Name: Patel anuj
En.NO.: 20012011077
Class: CE:3AB2
SUBJECT: DBMS

PRACTICAL: 3

Perform Followings with SQL
Note: Use Create Command To define Constraint
Table: ACCOUNT_Key

Column name	Data Type	Size	Attributes
Acc_no	Varchar2	5	Primary key / first letter must start with 'A'
Name	Varchar2	30	NOT NULL
City	Varchar2	20	NOT NULL
Balance	Number	10,2	Balance >=500
Loan_taken	Varchar2	3	Values('NO','YES')

Insert following records and Write Appropriate Comment on insertion operation if require.

acc_no	Name	City	Balance	loan_taken
A001	Patel Jigar	Mehsana	50000	YES
A002	Patel Ramesh	Mehsana	50000	YES
A003	Dave Hardik	Ahmedabad	75000	NO
A004	Soni Hetal	Ahmedabad	100000	NO
A005	Sony Atul	Vadodara	100000	YES
A005	Patel Arun	Surat	4000	No
A006	NULL	Baroda	5000	NO
A007	Patel Rachit	NULL	6000	NO
A008	Patel Vir	Mehsana	400	NO
A009	Patel Vyom	Surat	1000	ABC

```
create table account_key(acc_no varchar2(5) primary key check(acc_no like 'A%'), name varchar2(30) not null, city varchar2(20) not null, balance number(10,2) check(balance >= 500), loan_taken varchar2(5) check(loan_taken in('YES','NO')))
```

```
create table account_key(acc_no varchar2(5) primary key check(acc_no like 'A%'), name varchar2(30) not
null, city varchar2(20) not null, balance number(10,2) check(balance >= 500), loan_taken varchar2(5)
check(loan_taken in('YES','NO')))
```

Results Explain Describe Saved SQL History

```
Table created.
```

insert into account_key values('A001', 'Patel Jigar' , 'Mehsana', 50000 , 'YES')

```
create table account_key(acc_no varchar2(5) primary key check(acc_no like 'A%'), na
not null, city varchar2(20) not null, balance number(10,2) check(balance >= 500), l
varchar2(5) check(loan_taken in('YES','NO')))

insert into account_key values('A001', 'Patel Jigar' , 'Mehsana', 50000 , 'YES')

insert into account_key values('A002', 'Patel Ramesh', 'Mehsana', 50000 , 'YES')
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into account_key values('A002', 'Patel Ramesh', 'Mehsana', 50000 , 'YES')

```
insert into account_key values('A001', 'Patel Jigar' , 'Mehsana', 50000 , 'YES')

insert into account_key values('A002', 'Patel Ramesh', 'Mehsana', 50000 , 'YES')

insert into account_key values('A003', 'Dave Hardik', 'Ahmedabad', 75000 , 'NO')

insert into account_key values('A004', 'Soni Hetal', 'Ahmedabad', 100000 , 'NO')
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into account_key values('A003', 'Dave Hardik', 'Ahmedabad', 75000 , 'NO')

```
insert into account_key values('A001', 'Patel Jigar' , 'Mehsana', 50000 , 'YES')

insert into account_key values('A002', 'Patel Ramesh', 'Mehsana', 50000 , 'YES')

insert into account_key values('A003', 'Dave Hardik', 'Ahmedabad', 75000 , 'NO')

insert into account_key values('A004', 'Soni Hetal', 'Ahmedabad', 100000 , 'NO')
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into account_key values('A004', 'Soni Hetal', 'Ahmedabad', 100000 , 'NO')

```
insert into account_key values('A001', 'Patel Jigar' , 'Mehsana', 50000 , 'YES')

insert into account_key values('A002', 'Patel Ramesh', 'Mehsana', 50000 , 'YES')

insert into account_key values('A003', 'Dave Hardik', 'Ahmedabad', 75000 , 'NO')

insert into account_key values('A004', 'Soni Hetal', 'Ahmedabad', 100000 , 'NO')
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into account_key values('A005', 'Sony Atul', 'Vadodara', 100000 , 'YES')

```
insert into account_key values('A002', 'Patel Ramesh', 'Mehsana', 50000 , 'YES')

insert into account_key values('A003', 'Dave Hardik', 'Ahmedabad', 75000 , 'NO')

insert into account_key values('A004', 'Soni Hetal', 'Ahmedabad', 100000 , 'NO')

insert into account_key values('A005', 'Sony Atul', 'Vadodara', 100000 , 'YES')
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into account_key values('A005', 'Patel Arun' , 'Surat' , 4000 , 'NO')

