v ◉ debtmanagement charges
#LoanTax : double
#LoanDirectExpenses : double
#LoanInsurance : double
#LoanQualityAssurance : double
#StatementDirectCost : double
#StatementIndirectCost : double
#DirectCost : double
#InterestExpenses : double
#GovernmentRevenue : double
#LoanInterest : double
#Depreciation : double
🔑id : int(11)

v ◉ debtmanagement customer
▤FirstName : varchar(50)
▤LastName : varchar(50)
▤FullName : varchar(50)
🔑CustomerNationalID : varchar(50)
▤Resident : varchar(50)
▤AddedBy : varchar(50)

v ◉ debtmanagement employee
▤FirstName : varchar(50)
▤LastName : varchar(50)
▤FullName : varchar(50)
🔑EmployeeID : varchar(50)
▤DepartmentName_FK : varchar(50)

v ◉ debtmanagement installments
▤LoanId_FK : varchar(50)
🔑InstallmentID : int(11)
#InstallmentNumber : int(11)
▤CustomerNationalID_FK : varchar(50)
#InstalledAmount : double
#RemainAmount : double
▤EmployeeID_FK : varchar(50)
▣InstallmentDate : datetime

v ◉ debtmanagement loan
🔑LoanID : varchar(50)
▤CustomerNationalID_FK : varchar(50)
▤EmployeeID_FK : varchar(50)
▤loanStatus : varchar(50)
#RequestedAmount : double
#LoanQualityAssurance : double
#LoanInsurance : double
#LoanTax : double
#LoanDirectExpenses : double
#CashReceivable : double
#LoanInterest : double
#ActualDebt : double
▣DateIssued : datetime

v ◉ debtmanagement department
🔑DepartmentName : varchar(50)
▤HeadOfDepartment : varchar(50)

