*Assignment 2 :SQL Queries*

**Create tables : With primary key and foreign key constraints generate account number with feature autoincrement**

*branch (branch-name, branch-city, assets)*

*customer (customer-name, customer-street, customer-city)*

*account (account-number, branch-name, balance)*

*loan (loan-number, branch-name, amount)*

*depositor (customer-name, account-number)*

*borrower (customer-name, loan-number)*

*employee (employee-name, branch-name, salary)*

create database assi2bank;

use assi2bank;

/\*--------------------------\*/

create table branch(branchname varchar(20) UNIQUE ,branchcity varchar(20),assets int);

insert into branch values('PUNE BANK','PUNE',100000);

insert into branch values('DELHI BANK','DELHI',150000);

insert into branch values('MUMBAI BANK','MUMBAI',500000);

insert into branch values('GOA BANK','GOA',50000);

select \* from branch;

/\*--------------------------\*/

create table customer(custname varchar(20) UNIQUE,custstate varchar(20),custcity varchar(20));

insert into customer values('AKASH METE','DELHI','NEW DELHI');

insert into customer values('HARSH SHAH','MH','MUMBAI');

insert into customer values('KAUSTUBH KABRA','GOA','GOA CITY');

insert into customer values('ANKIT PATIL','GOA','GOA CITY');

insert into customer values('ASHISH PATIL','MH','PUNE');

insert into customer values('ONASVEE BANARSE','MH','PUNE');

select \* from customer;

/\*--------------------------\*/

create table accountb(accnumber int primary key NOT NULL auto\_increment,

Abranchname varchar(20) ,

Abalance int,

foreign key accountb(Abranchname) references branch(branchname));

insert into accountb values(1001,'PUNE BANK',2000);

insert into accountb (Abranchname ,Abalance)values('PUNE BANK',2600);

insert into accountb (Abranchname ,Abalance)values('DELHI BANK',7900);

insert into accountb (Abranchname ,Abalance)values('MUMBAI BANK',3400);

insert into accountb (Abranchname ,Abalance)values('GOA BANK',5600);

insert into accountb (Abranchname ,Abalance)values('GOA BANK',10600);

select \* from accountb;

/\*--------------------------\*/

create table loan(loannumber int primary key NOT NULL auto\_increment,

Lbranchname varchar(20),

Lamount int,

foreign key (Lbranchname) references branch(branchname));

insert into loan values(101,'PUNE BANK',5000);

insert into loan (Lbranchname ,Lamount)values('GOA BANK',600);

insert into loan (Lbranchname ,Lamount)values('DELHI BANK',900);

insert into loan (Lbranchname ,Lamount)values('GOA BANK',100);

insert into loan (Lbranchname ,Lamount)values('MUMBAI BANK',10000);

select \* from loan;

/\*--------------------------\*/

create table depositor(dcustomername varchar(20),

accountnumber int,

foreign key (dcustomername) references customer(custname),

foreign key (accountnumber) references accountb(accnumber)

);

insert into depositor values('AKASH METE',1001);

insert into depositor values('HARSH SHAH',1003);

insert into depositor values('KAUSTUBH KABRA',1002);

insert into depositor values('ANKIT PATIL',1007);

insert into depositor values('ASHISH PATIL',1005);

insert into depositor values('ONASVEE BANARSE',1006);

select \* from depositor;

/\*--------------------------\*/

create table borrower(bcustomername varchar(20),

bloannumber int,

foreign key (bcustomername) references customer(custname),

foreign key(bloannumber) references loan(loannumber));

insert into borrower values('AKASH METE',101);

insert into borrower values('HARSH SHAH',103);

insert into borrower values('KAUSTUBH KABRA',102);

insert into borrower values('ANKIT PATIL',104);

select\* from borrower;

/\*--------------------------\*/

create table employee(employeename varchar(20),

empbranch varchar(20),

empsalary int,

foreign key (empbranch) references branch(branchname)

);

insert into employee values('emp1','PUNE BANK',10000);

insert into employee values('emp2','DELHI BANK',15000);

insert into employee values('emp3','MUMBAI BANK',50000);

insert into employee values('emp4','GOA BANK',5000);

============================================================================

mysql> show tables ;