```
insert into account_key values('A005', 'Sony Atul', 'Vadodara', 100000 , 'YES')
insert into account_key values('A005', 'Patel Arun' , 'Surat' , 4000 , 'NO')
insert into account_key values('A006', '' , 'Baroda' , 5000 , 'NO')
insert into account_key values('A007', 'Patel Rachit' , '' , 6000 , 'NO')
insert into account_key values('A008', 'Patel Vir' , 'Mehsana' , 400 , 'NO')
insert into account_key values('A009', 'Patel Vyom' , 'Surat' , 1000 , 'ABC')
```

Results Explain Describe Saved SQL History

```
ORA-00001: unique constraint (SYSTEM.SYS_C004086) violated
```

insert into account_key values('A006', '' , 'Baroda' , 5000 , 'NO')

```
insert into account_key values('A005', 'Sony Atul', 'Vadodara', 100000 , 'YES')
insert into account_key values('A005', 'Patel Arun' , 'Surat' , 4000 , 'NO')
insert into account_key values('A006', '' , 'Baroda' , 5000 , 'NO')
insert into account_key values('A007', 'Patel Rachit' , '' , 6000 , 'NO')
insert into account_key values('A008', 'Patel Vir' , 'Mehsana' , 400 , 'NO')
insert into account_key values('A009', 'Patel Vyom' , 'Surat' , 1000 , 'ABC')
```

Results Explain Describe Saved SQL History

```
ORA-01400: cannot insert NULL into ("SYSTEM"."ACCOUNT_KEY"."NAME")
```

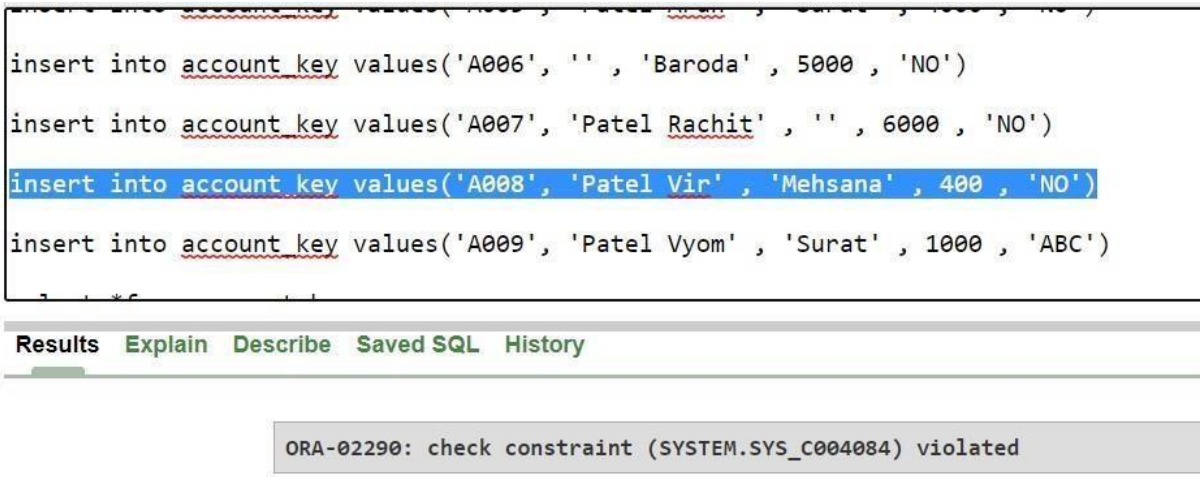
insert into account_key values('A007', 'Patel Rachit' , '' , 6000 , 'NO')