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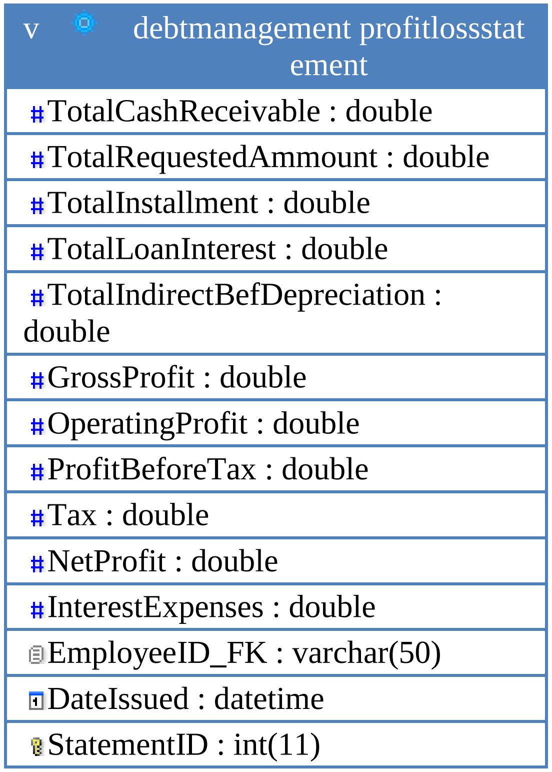
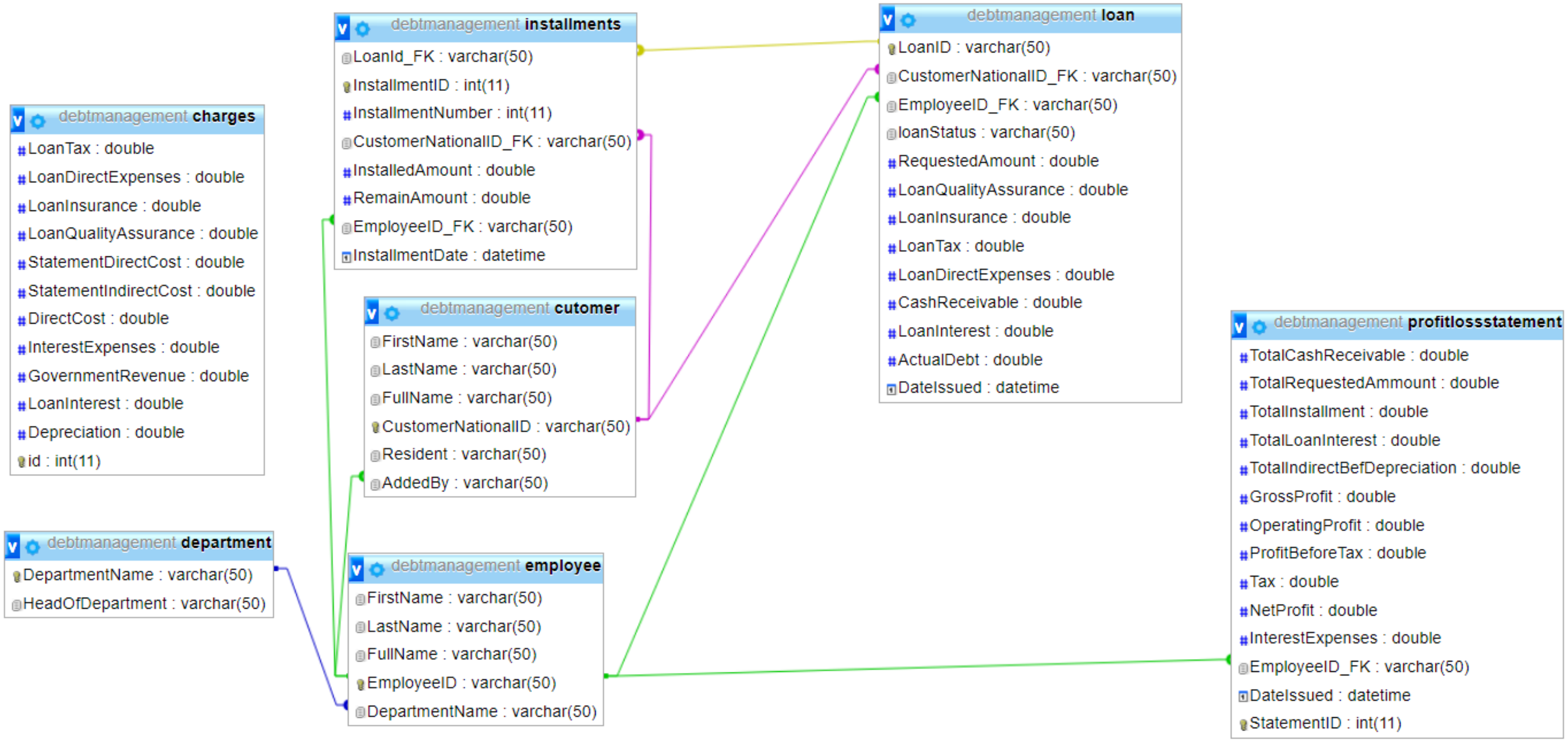


v debtmanagement profitlossstatement
#TotalCashReceivable : double
#TotalRequestedAmmount : double
#TotalInstallment : double
#TotalLoanInterest : double
#TotalIndirectBefDepreciation : double
#GrossProfit : double
#OperatingProfit : double
#ProfitBeforeTax : double
#Tax : double
#NetProfit : double
#InterestExpenses : double
EmployeeID_FK : varchar(50)
DateIssued : datetime
StatementID : int(11)

SCHEMA DESIGN



debtmanagement charges
- LoanTax : double
- LoanDirectExpenses : double
- LoanInsurance : double
- LoanQualityAssurance : double
- StatementDirectCost : double
- StatementIndirectCost : double
- DirectCost : double
- InterestExpenses : double
- GovernmentRevenue : double
- LoanInterest : double
- Depreciation : double
- id : int(11)

debtmanagement department
- DepartmentName : varchar(50)
- HeadOfDepartment : varchar(50)

debtmanagement installments
- LoanId_FK : varchar(50)
- InstallmentID : int(11)
- InstallmentNumber : int(11)
- CustomerNationalID_FK : varchar(50)
- InstalledAmount : double
- RemainAmount : double
- EmployeeID_FK : varchar(50)
- InstallmentDate : datetime

debtmanagement cutomer
- FirstName : varchar(50)
- LastName : varchar(50)
- FullName : varchar(50)
- CustomerNationalID : varchar(50)
- Resident : varchar(50)
- AddedBy : varchar(50)

