Screenshots

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```
mysql> Create Database BidvestBank;
Query OK, 1 row affected (0.01 sec)

mysql> use BidvestBank;
Database changed
mysql> create Table CustomerAccount(
    -> account_number char(10) not null primary key,
    -> branch_name varchar(20),
    ->  balance double
    -> );
Query OK, 0 rows affected (0.06 sec)

mysql> insert into CustomerAccount( account_number, branch_name, balance)
    -> VALUES
    -> ('A-5324', 'Newtown', 500),
    -> ('A-5624', 'Sunnyside', 400),
    -> ('A-7794', 'Midrand', 900),
    -> ('A-4467', 'Mabopane', 700),
    -> ('A-3548', 'Midrand', 750),
    -> ('A-3453', 'Universitas', 700),
    -> ('A-2542', 'Mamelodi', 350);
Query OK, 7 rows affected (0.01 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> create Table BankBranch(
    -> branch_name varchar(20) not null primary key,
    -> branch_city varchar(20),
    -> assets double
    -> );
Query OK, 0 rows affected (0.06 sec)
```

```
mysql> insert into BankBranch( branch_name,branch_city,assets)
    -> VALUES
    -> ('Midrand', 'Johannesburg', 7100000),
    -> ('Newtown', 'Johannesburg', 9000000),
    -> ('Mabopane', 'Pretoria ', 400000) ,
    -> ('Belgravia', 'Kimberly', 3700000),
    -> ('Sunnyside ', 'Pretoria', 1700000),
    -> ('Amanzimtoti', 'Durban', 300000),
    -> ('Universitas', 'Bloemfontein', 210000),
    -> ( 'Mamelodi', 'Pretoria', 8000000);
Query OK, 8 rows affected (0.01 sec)
Records: 8  Duplicates: 0  Warnings: 0
```

```
mysql> create Table Customer(
    -> customer_name varchar(20),
    -> customer_street varchar(20) not null primary key,
    ->  customer_city varchar(20)
    -> );
Query OK, 0 rows affected (0.06 sec)
```