```
insert into account_key values('A006', '' , 'Baroda' , 5000 , 'NO')
insert into account_key values('A007', 'Patel Rachit' , '' , 6000 , 'NO')
insert into account_key values('A008', 'Patel Vir' , 'Mehsana' , 400 , 'NO')
insert into account_key values('A009', 'Patel Vyom' , 'Surat' , 1000 , 'ABC')
```

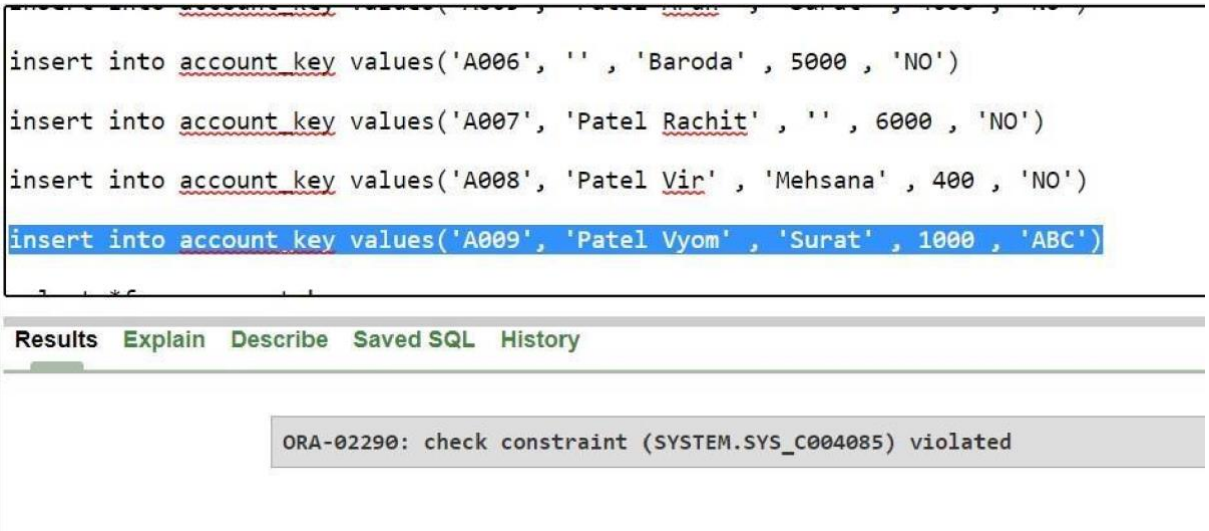
Results Explain Describe Saved SQL History

```
ORA-01400: cannot insert NULL into ("SYSTEM"."ACCOUNT_KEY"."CITY")
```

insert into account_key values('A008', 'Patel Vir' , 'Mehsana' , 400 , 'NO')



insert into account_key values('A009', 'Patel Vyom' , 'Surat' , 1000 , 'ABC')



select *from account_key

```
insert into account_key values('A006', '' , 'Baroda' , 5000 , 'NO')

insert into account_key values('A007', 'Patel Rachit' , '' , 6000 , 'NO')

insert into account_key values('A008', 'Patel Vir' , 'Mehsana' , 400 , 'NO')

insert into account_key values('A009', 'Patel Vyom' , 'Surat' , 1000 , 'ABC')

select *from account_key
```

Results Explain Describe Saved SQL History

ACC_NO	NAME	CITY	BALANCE	LOAN_TAKEN
A001	Patel Jigar	Mehsana	50000	YES
A002	Patel Ramesh	Mehsana	50000	YES
A003	Dave Hardik	Ahmedabad	75000	NO
A004	Soni Hetal	Ahmedabad	100000	NO
A005	Sony Atul	Vadodara	100000	YES

5 rows returned in 0.00 seconds CSV Export

Table: Loan_Key

Column Name	Data Type	Size	Attributes
Loan_no	Varchar2	5	Primary Key / first letter must start with 'L'
Acc_no	Varchar2	5	Foreign key References Acc_no of account table
Loan_amt	Number	10,2	NOT NULL
Interest_rate	Number	5,2	NOT NULL
Loan_date	Date		
Remaining_loan	Number	10,2	Remaining loan<loan amount

Insert followings records.

Loan_no	Acc_no	Loan_amt	Interest_rate	Loan_date	Remaining_loan
L001	A001	100000	7	1-jan-04	75000
L002	A002	300000	9	18-may-04	150000
L003	A005	500000	11	15-june-04	300000

create table loan_key(loan_no varchar2(5) primary key, acc_no varchar2(5) references account_key(acc_no), loan_amt number(10,2)not null, interest_rate number(5,2)not null, loan_date Date, remaining_loan number(10,2), check(loan_no like'L%'),check(remaining_loan<loan_amt))