debtmanagement employee
- FirstName : varchar(50)
- LastName : varchar(50)
- FullName : varchar(50)
- EmployeeID : varchar(50)
- DepartmentName : varchar(50)

debtmanagement loan
- LoanID : varchar(50)
- CustomerNationalID_FK : varchar(50)
- EmployeeID_FK : varchar(50)
- loanStatus : varchar(50)
- RequestedAmount : double
- LoanQualityAssurance : double
- LoanInsurance : double
- LoanTax : double
- LoanDirectExpenses : double
- CashReceivable : double
- LoanInterest : double
- ActualDebt : double
- DateIssued : datetime

debtmanagement profitlossstatement
- TotalCashReceivable : double
- TotalRequestedAmmount : double
- TotalInstallment : double
- TotalLoanInterest : double
- TotalIndirectBefDepreciation : double
- GrossProfit : double
- OperatingProfit : double
- ProfitBeforeTax : double
- Tax : double
- NetProfit : double
- InterestExpenses : double
- EmployeeID_FK : varchar(50)
- DateIssued : datetime
- StatementID : int(11)

Relational Charges

```
CREATE TABLE `charges` (
  `LoanTax` double NOT NULL DEFAULT '0',
  `LoanDirectExpenses` double NOT NULL DEFAULT '0',
  `LoanInsurance` double NOT NULL DEFAULT '0',
  `LoanQualityAssurance` double NOT NULL DEFAULT '0',
  `StatementDirectCost` double NOT NULL DEFAULT '0',
  `StatementIndirectCost` double NOT NULL DEFAULT '0',
  `DirectCost` double NOT NULL DEFAULT '0',
  `InterestExpenses` double NOT NULL,
  `GovernmentRevenue` double NOT NULL,
  `LoanInterest` double NOT NULL,
  `Depreciation` double NOT NULL,
  `id` int(11) AUTO_INCREMENT PRIMARY KEY
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Relational Customer

```
CREATE TABLE `cutomer` (
  `FirstName` varchar(50) NOT NULL,
  `LastName` varchar(50) NOT NULL,
  `FullName` varchar(50) AS (CONCAT(FirstName,' ',LastName)) PERSISTENT,
  `CustomerNationalID` varchar(50) PRIMARY KEY ,
  `Resident` varchar(50) NOT NULL,
  `AddedBy` varchar(50) NOT NULL,
  FOREIGN KEY (AddedBy)references employee(EmployeeID)ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Relational Department

```
CREATE TABLE `department` (
  `DepartmentName` varchar(50) PRIMARY KEY ,
  `HeadOfDepartment` varchar(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Relational Employee

```
CREATE TABLE `employee` (
  `FirstName` varchar(50) NOT NULL,
  `LastName` varchar(50) NOT NULL,
  `FullName` varchar(50) AS (CONCAT(EmployeeID,FirstName,'/',LastName)) PERSISTENT,
  `EmployeeID` varchar(50) PRIMARY KEY,
  `DepartmentName` varchar(50) NOT NULL,
  FOREIGN KEY (DepartmentName)references department(DepartmentName)ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Relational Installment

```
CREATE TABLE `installments` (
  `LoanId_FK` varchar(50) NOT NULL DEFAULT '0',
  `InstallmentID` int(11) PRIMARY KEY AUTO_INCREMENT,
  `InstallmentNumber` int(11) NOT NULL DEFAULT '0',
  `CustomerNationalID_FK` varchar(50) NOT NULL,
  `InstalledAmount` double NOT NULL DEFAULT '0',
  `RemainAmount` double NOT NULL DEFAULT '0',
  `EmployeeID_FK` varchar(50)NOT NULL,
  `InstallmentDate` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
  FOREIGN KEY (EmployeeID_FK)references employee(EmployeeID)ON UPDATE CASCADE,
  FOREIGN KEY (LoanId_FK)references loan(LoanID)ON UPDATE CASCADE,
  FOREIGN KEY (CustomerNationalID_FK) REFERENCES cutomer(CustomerNationalID)ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Relational Loan