+---------------------+

| Tables\_in\_assi2bank |

+---------------------+

| accountb |

| borrower |

| branch |

| customer |

| depositor |

| employee |

| loan |

+---------------------+

7 rows in set (0.00 sec)

mysql> desc accountb;

+-------------+-------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+----------------+

| accnumber | int | NO | PRI | NULL | auto\_increment |

| Abranchname | varchar(20) | YES | MUL | NULL | |

| Abalance | int | YES | | NULL | |

+-------------+-------------+------+-----+---------+----------------+

3 rows in set (0.01 sec)

mysql> desc borrower;

+---------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+---------------+-------------+------+-----+---------+-------+

| bcustomername | varchar(20) | YES | MUL | NULL | |

| bloannumber | int | YES | MUL | NULL | |

+---------------+-------------+------+-----+---------+-------+

2 rows in set (0.00 sec)

mysql> desc branch;

+------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+------------+-------------+------+-----+---------+-------+

| branchname | varchar(20) | YES | UNI | NULL | |

| branchcity | varchar(20) | YES | | NULL | |

| assets | int | YES | | NULL | |

+------------+-------------+------+-----+---------+-------+

3 rows in set (0.00 sec)

mysql> desc customer;

+-----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+-------------+------+-----+---------+-------+

| custname | varchar(20) | YES | UNI | NULL | |

| custstate | varchar(20) | YES | | NULL | |

| custcity | varchar(20) | YES | | NULL | |

+-----------+-------------+------+-----+---------+-------+

3 rows in set (0.00 sec)

mysql> desc depositor;

+---------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+---------------+-------------+------+-----+---------+-------+

| dcustomername | varchar(20) | YES | MUL | NULL | |

| accountnumber | int | YES | MUL | NULL | |

+---------------+-------------+------+-----+---------+-------+

2 rows in set (0.00 sec)

mysql> desc employee

-> ;

+--------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+--------------+-------------+------+-----+---------+-------+

| employeename | varchar(20) | YES | | NULL | |

| empbranch | varchar(20) | YES | MUL | NULL | |

| empsalary | int | YES | | NULL | |

+--------------+-------------+------+-----+---------+-------+

3 rows in set (0.00 sec)

mysql> desc loan;

+-------------+-------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+----------------+

| loannumber | int | NO | PRI | NULL | auto\_increment |

| Lbranchname | varchar(20) | YES | MUL | NULL | |

| Lamount | int | YES | | NULL | |

+-------------+-------------+------+-----+---------+----------------+

3 rows in set (0.00 sec)

============================================================================

mysql> select \* from accountb;

+-----------+-------------+----------+

| accnumber | Abranchname | Abalance |

+-----------+-------------+----------+

| 1001 | PUNE BANK | 2000 |

| 1002 | PUNE BANK | 2600 |

| 1003 | PUNE BANK | 2600 |

| 1004 | DELHI BANK | 7900 |

| 1005 | MUMBAI BANK | 3400 |

| 1006 | GOA BANK | 5600 |

| 1007 | GOA BANK | 10600 |

+-----------+-------------+----------+

7 rows in set (0.01 sec)

mysql> select \* from borrower;

+----------------+-------------+

| bcustomername | bloannumber |

+----------------+-------------+

| AKASH METE | 101 |

| HARSH SHAH | 103 |

| KAUSTUBH KABRA | 102 |

| ANKIT PATIL | 104 |

+----------------+-------------+

4 rows in set (0.00 sec)

mysql> select \* from branch;

+-------------+------------+--------+

| branchname | branchcity | assets |

+-------------+------------+--------+

| PUNE BANK | PUNE | 100000 |

| DELHI BANK | DELHI | 150000 |

| MUMBAI BANK | MUMBAI | 500000 |

| GOA BANK | GOA | 50000 |

+-------------+------------+--------+

4 rows in set (0.01 sec)

mysql> select \* from customer;

+-----------------+-----------+-----------+

| custname | custstate | custcity |

+-----------------+-----------+-----------+

| AKASH METE | DELHI | NEW DELHI |

| HARSH SHAH | MH | MUMBAI |

| KAUSTUBH KABRA | GOA | GOA CITY |

| ANKIT PATIL | GOA | GOA CITY |

| ASHISH PATIL | MH | PUNE |

| ONASVEE BANARSE | MH | PUNE |

+-----------------+-----------+-----------+

6 rows in set (0.00 sec)

mysql> select \* from depositor;