```
create table loan_key(loan_no varchar2(5) primary key, acc_no varchar2(5) references
account_key(acc_no), loan_amt number(10,2)not null, interest_rate number(5,2)not null, loan_date
Date, remaining_loan number(10,2), check(loan_no like'L%'),check(remaining_loan<loan_amt))

insert into Loan_key values('L001','A001',100000,7,'1-jan-04',75000)

insert into Loan_key values('L002','A002',300000,9,'18-may-04',15000)
```

Results Explain Describe Saved SQL History

```
Table created.
```

insert into loan_key values('L001','A001',100000,7,'1-jan-04',75000)

```
create table loan_key(loan_no varchar2(5) primary key, acc_no varchar2(5
account_key(acc_no), loan_amt number(10,2)not null, interest_rate number
Date, remaining_loan number(10,2), check(loan_no like'L%'),check(remaini

insert into loan_key values('L001','A001',100000,7,'1-jan-04',75000)

insert into loan_key values('L002','A002',300000,9,'18-may-04',15000)
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into loan_key values('L002','A002',300000,9,'18-may-04',150000)

```
create table loan_key(loan_no varchar2(5) primary key, acc_no varchar2(5) re
account_key(acc_no), loan_amt number(10,2)not null, interest_rate number(5,2
Date, remaining_loan number(10,2), check(loan_no like'L%'),check(remaining_l

insert into loan_key values('L001','A001',100000,7,'1-jan-04',75000)

insert into loan_key values('L002','A002',300000,9,'18-may-04',150000)
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into loan_key values('L003','A005',500000,11,'15-june-04',300000)

```
insert into loan_key values('L001','A001',100000,7,'1-jan-04',75000)

insert into loan_key values('L002','A002',300000,9,'18-may-04',150000)

insert into loan_key values('L003','A005',500000,11,'15-june-04',300000)
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

select *from loan_key

```
insert into loan_key values('L001','A001',100000,7,'1-jan-04',75000)

insert into loan_key values('L002','A002',300000,9,'18-may-04',150000)

insert into loan_key values('L003','A005',500000,11,'15-june-04',300000)

select *from loan_key
```

Results Explain Describe Saved SQL History

LOAN_NO	ACC_NO	LOAN_AMT	INTEREST_RATE	LOAN_DATE	REMAINING_LOAN
L001	A001	100000	7	01-JAN-04	75000
L002	A002	300000	9	18-MAY-04	150000
L003	A005	500000	11	15-JUN-04	300000

3 rows returned in 0.04 seconds CSV Export

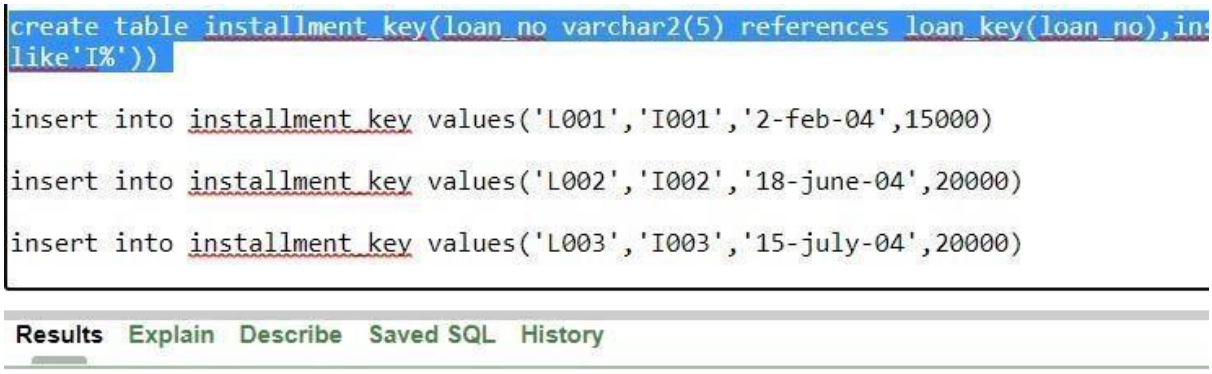
Table : INSTALLMENT_Key

Column Name	Data Type	Size	Attributes
Loan_no	Varchar2	5	Foreign key References Loan_no of Loan table
Inst_no	Varchar2	5	first letter must start with 'I'
IDate	Date		NOT NULL
Amount	Number	10,2	NOT NULL