```
CREATE TABLE `loan` (
  `LoanID` varchar(50) PRIMARY KEY,
  `CustomerNationalID_FK` varchar(50) NOT NULL,
  `EmployeeID_FK` varchar(50) NOT NULL,
  `loanStatus` varchar(50) NOT NULL DEFAULT 'Active',
  `RequestedAmount` double NOT NULL DEFAULT '0',
  `LoanQualityAssurance` double NOT NULL DEFAULT '0',
  `LoanInsurance` double NOT NULL DEFAULT '0',
  `LoanTax` double NOT NULL DEFAULT '0',
  `LoanDirectExpenses` double NOT NULL DEFAULT '0',
  `CashReceivable` double NOT NULL DEFAULT '0',
  `LoanInterest` double NOT NULL DEFAULT '0',
  `ActualDebt` double NOT NULL DEFAULT '0',
  `DateIssued` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
  FOREIGN KEY (EmployeeID_FK)references employee(EmployeeID)ON UPDATE CASCADE,
  FOREIGN KEY (CustomerNationalID_FK)references cutomer(CustomerNationalID)ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Relational ProfitLossStatement

```
CREATE TABLE `profitlossstatement` (
  `TotalCashReceivable` double NOT NULL,
  `TotalRequestedAmmount` double NOT NULL,
  `TotalInstallment` double default 0,
  `TotalLoanInterest` double default 0,
  `TotalIndirectBefDepreciation` double default 0,
  `GrossProfit` double default 0,
  `OperatingProfit` double default 0,
  `ProfitBeforeTax` double default 0,
  `Tax` double default 0,
  `NetProfit` double default 0,
  `InterestExpenses` double default 0,
  `EmployeeID_FK` varchar(50),
  `DateIssued` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
  `StatementID` int(11) PRIMARY KEY AUTO_INCREMENT,
  foreign key (EmployeeID_FK)references employee (EmployeeID)on update cascade
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

DATABASE PROGRAMS

Compute customer Loan

```
create trigger computeLoan
    before insert on loan
    for each row
    begin
        set new.LoanQualityAssurance=new.RequestedAmount*((select LoanQualityAssurance from 
charges)/100);
        set new.LoanInsurance=new.RequestedAmount*((select LoanInsurance from charges)/100);
        set new.LoanTax=new.RequestedAmount*((select LoanTax from charges)/100);
        set new.LoanDirectExpenses=new.RequestedAmount*((select LoanDirectExpenses from 
charges)/100);
        set new.CashReceivable=new.RequestedAmount-new.LoanQualityAssurance-new.LoanInsurance-
new.LoanTax-new.LoanDirectExpenses;
        set new.LoanInterest=new.RequestedAmount*((select LoanInterest from charges)/100);
        set new.ActualDebt=new.RequestedAmount+new.LoanInterest;
    end $$
```

Compute Installments

```
create trigger computeInstallment
    before insert
    on installments
    for each row
begin
    if(
    select ActualDebt
    from Loan
    where LoanID = new.LoanId_FK)>new.InstalledAmount
        then
            SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'insufficient installment';
    else
            set new.RemainAmount=(select ActualDebt from loan where loan.LoanID=new.LoanId_FK)-
new.InstalledAmount;
end if;
update loan
set loanstatus='Completed'
where loan.LoanID = new.LoanId_FK;
end $$
```

Compute Statement

```
create trigger computeStatement
    before insert on profitlossstatement
    for each row
    begin
        set new.TotalCashReceivable=(select sum(CashReceivable)from loan);
        set new.TotalRequestedAmmount=(select sum(RequestedAmount)from loan);
        set new.TotalInstallment=(select sum(InstalledAmount)from installments);
        set new.TotalLoanInterest=(select sum(LoanInterest)from loan);
        set new.TotalIndirectBefDepreciation=(select StatementIndirectCost from charges);
        set new.GrossProfit=new.TotalInstallment-(select sum(DirectCost)from charges);
        set new.OperatingProfit=new.GrossProfit-new.TotalIndirectBefDepreciation;
        set new.InterestExpenses=new.OperatingProfit*(select InterestExpenses from charges);
        set new.ProfitBeforeTax=new.OperatingProfit-new.InterestExpenses;
        set new.Tax=new.ProfitBeforeTax*(select LoanTax from charges);
        set new.NetProfit=new.ProfitBeforeTax-new.Tax;
        end $$
```

Login Program

```
create function login(username varchar(50), pass_word varchar(50))
returns text
begin
    if (select count(*) from customer where CustomerNationaID=username AND password=pass_word)>0
        then
        return 'welcome to dashboard';
        else
        return 'incorrect username or password';
    end if;
end $$
```

Register Customer Program