+-----------------+---------------+

| dcustomername | accountnumber |

+-----------------+---------------+

| AKASH METE | 1001 |

| HARSH SHAH | 1003 |

| KAUSTUBH KABRA | 1002 |

| ANKIT PATIL | 1007 |

| ASHISH PATIL | 1005 |

| ONASVEE BANARSE | 1006 |

+-----------------+---------------+

6 rows in set (0.00 sec)

mysql> select \* from employee;

+--------------+-------------+-----------+

| employeename | empbranch | empsalary |

+--------------+-------------+-----------+

| emp1 | PUNE BANK | 10000 |

| emp2 | DELHI BANK | 15000 |

| emp3 | MUMBAI BANK | 50000 |

| emp4 | GOA BANK | 5000 |

+--------------+-------------+-----------+

4 rows in set (0.01 sec)

mysql> select \* from loan;

+------------+-------------+---------+

| loannumber | Lbranchname | Lamount |

+------------+-------------+---------+

| 101 | PUNE BANK | 5000 |

| 102 | GOA BANK | 600 |

| 103 | DELHI BANK | 900 |

| 104 | GOA BANK | 100 |

| 105 | MUMBAI BANK | 10000 |

+------------+-------------+---------+

5 rows in set (0.01 sec)

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**1**. **To find all loan number for loans made at the PUNE branch with loan amounts greater than 2000.**

mysql> select loannumber from loan where Lbranchname='PUNE BANK' and Lamount>2000;

+------------+

| loannumber |

+------------+

| 101 |

+------------+

1 row in set (0.01 sec)

============================================================================

**2. Find the names of all branches that have greater assets Goa branch.**

mysql> select branchname from branch where assets>all (select assets from branch where branchname="GOA BANK");

+-------------+

| branchname |

+-------------+

| PUNE BANK |

| DELHI BANK |

| MUMBAI BANK |

+-------------+

3 rows in set (0.00 sec)

============================================================================

**3. Find all customers who have a loan from bank. Find their names,loan\_no and loan amount.**

mysql> select loannumber,Lamount,bcustomername from loan,borrower where loan.loannumber=borrower.bloannumber;

+------------+---------+----------------+

| loannumber | Lamount | bcustomername |

+------------+---------+----------------+

| 101 | 5000 | AKASH METE |

| 103 | 900 | HARSH SHAH |

| 102 | 600 | KAUSTUBH KABRA |

| 104 | 100 | ANKIT PATIL |

+------------+---------+----------------+

4 rows in set (0.01 sec)

============================================================================

4. List all customers in alphabetical order who have loan from Pune branch.

mysql> select loannumber,bcustomername,Lamount from loan,borrower where loan.loannumber=borrower.bloannumber and Lbranchname='PUNE BANK';

+------------+---------------+---------+

| loannumber | bcustomername | Lamount |

+------------+---------------+---------+

| 101 | AKASH METE | 5000 |

+------------+---------------+---------+

1 row in set (0.01 sec)

============================================================================

**5. Find all customers who have an account or loan or both at bank.**

mysql> select bcustomername from borrower union select dcustomername from depositor;

+-----------------+

| bcustomername |

+-----------------+

| AKASH METE |

| ANKIT PATIL |

| HARSH SHAH |

| KAUSTUBH KABRA |

| ASHISH PATIL |

| ONASVEE BANARSE |

+-----------------+

6 rows in set (0.01 sec)

============================================================================

**6. Find all customers who have both account and loan at bank.**

mysql> select bcustomername from borrower where bcustomername in(select dcustomername from depositor);

+----------------+

| bcustomername |

+----------------+

| AKASH METE |

| ANKIT PATIL |

| HARSH SHAH |

| KAUSTUBH KABRA |

+----------------+

4 rows in set (0.01 sec)

============================================================================

**7. Find average account balance at GOA branch.**

mysql> select Abranchname,avg(Abalance) from accountb where Abranchname='GOA BANK';

+-------------+---------------+

| Abranchname | avg(Abalance) |

+-------------+---------------+

| GOA BANK | 8100.0000 |

============================================================================

**8. Find the average account balance at each branch**

mysql> select Abranchname,avg(Abalance) from accountb group by Abranchname;

