

Output : Table created.

Output : Name

	NULL?	Type
BRANCHID	NOT NULL	VARCHAR (10)
BRANCHNAME		VARCHAR (20)
HOD		VARCHAR (20)

Output : Name

	NULL?	Type
USN	NOT NULL	VARCHAR (10)
NAME		VARCHAR (20)
ADDR		VARCHAR (20)
BRANCHID		VARCHAR (10)
SEM		NUMBER (1)

Output : Name

	NULL?	Type
AUTHORID	NOT NULL	VARCHAR (10)
AUTHORNAME		VARCHAR (30)
COUNTRY		VARCHAR (30)
AGE		NUMBER (3)

PART - B

Create the following tables with properly specifying Primary keys, Foreign keys and solve the following queries.

BRANCH (Branchid , Branchname , HOD)

STUDENT (USN, Name , Address, Branchid , sem)

BOOK (Bookid , Bookname , Authorid , Publisher , Branchid )

AUTHOR (Authorid , Authorname , Country , Age )

BORROW (USN , Bookid , Borrowed - Date )

1. Perform the following :

- a. Viewing all databases , Creating a Database , Viewing all Tables in a Database , Creating Tables (with and without Constraints) , Inserting / Updating / Deleting Records in a Table , Saving (Commit) and Undoing (rollback) .

CREATE TABLE branch\_s

(

branchid VARCHAR (10) PRIMARY KEY,

branchname VARCHAR (20),

hod VARCHAR (20)

);

CREATE TABLE student\_s

(

usn VARCHAR (10) PRIMARY KEY,

name VARCHAR (20),

addr VARCHAR (20),

branchid VARCHAR (10),

sem NUMBER (1),

Output : Name

	NULL?
BOOKID	NOT NULL
BOOKNAME	
AUTHORID	
PUBLISHER	
BRANCHID	

Type

VARCHAR (10)
VARCHAR (50)
VARCHAR (10)
VARCHAR (30)
VARCHAR (10)

Output : Name

	NULL?
USN	NOT NULL
BOOKID	
BORROWED - DATE	

Type

VARCHAR (10)
VARCHAR (10)
DATE

Enter value for branchid : b001

Enter value for branchname : BCA

Enter value for hod : Anu

Output : 1 row created.

SAL > /

Enter value for branchid : b002

Enter value for branchname : B.COM

Enter value for hod : Shalini

Output : 1 row created.

SAL > /

Enter value for branchid : b003

Enter value for branchname : B.COM

Enter value for hod : Binu

Output : 1 row created.

DATE.....

PAGE NO.....

EXP. NO.....

CONSTRAINT fk\_bk FOREIGN KEY (branchid) REFERENCES  
branch\_s (branchid)  
);

CREATE TABLE author\_s

(

authorid VARCHAR (10) PRIMARY KEY,
authorname VARCHAR (30),
country VARCHAR (30),
age NUMBER (3)

);

CREATE TABLE book\_s

(

bookid VARCHAR (10) PRIMARY KEY,
bookname VARCHAR (50),
authorid VARCHAR (10),
publisher VARCHAR (30),
branchid VARCHAR (10),

CONSTRAINT fk\_bk1 FOREIGN KEY (branchid) REFERENCES  
branch\_s (branchid),

CONSTRAINT fk\_auth FOREIGN KEY (authorid) REFERENCES  
author\_s (authorid)

);

CREATE TABLE borrow\_s

(

usn VARCHAR (10),
bookid VARCHAR (10),
borrowed_date DATE,

CONSTRAINT pk\_borrow PRIMARY KEY (usn, bookid),

Enter value for usn: u001  
Enter value for name: Abi  
Enter value for addr: Blr  
Enter value for branchid: br001  
Enter value for sem: 4

Output : 1 row created.

SQL > /

Enter value for usn: u002  
Enter value for name: Priya  
Enter value for addr: Chennai  
Enter value for branchid: br002  
Enter value for sem: 2

Output : 1 row created.

SQL > /

Enter value for usn: u003  
Enter value for name: Amu  
Enter value for addr: Chennai  
Enter value for branchid: br003  
Enter value for sem: 5

Output : 1 row created.