```
create procedure InsertCustomer(firstname varchar(50),lastname varchar(50),resident varchar(50),id
varchar(50),addedby varchar(50),pass_word varchar(50))
insert into customer(FirstName, LastName, CustomerNationaID, Resident, password, AddedBy)
values (firstname,lastName,id,resident,pass_word,addedby);
end $$
```

Fetch Loan Program

```
create procedure  selectLoan()
select * from customer,installments,loan WHERE
customer.CustomerNationaID=installments.CustomerNationalID_FK and
customer.CustomerNationaID=loan.CustomerNationalID_FK;
END $$
```

Add Loan Program

```
create function insertLoan(loan_id varchar(50),Customer_id varchar(50),employee_id
varchar(50),requested_amount real)
returns text
begin
if(select count(*)from loan where LoanID=loan_id)>0
then
return 'The Loan ID already Exist';
else
insert into loan(LoanID,CustomerNationaID,EmployeeID,RequestedAmmount)
values(loan_id,Customer_id,employee_id,requested_amount);
```

```
return 'Loan inserted';
end if;
end $$
```

Insert Installment Program

```
create function insertInstallments(Loan_id int,Installment_number varchar (50),Customer_id varchar
(50),installed_amount real)
returns text
begin
insert into installments(LoanId_FK,InstallmentNumber,CustomerNationalID_FK,InstalledAmount)
values
(Loan_id,Installment_number,Customer_id,installed_amount);
return 'Installments Successfully Added !';
end $$
```

PHP

Php program select all loans

```
<?php
$conn=mysqli_connect('localhost','root','','debttutorial');
$execute="CALL selectLoan()";
$response=mysqli_query($conn,$execute);
if(mysqli_num_rows($response)>0)
{
    while($row=mysqli_fetch_array($response))
    {
        $array=[];
        $array=$row;

        $jsonData=json_encode($array, JSON_PRETTY_PRINT);
        echo '<pre>';
        print($jsonData);
    }
}
else
{
    echo 'no record';
}
?>
```

Php program Insert Customer

```
<?php
$conn=mysqli_connect('localhost','root','','debttutorial');

$firstname='';
if(isset($_POST['firstname']))
{
    $firstname=$_POST['firstname'];
}
$lastname='';
if(isset($_POST['lastname']))
{
    $lastname=$_POST['lastname'];
}
$resident='';
if(isset($_POST['resident']))
```