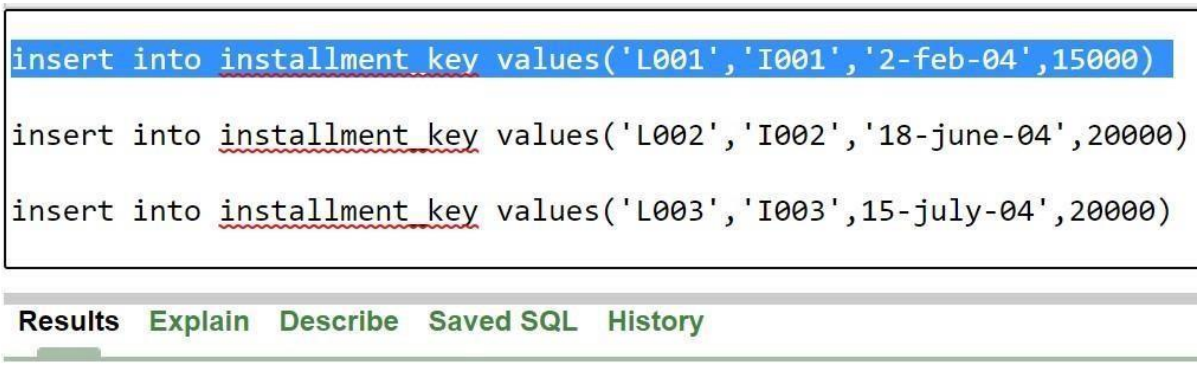
Insert the following records.

Loan_no	Inst_no	Date	Amount
L001	I001	2-Feb-04	15000
L002	I002	18-June-04	20000
L003	I003	15-July-04	20000

create table installment_key(loan_no varchar2(5) references loan_key(loan_no), inst_no varchar2(5),idate date not null,amount number(10,2) not null, check(inst_no like'I%'))



insert into installment_key values('L001','I001','2-feb-04',15000)



insert into installment_key values('L002','I002','18-june-04',20000)

```
insert into installment_key values('L001','I001','2-feb-04',15000)
insert into installment_key values('L002','I002','18-june-04',20000)
insert into installment_key values('L003','I003',15-july-04',20000)
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

insert into installment_key values('L003','I003','15-july-04',20000)

```
insert into installment_key values('L001','I001','2-feb-04',15000)
insert into installment_key values('L002','I002','18-june-04',20000)
insert into installment_key values('L003','I003','15-july-04',20000)
```

Results Explain Describe Saved SQL History

```
1 row(s) inserted.
```

select *from installment_key

```
insert into installment_key values('L002','I002','18-june-04',20000)

insert into installment_key values('L003','I003','15-july-04',20000)

select *from installment_key
```

Results Explain Describe Saved SQL History

LOAN_NO	INST_NO	IDATE	AMOUNT
L001	I001	02-FEB-04	15000
L002	I002	18-JUN-04	20000
L003	I003	15-JUL-04	20000

3 rows returned in 0.11 seconds CSV Export

CONSTRAINTS Based queries.

Create Table: STUDENT

Name of column	Type and Size
Rollno	Varchar2(6)
Name	Varchar2(20)
Branch	Varchar2(6)
Address	Varchar2(20)

create table student(rollno varchar2(6),name varchar2(20),branch varchar2(6),address varchar2(20))

```
create table student(rollno varchar2(6),name varchar2(20),branch varchar2(6),address varchar2(20))

alter table student add constraint PRIM_rollno primary key(rollno)

alter table student modify(name varchar2(20) constraint nn not null,branch varchar2(6) constraint nn1

alter table student add constraint ck check(name=upper(name))
```

Results Explain Describe Saved SQL History

```
Table created.
```

0.01 seconds

Note: Use Alter Command to define Constraint

1. Add PRIMARY KEY (roll no) and provide constraint name PRIM_rollno.

alter table student add constraint PRIM_rollno primary key(rollno)

```
create table student(rollno varchar2(6),name varchar2(20),branch var

alter table student add constraint PRIM_rollno primary key(rollno)

alter table student modify(name varchar2(20) constraint nn not null,
not null)

alter table student add constraint ck check(name=upper(name))
```

Results Explain Describe Saved SQL History