SQL > /

Enter value for usn: u004  
Enter value for name: Shalini  
Enter value for addr: kalyan  
Enter value for branchid: br001  
Enter value for sem: 2

Output : 1 row created

DATE.....

PAGE NO.....

EXP. NO.....

CONSTRAINT fk\_stud FOREIGN KEY (usn) REFERENCES

student\_s (usn),

CONSTRAINT fk\_book FOREIGN KEY (bookid) REFERENCES book\_s (bookid)

);

DESC branch\_s

DESC student\_s

DESC author\_s

DESC book\_s

DESC borrow\_s

INSERT INTO branch\_s VALUES ('fbranchid', 'fbranchname',  
'faddr');

INSERT INTO student\_s VALUES ('fusn', 'fname', 'faddr',  
'fbranchid', 'fsem');

INSERT INTO author\_s VALUES ('fauthorid', 'fauthorname',  
'fcountry', 'fage');

INSERT INTO book\_s VALUES ('fbookid', 'fbookname',  
'fauthorid', 'fpublisher', 'fbranchid');

INSERT INTO borrow\_s VALUES ('fusn', 'fbookid', 'fborrowed\_date');

Enter value for authorid : a110  
Enter value for authorname : Manasa  
Enter value for country : India  
Enter value for age : 19

Output : 1 row created.

SQL > /

Enter value for authorid : a111  
Enter value for authorname : Liki  
Enter value for country : India  
Enter value for age : 20

Output : 1 row created.

SQL > /

Enter value for authorid : a112  
Enter value for authorname : Kubra  
Enter value for country : India  
Enter value for age : 18

Output : 1 row created.

Enter value for bookid : 112  
Enter value for bookname : Malory Towers  
Enter value for authorid : a110  
Enter value for publisher : Enid Blyton  
Enter value for branchid : br001

Output : 1 row created.

SQL > /

Enter value for bookid : 113  
Enter value for bookname : St. Clares  
Enter value for authorid : a111

DATE.....

PAGE NO.....

EXP. No.....

SAVEPOINT P1;

SELECT \* FROM branch\_s;

SELECT \* FROM student\_s;

SELECT \* FROM author\_s;

SELECT \* FROM book\_s;

SELECT \* FROM borrow\_s;

DELETE FROM borrow\_s WHERE USN = 'U001';

SAVEPOINT P2;

UPDATE branch\_s

SET hod = 'Anuradha'  
WHERE branchid = 'br001';

ROLLBACK TO P1;

COMMIT;

Enter value for publisher : Enid Blyton

Enter value for branchid : br002

Output : 1 row created.

SQL > /

Enter value for bookid : 114

Enter value for bookname : Malory Towers

Enter value for authorid : a112

Enter value for publisher : Enid Blyton

Enter value for branchid : br003

Output : 1 row created.

Enter value for usn : u001

Enter value for bookid : 112

Enter value for borrowed\_date : 23 - Jun - 22

Output : 1 row created.

SQL > /

Enter value for usn : u002

Enter value for bookid : 113

Enter value for borrowed\_date : 12 - JUN - 22

Output : 1 row created.

SQL > /

Enter value for usn : u003

Enter value for bookid : 114

Enter value for borrowed\_date : 21 - Jun - 22

Output : 1 row created.

Output : Savepoint created.

DATE.....

PAGE No.....

EXP. No.....

Output : BRANCHID      BRANCHNAME      HOD

b1001	BCA	Anu
b1002	BBA	Shalini
b1003	B.COM	Binu

Output : USN      NAME      ADDR      BRANCHID      SEM

U1001	Abi	Bly	b1001	4
U1002	Priya	Chennai	b1002	2
U1003	Amu	Chennai	b1003	5
U1004	Shalini	Kalyan	b1001	2

Output : AUTHORID      AGE      AUTHORNAME      COUNTRY

a110	19	Manasa	India
a111	20	Liki	India
a112	18	Kubra	India

Output : BOOKID      BOOKNAME      BRANCHID      AUTHORID  
PUBLISHER

112	Malory Towers	b1001	a110
Enid Blyton			
113	St. Clare's	b1002	a111
Enid Blyton			
114	Malory Towers	b1003	a112
Enid Blyton			

Output : USN      BOOKID      BORROWED\_DATE

U1001	112	23 - Jun - 22
U1002	113	12 - Jun - 22
U1003	114	21 - Jun - 22

DATE.....	PAGE No.....	EXP. No.....