```
mysql> insert into Customer(customer_name,customer_street,customer_city)
    -> VALUES
    -> (' Modise', 'Spring', 'Gearge'),
    -> ('Brooks', 'Senator', 'Johannesburg'),
    -> ('Jooste ', 'North ', 'Kimberly'),
    -> ('Lombard', 'Sand Hiu', 'Nelspruit'),
    ->  (' Mokwena', 'Walnut', 'Port-Elizabeth '),
    -> (' Johnson', 'Mmabatho', 'Mafikeng'),
    ->  (' Johnson', 'Alma', 'Bloemfontein' ),
    -> (' Zwane', 'Main', 'Mafikeng' ),
    -> ('Lindsay', 'Park', 'George' ),
    ->  (' Smith', 'North', 'Kimberly '),
    -> ('Dlamini', 'Putnam', 'Port-Elizabeth'),
    -> ('Williams', 'Nassau', 'Giyane');
Query OK, 12 rows affected (0.01 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

```
mysql> create Table Depositor(
    -> customer_name varchar(20),
    ->  account_number char(20) not null primary key
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> insert into Depositor(customer_name,account_number)
    -> VALUES
    -> ('Johnson', 'A-5624'),
    -> ('Johnson', 'A-5664'),
    -> ('Johnson ', 'A-7794'),
    -> ('Zwane', 'A-3546' ),
    -> ('Lindsay', 'A-3453' ),
    -> ('Smith', 'A-4467'),
    -> ('Dlamini', 'A-2542');
Query OK, 7 rows affected (0.01 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> create Table Loan(
    -> loan_number char(20) not null primary key,
    -> branch_name varchar(20),
    -> amount double
    -> );
Query OK, 0 rows affected (0.10 sec)

mysql> insert into Loan(loan_number, branch_name, amount)
    -> VALUES
    -> ('L-11', 'Mamelodi ', 900),
    -> ('L-14', 'Newtown', 1500),
    -> ('L-15', 'Sunnyside ', 1500),
    -> ('L-16', 'Sunnyside', 1300),
    -> ('L-17', 'Newtown' ,1000),
    -> ('L-23', 'Universitas ', 2000),
    -> (' L-93', 'Mabopane', 500);
Query OK, 7 rows affected (0.01 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> create Table Borrower(
    -> customer_name varchar(20),
    -> loan_number char(20) not null primary key
    -> );
Query OK, 0 rows affected (0.07 sec)
```

```
mysql> insert into Borrower(customer_name, loan_number)
    ->  VALUES
    -> ('Modise', 'L-16'),
    ->  ('Jooste', 'L-93' ),
    -> ('Johnson', 'L-15' );
    -> ('Jackson', 'L-14'),
    -> ('Zwane', 'L-17' );
    ->  ( 'Smith', 'L-11'),
    -> ('Smith', 'L-23 '),
    -> ('Williams', 'L-18');
Query OK, 8 rows affected (0.01 sec)
Records: 8  Duplicates: 0  Warnings: 0
```

```
mysql> create Table Employee(
    -> employee_name varchar(20) not null primary key,
    -> branch_name char(20),
    -> salary double
    -> );
Query OK, 0 rows affected (0.06 sec)

mysql> insert into Employee(employee_name, branch_name, salary)
    -> VALUES
    -> ('Modise', 'Sunnyside', 1500),
    -> ('Brown ', 'Sunnyside', 1300),
    -> (' Gopal', 'Sunnyside ', 5300),
    -> ('Johnson', 'Newtown', 1500),
    -> ('Loreena', 'Newtown', 1300),
    -> ('Peterson ', 'Newtown', 2500),
    -> ('Rao', 'Austin', 1500),
    -> ('Sato', 'Austin', 1600);
Query OK, 8 rows affected (0.01 sec)
Records: 8  Duplicates: 0  Warnings: 0
```

```
mysql> select * from CustomerAccount;
+----------------+--------------+---------+
| account_number | branch_name  | balance |
+----------------+--------------+---------+
| A-2542         | Mamelodi     |     350 |
| A-3453         | Universitas  |     700 |
| A-3548         | Midrand      |     750 |
| A-4467         | Mabopane     |     700 |
| A-5324         | Newtown      |     500 |
| A-5624         | Sunnyside    |     400 |
| A-7794         | Midrand      |     900 |
+----------------+--------------+---------+
7 rows in set (0.01 sec)

mysql> select * from BankBranch;
+-------------+--------------+---------+
| branch_name | branch_city  | assets  |
+-------------+--------------+---------+
| Amanzimtoti | Durban       |  300000 |
| Belgravia   | Kimberly     | 3700000 |
| Mabopane    | Pretoria     |  400000 |
| Mamelodi    | Pretoria     | 8000000 |
| Midrand     | Johannesburg | 7100000 |
| Newtown     | Johannesburg | 9000000 |
| Sunnyside   | Pretoria     | 1700000 |
| Universitas | Bloemfontein |  210000 |
+-------------+--------------+---------+
8 rows in set (0.00 sec)
```

```
mysql> select * from Customer;
+-----------------+-----------------+-----------------+
| customer_name   | customer_street | customer_city   |
+-----------------+-----------------+-----------------+
|  Johnson        | Alma            | Bloemfontein    |
|  Zwane          | Main            | Mafikeng        |
|  Johnson        | Mmabatho        | Mafikeng        |
| Williams        | Nassau          | Giyane          |
|  Smith          | North           | Kimberly        |
| Jooste          | North           | Kimberly        |
| Lindsay         | Park            | George          |
| Dlamini         | Putnam          | Port-Elizabeth  |
| Lombard         | Sand Hiu        | Nelspruit       |
| Brooks          | Senator         | Johannesburg    |
|  Modise         | Spring          | Gearge          |
|  Mokwena        | Walnut          | Port-Elizabeth  |
+-----------------+-----------------+-----------------+
12 rows in set (0.00 sec)

mysql> select * from Depositor;
+-----------------+-----------------+
| customer_name   | account_number  |
+-----------------+-----------------+
| Dlamini         | A-2542          |
| Lindsay         | A-3453          |
| Zwane           | A-3546          |
| Smith           | A-4467          |
| Johnson         | A-5624          |
| Johnson         | A-5664          |
| Johnson         | A-7794          |
+-----------------+-----------------+
7 rows in set (0.00 sec)
```

```
mysql> select * from Loan;
+-------------+-------------+--------+
| loan_number | branch_name | amount |
+-------------+-------------+--------+
|    L-93     | Mabopane    |    500 |
| L-11        | Mamelodi    |    900 |
| L-14        | Newtown     |   1500 |
| L-15        | Sunnyside   |   1500 |
| L-16        | Sunnyside   |   1300 |
| L-17        | Newtown     |   1000 |
| L-23        | Universitas |   2000 |
+-------------+-------------+--------+
7 rows in set (0.00 sec)

mysql> select * from Borrower;
+---------------+-------------+
| customer_name | loan_number |
+---------------+-------------+
| Smith         | L-11        |
| Jackson       | L-14        |
| Johnson       | L-15        |
| Modise        | L-16        |
| Zwane         | L-17        |
| Williams      | L-18        |
| Smith         | L-23        |
| Jooste        | L-93        |
+---------------+-------------+
8 rows in set (0.00 sec)

mysql> select * from Employee;
+---------------+-------------+--------+
| employee_name | branch_name | salary |
+---------------+-------------+--------+
|    Gopal      | Sunnyside   |   5300 |
| Brown         | Sunnyside   |   1300 |
| Johnson       | Newtown     |   1500 |
| Loreena       | Newtown     |   1300 |
| Modise        | Sunnyside   |   1500 |
| Peterson      | Newtown     |   2500 |
| Rao           | Austin      |   1500 |
| Sato          | Austin      |   1600 |
+---------------+-------------+--------+
```