```
Table altered.
```

2. Add NOT NULL constraint to name,branch for student table.

alter table student modify(name varchar2(20) constraint nn not null,branch varchar2(6) constraint nn1 not null)

```
alter table student modify(name varchar2(20) constraint nn not null,branch varchar2(6) constraint nn1 not null)

alter table student add constraint ck check(name=upper(name))
```

Results Explain Describe Saved SQL History

```
Table altered.
```

3. Add check constraint and check name is in capital letter. alter table student add constraint ck check(name=upper(name))

```
alter table student add constraint ck check(name=upper(name))

alter table student drop constraint PRIM_rollno

alter table student drop constraint ck, constraint nn, constrair
```

Results Explain Describe Saved SQL History

```
Table altered.
```

desc student

```
desc student
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **STUDENT**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STUDENT	ROLLNO	Varchar2	6	-	-	1	-	-	-
	NAME	Varchar2	20	-	-	-	-	-	-
	BRANCH	Varchar2	6	-	-	-	-	-	-
	ADDRESS	Varchar2	20	-	-	-	✓	-	-

1 - 4

4. Drop the primary key.

alter table student drop constraint PRIM_rollno

```
alter table student add constraint ck check(name

alter table student drop constraint PRIM_rollno

alter table student drop constraint ck, constrai
```

Results Explain Describe Saved SQL History

```
Table dropped.
```

desc student

```
desc student
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **STUDENT**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STUDENT	ROLLNO	Varchar2	6	-	-	-	✓	-	-
	NAME	Varchar2	20	-	-	-	-	-	-
	BRANCH	Varchar2	6	-	-	-	-	-	-
	ADDRESS	Varchar2	20	-	-	-	✓	-	-

1 - 4

5. Drop the constraint.

alter table student drop constraint ck alter table student drop constraint nn alter table student drop constraint nn1

```
alter table student drop constraint ck
alter table student drop constraint nn
alter table student drop constraint nn1
```

Results Explain Describe Saved SQL History

```
Table dropped.
```

```
alter table student drop constraint ck
alter table student drop constraint nn
alter table student drop constraint nn1
```

Results Explain Describe Saved SQL History

Table dropped.

```
alter table student drop constraint ck
alter table student drop constraint nn
alter table student drop constraint nn1
```

Results Explain Describe Saved SQL History

Table dropped.

Create Table: REGISTER.

Name of column	Type and Size
Rollno	Varchar2(6)
Name	Varchar2(20)

create table register(rollno varchar2(6),name varchar2(20))

```
create table register(rollno varchar2(6),name varchar2(20))

alter table register add constraint fk foreign key(rollno)references student(rollno)
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

Note: Use Alter Command to define Constraint.

1. **Provide foreign key references rollno of student table.**

alter table register add constraint fk foreign key(rollno)references student (rollno)

```
alter table register add constraint fk foreign key(rollno)references student(rollno)

alter table Register add constraint ck1 check(name=initcap(name))

alter table register modify(name constraint nt not null)
```

Results Explain Describe Saved SQL History

```
Table altered.
```

2. **Add check constraint to check name's first letter is always capital.**

   alter table register add constraint ck1 check(name = initcap(name))

```
alter table register add constraint ck1 check(name = initcap(name))

alter table register modify(name constraint nt not null)

alter table register drop constraint fk
```

Results Explain Describe Saved SQL History

```
Table altered.
```

3. **Add NOT NULL constraint to name of register table.** alter table register modify(name constraint nt not null)

```
alter table register add constraint ck1 check(name=initcap
alter table register modify(name constraint nt not null)
alter table register drop constraint fk
alter table register drop constraint nt
```

Results Explain Describe Saved SQL History

```
Table altered.

0.01 seconds
```

4. **Drop foreign key of REGISTER table.**

alter table register drop constraint fk

```
alter table register drop constraint fk
alter table register drop constraint nt
```

Results Explain Describe Saved SQL History

```
Table dropped.
```

5. **Drop NOT NULL constraint.**

alter table register drop constraint nt

```
alter table register drop constraint fk

alter table register drop constraint nt
```

Results Explain Describe Saved SQL History

```
Table dropped.
```

0.03 seconds