```
{
    $resident=$_POST['resident'];
}
$id='';
if(isset($_POST['id']))
{
    $id=$_POST['id'];
}
$addedBy='';
if(isset($_POST['addedBy']))
{
    $addedBy=$_POST['addedBy'];
}
$execute="select InsertCustomer('$firstname','$lastname','$resident','$id','$addedBy')";
$response=mysqli_query($conn,$execute);
if($response)
{
    echo 'Customer is Added';
}
else
{
    echo 'Error 404';
}
?>
```

Php program Insert Loan

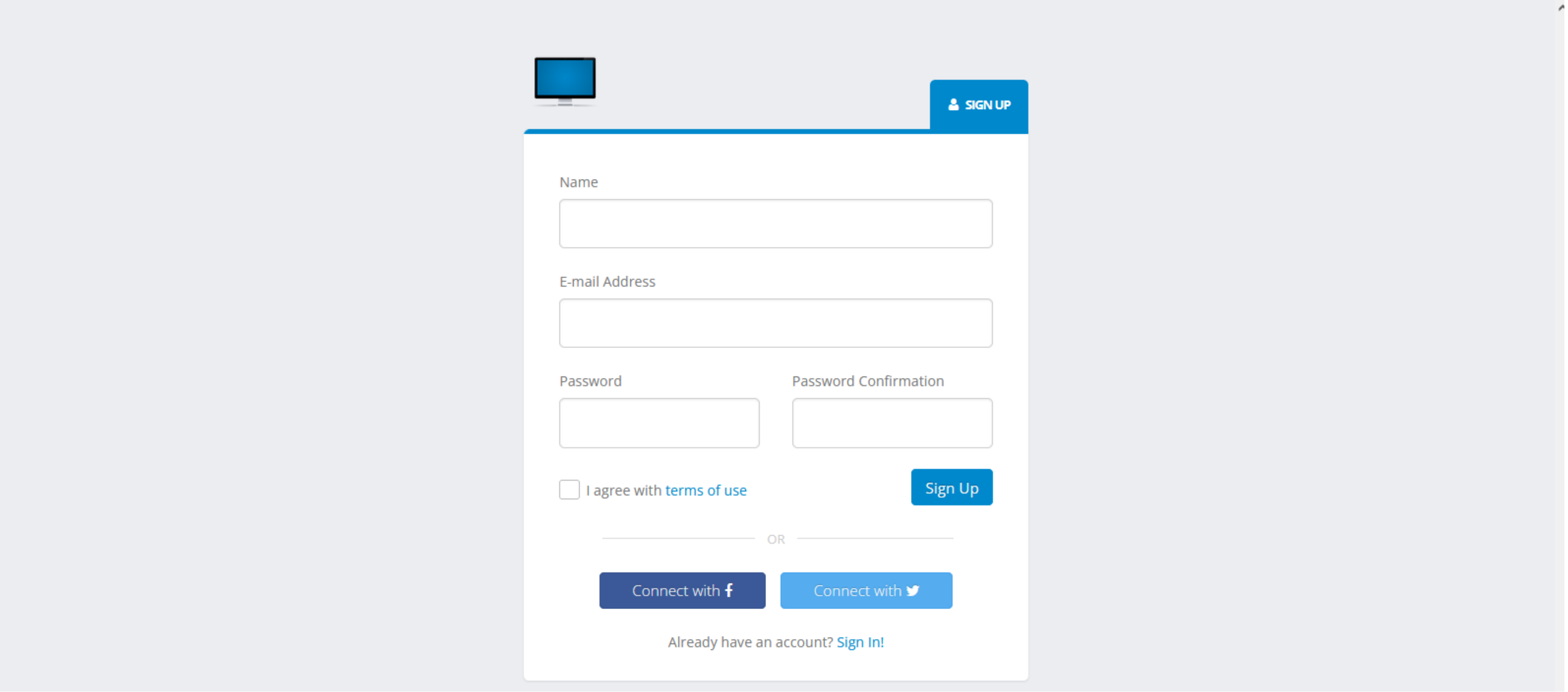
```
<?php
$conn = mysqli_connect('localhost', 'root', '', 'debttutorial');
$loanID = '';
if (isset($_POST['loanID'])) {
    $loanID = $_POST['loanID'];