ANSWERS TO QUESTIONS GIVEN

4. i) Find all customer accounts whose balance is smaller than R700.

```
mysql> select * from CustomerAccount where balance < 700;
+----------------+-------------+---------+
| account_number | branch_name | balance |
+----------------+-------------+---------+
| A-2542         | Mamelodi    |     350 |
| A-5324         | Newtown     |     500 |
| A-5624         | Sunnyside   |     400 |
+----------------+-------------+---------+
3 rows in set (0.02 sec)
```

ii) Find all names of customers whose city is in Johannesburg.

iii) Find all employees whose salary is greater than R1500 and working branch is not Newtown.

```
mysql> select * from Customer where customer_city = 'Johannesburg';
+---------------+-----------------+---------------+
| customer_name | customer_street | customer_city |
+---------------+-----------------+---------------+
| Brooks        | Senator         | Johannesburg  |
+---------------+-----------------+---------------+
1 row in set (0.00 sec)

mysql> select * from Employee where salary > 1500 and not branch_name = 'Newtown';
+---------------+-------------+--------+
| employee_name | branch_name | salary |
+---------------+-------------+--------+
| Gopal         | Sunnyside   |   5300 |
| Sato          | Austin      |   1600 |
+---------------+-------------+--------+
2 rows in set (0.00 sec)
```

iv) Calculate the average salary of all employees and show the average salary as "avg_salary"

```
mysql> select employee_name, AVG(salary) AS "avg-salary" From Employee Group By employee_name;
+---------------+------------+
| employee_name | avg-salary |
+---------------+------------+
| Gopal         |       5300 |
| Brown         |       1300 |
| Johnson       |       1500 |
| Loreena       |       1300 |
| Modise        |       1500 |
| Peterson      |       2500 |
| Rao           |       1500 |
| Sato          |       1600 |
+---------------+------------+
8 rows in set (0.01 sec)
```

```
mysql> select AVG(salary) AS "avg-salary" from Employee;
+------------+
| avg-salary |
+------------+
|     2062.5 |
+------------+
1 row in set (0.00 sec)
```

v) Display the bank with the largest number of Assets.

```
mysql> select MAX(Assets) AS "Maximum Balance" from BankBranch;
+-----------------+
| Maximum Balance |
+-----------------+
|         9000000 |
+-----------------+
1 row in set (0.01 sec)
```

5. i) Display the names of all employees who work in Sunnyside branch.

  ii) Display the borrower table.

  iii) Find the account number for all accounts where the balance is greater than R900.

  iv) Find the account number and balance for all accounts from Newtown where the balance is greater than R600.

```
mysql> select * from Employee where branch_name = 'Sunnyside';
+---------------+-------------+--------+
| employee_name | branch_name | salary |
+---------------+-------------+--------+
|   Gopal       | Sunnyside   |  5300  |
|   Brown       | Sunnyside   |  1300  |
|   Modise      | Sunnyside   |  1500  |
+---------------+-------------+--------+
3 rows in set (0.00 sec)

mysql> select * from Borrower;
+---------------+-------------+
| customer_name | loan_number |
+---------------+-------------+
|  Smith        |  L-11       |
|  Jackson      |  L-14       |
|  Johnson      |  L-15       |
|  Modise       |  L-16       |
|  Zwane        |  L-17       |
|  Williams     |  L-18       |
|  Smith        |  L-23       |
|  Jooste       |  L-93       |
+---------------+-------------+
8 rows in set (0.00 sec)

mysql> select * from CustomerAccount where balance > 900;
Empty set (0.00 sec)

mysql> select * from CustomerAccount where Branch_name = 'Newtown'
and balance > 600;
Empty set (0.00 sec)
```

v) Display the branch name and assets from all branches.

```
mysql> select branch_name , assets from BankBranch;
+-------------+---------+
| branch_name | assets  |
+-------------+---------+
| Amanzimtoti |  300000 |
| Belgravia   | 3700000 |
| Mabopane    |  400000 |
| Mamelodi    | 8000000 |
| Midrand     | 7100000 |
| Newtown     | 9000000 |
| Sunnyside   | 1700000 |
| Universitas |  210000 |
+-------------+---------+
8 rows in set (0.00 sec)

mysql>
```