+-------------+---------------+

| Abranchname | avg(Abalance) |

+-------------+---------------+

| DELHI BANK | 7900.0000 |

| GOA BANK | 8100.0000 |

| MUMBAI BANK | 3400.0000 |

| PUNE BANK | 2400.0000 |

+-------------+---------------+

4 rows in set (0.00 sec)

============================================================================

**9. Find no. of depositors at each branch.**

mysql> select Abranchname, count(a.accnumber) from depositor,accountb as a where depositor.accountnumber=a.accnumber group by Abranchname;

+-------------+--------------------+

| Abranchname | count(a.accnumber) |

+-------------+--------------------+

| PUNE BANK | 3 |

| MUMBAI BANK | 1 |

| GOA BANK | 2 |

+-------------+--------------------+

3 rows in set (0.01 sec)

============================================================================

**10. Find the branches where average account balance > 2000.**

mysql> select Abranchname ,avg(Abalance) from accountb group by Abranchname having avg(Abalance)>2000;

+-------------+---------------+

| Abranchname | avg(Abalance) |

+-------------+---------------+

| DELHI BANK | 7900.0000 |

| GOA BANK | 8100.0000 |

| MUMBAI BANK | 3400.0000 |

| PUNE BANK | 2400.0000 |

+-------------+---------------+

4 rows in set (0.01 sec)

============================================================================

**Synonym: Live SQL**

create table branch(branchname varchar(20) UNIQUE ,branchcity varchar(20),assets int);

insert into branch values('PUNE BANK','PUNE',100000);

insert into branch values('DELHI BANK','DELHI',150000);

insert into branch values('MUMBAI BANK','MUMBAI',500000);

insert into branch values('GOA BANK','GOA',50000);

select \* from branch;

**BRANCHNAME BRANCHCITY ASSETS**

**PUNE BANK PUNE 100000**

**DELHI BANK DELHI 150000**

**MUMBAI BANK MUMBAI 500000**

**GOA BANK GOA 50000**

create SYNONYM BB for branch;

select \* from BB;

**BRANCHNAME BRANCHCITY ASSETS**

**PUNE BANK PUNE 100000**

**DELHI BANK DELHI 150000**

**MUMBAI BANK MUMBAI 500000**

**GOA BANK GOA 50000**

select \* from branch;

**BRANCHNAME BRANCHCITY ASSETS**

**PUNE BANK PUNE 100000**

**DELHI BANK DELHI 150000**

**MUMBAI BANK MUMBAI 500000**

**GOA BANK GOA 50000**

============================================================================

**Sequences : Live Sql**

create table accounta(accnumber int primary key , Abranchname varchar(20));

CREATE SEQUENCE sequence\_accno1

start with 1

increment by 1

minvalue 0

maxvalue 100

nocycle;

INSERT into accounta VALUES(sequence\_accno1.nextval,'akash');

INSERT into accounta VALUES(sequence\_accno1.nextval,'harsh');

INSERT into accounta VALUES(sequence\_accno1.nextval,'kaustubh');

INSERT into accounta VALUES(sequence\_accno1.nextval,'abcd');

INSERT into accounta VALUES(sequence\_accno1.nextval,'onasvee');

select \* from accounta;

|  |  |
| --- | --- |
| **ACCNUMBER** | **ABRANCHNAME** |
| **1** | **akash** |
| **2** | **harsh** |
| **3** | **kaustubh** |
| **4** | **abcd** |
| **5** | **onasvee** |

create table accountb(accnumber int primary key , Abranchname varchar(20));

CREATE SEQUENCE sequence\_accno

start with 1

increment by 2

minvalue 0

maxvalue 100

nocycle;

INSERT into accountb VALUES(sequence\_accno.nextval,'akash');

INSERT into accountb VALUES(sequence\_accno.nextval,'harsh');

INSERT into accountb VALUES(sequence\_accno.nextval,'kaustubh');

INSERT into accountb VALUES(sequence\_accno.nextval,'abcd');

INSERT into accountb VALUES(sequence\_accno.nextval,'onasvee');

select \* from accountb;

**ACCNUMBER ABRANCHNAME**

**1 akash**

**3 harsh**

**5 kaustubh**

**7 abcd**

**9 onasvee**