Output : 1 row deleted.

Output : Savepoint created.

Output : 1 row updated.

Output : Rollback complete.

Output : Commit complete.

DATE..... PAGE No..... EXP. No.....

Output :

USN	NAME	BRANCHNAME
U004	Shalini	BCA

Output :

USN	NAME	ADDR	BRANCHID	SEM
U004	Shalini	Kalyan	brou1	2

DATE.....

PAGE NO.....

EXP. NO.....

2 a. List the details of Students who are all studying in 2nd sem BCA.

b. List the students who have not borrowed any books.

```
SELECT s.usn, s.name, b.branchname  
FROM student_s s, branch_s b  
WHERE s.branchid = b.branchid AND  
branchname = 'BCA' AND  
sem = 2;
```

```
SELECT *  
FROM student_s  
WHERE usn NOT IN (SELECT usn  
FROM borrow_s);
```

Output:

USN	BOOKNAME	BRANCHNAME	AUTHORNAME
U004	Malony Towers	BCA	Manasa

Output :

AUTHORNAME	NUMBER - OF - BOOKS
Manasa	1
Liki	1
Kubra	1

DATE.....

PAGE NO.....

EXP. NO.....

3. a.

Display usn , student\_name , branch\_name , bookname , author\_name , books\_borrowed\_date of 2nd sem BCA students who have borrowed books.

b. Display the number of books written by each Author.

```
SELECT s.usn , s.name , br.branchname , bk.bookname ,  
a.authorname , bo.borrowed_date  
FROM student_s s , branch_s br , book_s bk ,  
author_s a , borrow_s bo  
WHERE br.branchid = s.branchid AND  
br.branchid = bk.branchid AND  
a.authorid = bk.authorid AND  
s.usn = bo.usn AND  
bk.bookid = bo.bookid AND  
branchname = 'BCA' AND  
Sem = 2 ;
```

```
SELECT a.authorname , COUNT(b.bookid) NUMBER_OF_  
BOOKS  
FROM author_s a , book_s b  
WHERE a.authorid = b.authorid  
GROUP BY a.authorname ;
```

Output :

USN	NAME	ADDR
U001	Abi	Btr
U003	Amu	Chennai
U002	Priya	Chennai
U004	Shalini	Chennai

Output :

USN	NAME	ADDR
U003	Amu	Chennai
U001	Abi	Btr
U002	Priya	Chennai
U004	Shalini	Kalyan.

DATE.....

PAGE No.....

EXP. No.....

4.a. Display the student details who borrowed more than 2 books.

b. Display details of students who borrowed books of more than one author.

```
SELECT s.usn , s.name , s.addr  
FROM student_s s , book_s b , borrow_s bo  
WHERE s.usn = bo.usn AND b.bookid = bo.bookid  
GROUP BY s.usn , s.name , s.addr  
HAVING COUNT (s.usn) >= 1;
```

```
SELECT s.usn , s.name , s.addr  
FROM student_s , book_s b , borrow_s bo  
WHERE s.usn = bo.usn AND b.bookid = bo.bookid  
GROUP BY s.usn , s.name , s.addr  
HAVING COUNT (DISTINCT b.authorid) >= 1;
```

Output :

BOOKID	PUBLISHER	BOOKNAME	BRANCHID	AUTHOR
113	Enid Blyton	St. Clares	b1002	a111
114	Enid Blyton	Malory Towers	b1003	a112
112	Enid Blyton	Malory Towers	b1001	a110

Output :

USN	NAME	ADDR	BRANCHID	SEM
U001	Abi	Bh	b1001	4
U002	Priya	Chennai	b1002	2
U003	Amu	Chennai	b1003	5
U004	Shalini	Kalyan	b1001	2

DATE.....