```

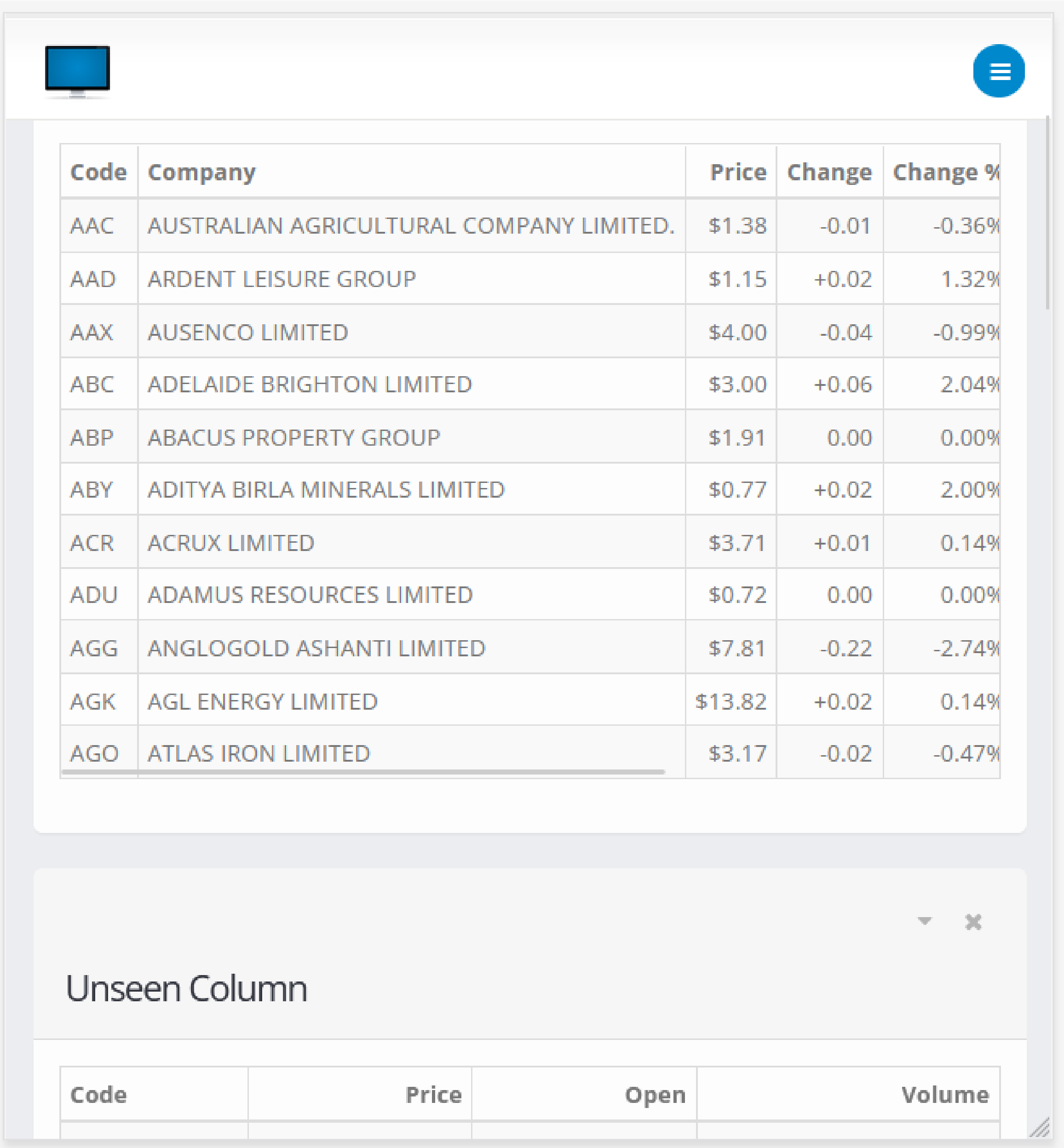
```php
}
$customerID = '';
if (isset($_POST['customerID'])) {
    $customerID = $_POST['customerID'];
}
$employeeID = '';
if (isset($_POST['employeeID'])) {
    $employeeID = $_POST['employeeID'];
}
$requestedAmount = '';
if (isset($_POST['requestedAmount'])) {
    $requestedAmount = $_POST['requestedAmount'];
}
$execute = "select insertLoan('$loanID','$customerID','$employeeID',$requestedAmount)";
$response = mysqli_query($conn, $execute);
if ($response) {
    echo 'Loan is Added';
} else {
    echo 'Error 404';
}
?>
```

Php program Insert Installments

