/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */
/*!50001 VIEW `customer_info` AS select `c`.`c_id` AS
`c_id`,`c`.`first_name` AS `first_name`,`c`.`last_name` AS
`last_name`,`c`.`address` AS `address`,`c`.`city` AS
`city`,`c`.`country` AS `country`,`c`.`postal_code` AS
`postal_code`,`c`.`dob` AS `dob`,`b`.`e_id` AS
`banker_id`,`b`.`first_name` AS `banker_fname`,`b`.`last_name` AS
`banker_lname` from (`customer` `c` join `banker` `b`) where
(`c`.`banker` = `b`.`e_id`) */;
/*!50001 SET character_set_client      = @saved_cs_client */;
/*!50001 SET character_set_results     = @saved_cs_results */;
/*!50001 SET collation_connection      = @saved_col_connection */;

--
-- Final view structure for view `loan_info`
--

/*!50001 DROP TABLE IF EXISTS `loan_info`*/;
/*!50001 DROP VIEW IF EXISTS `loan_info`*/;
/*!50001 SET @saved_cs_client          = @@character_set_client */;
/*!50001 SET @saved_cs_results         = @@character_set_results */;
/*!50001 SET @saved_col_connection     = @@collation_connection */;
/*!50001 SET character_set_client      = utf8 */;
/*!50001 SET character_set_results     = utf8 */;
/*!50001 SET collation_connection      = utf8_general_ci */;
/*!50001 CREATE ALGORITHM=UNDEFINED */
/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */
/*!50001 VIEW `loan_info` AS select `l`.`loan_id` AS
`loan_id`,`l`.`interest_rate` AS `interest_rate`,`l`.`ballance` AS
```

```
`ballance`,`c`.`c_id` AS `c_id` from (`loan` `l` join `borrower` `c`)
where (`l`.`loan_id` = `c`.`loan_id`) */;
/*!50001 SET character_set_client      = @saved_cs_client */;
/*!50001 SET character_set_results     = @saved_cs_results */;
/*!50001 SET collation_connection      = @saved_col_connection */;
/*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;

/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
/*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;

-- Dump completed on 2015-12-08 17:04:10
```