PAGE NO.....

EXP. No.....

s.a.

Display the book names in descending order of their names.

b.

List the details of students who borrowed books which are published by the same publisher.

SELECT \*

FROM book\_s

ORDER BY bookname DESC;

SELECT \* FROM student\_s s

WHERE EXISTS (SELECT usn

FROM borrow\_s bo , book\_s bk

WHERE bo.bookid = bk.bookid AND

s.usn = bo.usn

GROUP BY usn

HAVING COUNT(publisher) = 1);

Output : Table created.

Output : Name --- NULL?  
          USN      NOT NULL  
NAME  
DOB  
BRANCH  
M1  
M2  
M3  
TOTAL  
GPA

	Type
USN	VARCHAR (10)
NAME	VARCHAR (10)
DOB	DATE
BRANCH	VARCHAR (10)
M1	NUMBER (3)
M2	NUMBER (3)
M3	NUMBER (3)
TOTAL	NUMBER (3)
GPA	NUMBER (5,2)

Enter value for usn: U001  
Enter value for name: Tinu  
Enter value for dob: 09-AUG-2002  
Enter value for branch: BBA  
Enter value for m1: 56  
Enter value for m2: 87  
Enter value for m3: 76

Output : 1 row created.

SQL > /

Enter value for usn: U002  
Enter value for name: Benita  
Enter value for dob: 22-NOV-2003  
Enter value for branch: BCA  
Enter value for m1: 45  
Enter value for m2: 67  
Enter value for m3: 77

Output : 1 row created.

PAGE NO.....

EXP. NO.....

Consider the following schema:

STUDENT (usn, name, date\_of\_birth, branch, mark1, mark2, mark3, total, GPA)

6. Perform the following :

a) Create Tables (with and without constraints),  
Inserting / Updating / Deleting Records in a Table,  
Saving (Commit) and Undoing (Rollback)

CREATE TABLE student\_sh

(

  usn VARCHAR (10) PRIMARY KEY,  
  name VARCHAR (10),  
  dob DATE,  
  branch VARCHAR (10),  
  m1 NUMBER (3),  
  m2 NUMBER (3),  
  m3 NUMBER (3),  
  total NUMBER (3),  
  GPA NUMBER (5,2)

);

DESC student\_sh

INSERT INTO student\_sh VALUES ('fusn', 'fname', 'f Dob',  
'f branch', f m1, f m2, f m3, 0, 0);

SAVEPOINT PI;

UPDATE student\_sh  
SET Total = m1 + m2;

SQL > /  
Enter value for usn: 0003  
Enter value for name: kavya  
Enter value for dob: 31-OCT-2003  
Enter value for branch: BBA  
Enter value for m1: 65  
Enter value for m2: 75  
Enter value for m3: 55

Output: 1 row created.

SQL > /  
Enter value for usn: 0004  
Enter value for name: shinu  
Enter value for dob: 25-JAN-2005  
Enter value for branch: BCA  
Enter value for m1: 56  
Enter value for m2: 87  
Enter value for m3: 89

Output: 1 row created.

Output: Savepoint created.

Output: 4 rows updated.

Output: Rollback complete.

Output: 4 rows updated.

Output: Commit complete.

ROLLBACK TO P1;

UPDATE student\_sh

SET total = m1 + m2 + m3;

COMMIT;

Output : 4 rows updated.

Output :	USN	NAME	GPA
	U001	Tinu	7.3
	U002	Benita	6.3
	U003	kavya	6.5
	U004	Shinu	7.73

Output :	USN	NAME	DOB
	U002	Benita	22- NOV -03
	U003	kavya	31- OCT -03

DATE.....

PAGE NO.....

EXP. No.....

7 Execute the following queries:

a. Find the GPA score of all students

b. Find the students who are born on a particular year of birth from the date of Birth column.

UPDATE student\_sh

SET GPA = total/30;

SELECT usn, name, GPA  
FROM student\_sh;

SELECT usn, name, dob

FROM student\_sh

WHERE dob BETWEEN '1-JAN-03' AND '31-DEC-03';