```php
<?php
$conn = mysqli_connect('localhost', 'root', '', 'debttutorial');
$loanID = '';
if (isset($_POST['loanID'])) {
    $loanID = $_POST['loanID'];
}
$customerID = '';
if (isset($_POST['customerID'])) {
    $customerID = $_POST['customerID'];
}
$employeeID = '';
if (isset($_POST['employeeID'])) {
    $employeeID = $_POST['employeeID'];
}
$installedAmount = '';
if (isset($_POST['installedAmount'])) {
    $installedAmount = $_POST['installedAmount'];
}
$installmentNUmber = '';
if (isset($_POST['installmentNUmber'])) {
    $installmentNUmber = $_POST['installmentNUmber'];
}
$execute = "select
insertInstallments('$loanID','$installmentNUmber','$customerID',$installedAmount,'$employeeID')";
$response = mysqli_query($conn, $execute);
if ($response) {
    echo 'Installation is Added';
} else {
    echo 'Error 404';
}
?>
```

WEB INTERFACE SAMPLE


SIGN UP
Name
E-mail Address
Password
Password Confirmation
□ I agree with terms of use
Sign Up
OR
Connect with f
Connect with
Already have an account? Sign In!



Code	Company	Price	Change	Change %
AAC	AUSTRALIAN AGRICULTURAL COMPANY LIMITED.	$1.38	-0.01	-0.36%
AAD	ARDENT LEISURE GROUP	$1.15	+0.02	1.32%
AAX	AUSENCO LIMITED	$4.00	-0.04	-0.99%
ABC	ADELAIDE BRIGHTON LIMITED	$3.00	+0.06	2.04%
ABP	ABACUS PROPERTY GROUP	$1.91	0.00	0.00%
ABY	ADITYA BIRLA MINERALS LIMITED	$0.77	+0.02	2.00%
ACR	ACRUX LIMITED	$3.71	+0.01	0.14%
ADU	ADAMUS RESOURCES LIMITED	$0.72	0.00	0.00%
AGG	ANGLOGOLD ASHANTI LIMITED	$7.81	-0.22	-2.74%
AGK	AGL ENERGY LIMITED	$13.82	+0.02	0.14%
AGO	ATLAS IRON LIMITED	$3.17	-0.02	-0.47%

Unseen Column

Code	Price	Open	Volume

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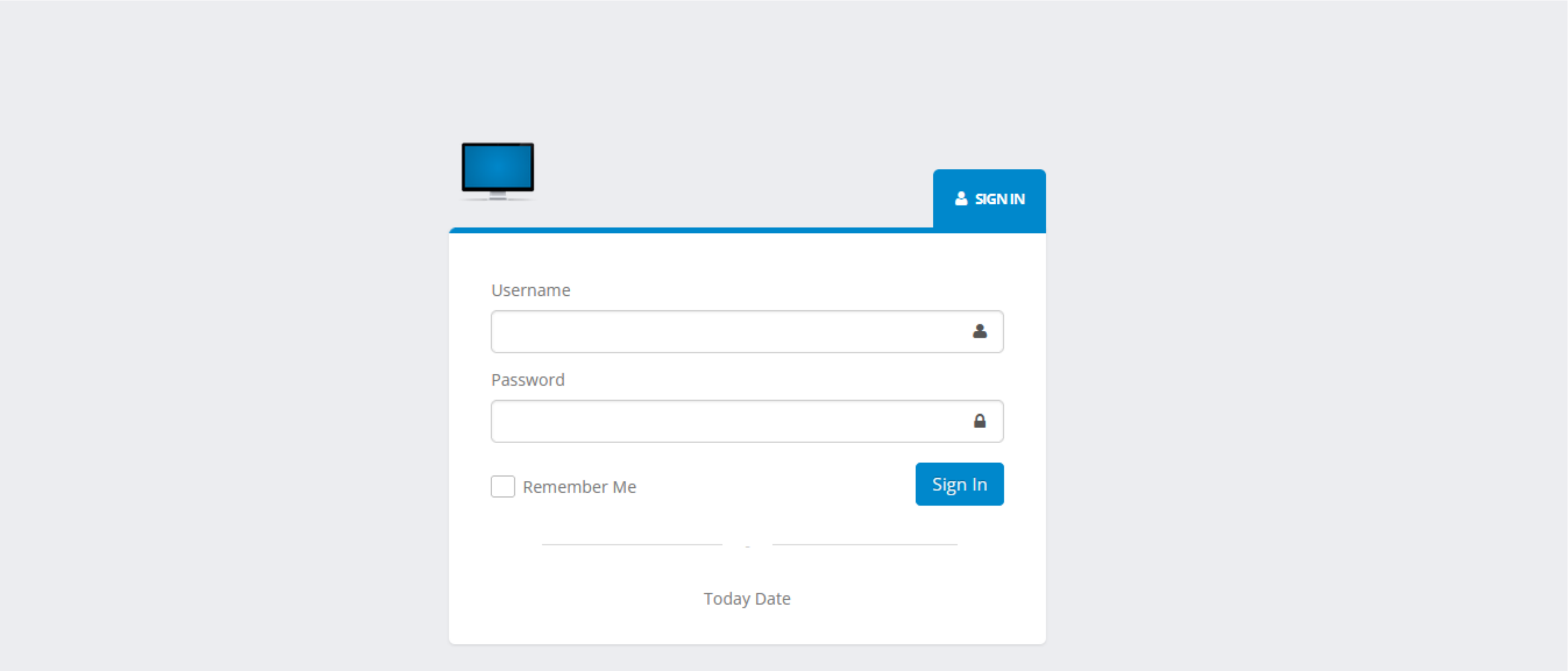

+255 675 839840:   Dodoma Tanzania march-April 2022