create table branch01(branchid number(10) primary key,branchname varchar(5),hod varchar(100));

desc branch01;

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Table** | | | | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** | | [BRANCH01](javascript:ret_Column('SYSTEM.BRANCH01');) | | | | [BRANCHID](javascript:ret_Column('BRANCHID');) | Number | - | 10 | 0 | 1 | - | - | - | |  | | | | [BRANCHNAME](javascript:ret_Column('BRANCHNAME');) | Varchar2 | 5 | - | - | - | nullable | - | - | |  | | | | [HOD](javascript:ret_Column('HOD');) | Varchar2 | 100 | - | - | - | nullable | - | - | | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | 1 - 3 |  |  | | | | | | | | | | | | | | |  | |  |  |  | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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create table student01(usn number(10) primary key,name varchar(10),address varchar(20),branchid number(10) references branch,sem varchar(5));

desc student01;

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Table** | | | | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** | | [STUDENT01](javascript:ret_Column('SYSTEM.STUDENT01');) | | | | [USN](javascript:ret_Column('USN');) | Number | - | 10 | 0 | 1 | - | - | - | |  | | | | [NAME](javascript:ret_Column('NAME');) | Varchar2 | 10 | - | - | - | nullable | - | - | |  | | | | [ADDRESS](javascript:ret_Column('ADDRESS');) | Varchar2 | 20 | - | - | - | nullable | - | - | |  | | | | [BRANCHID](javascript:ret_Column('BRANCHID');) | Number | - | 10 | 0 | - | nullable | - | - | |  | | | | [SEM](javascript:ret_Column('SEM');) | Varchar2 | 5 | - | - | - | nullable | - | - | | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | 1 - 5 |  |  | | | | | | | | | | | | | | |  |  |  |  | |

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create table author01(authorid number(10) primary key,authorname varchar2(15),country varchar(10),age number(5));

desc author01;

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Table** | | | | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** | | [AUTHOR01](javascript:ret_Column('SYSTEM.AUTHOR01');) | | | | [AUTHORID](javascript:ret_Column('AUTHORID');) | Number | - | 10 | 0 | 1 | - | - | - | |  | | | | [AUTHORNAME](javascript:ret_Column('AUTHORNAME');) | Varchar2 | 15 | - | - | - | nullable | - | - | |  | | | | [COUNTRY](javascript:ret_Column('COUNTRY');) | Varchar2 | 10 | - | - | - | nullable | - | - | |  | | | | [AGE](javascript:ret_Column('AGE');) | Number | - | 5 | 0 | - | nullable | - | - | | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | 1 - 4 |  |  | | | | | | | | | | | | | | |  | |  |  |  | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| --- | --- | --- | --- |
|  |  |  |  |

create table book01(bookid number(5) primary key,bookname varchar2(10),authorid number(10) references author01,publisher varchar(10),branchid number(10) references branch01);

desc book01;

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| --- | --- | --- | --- |
|  |  |  |  |
|  | | | | | |
| **Table** | | | | | | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [BOOK01](javascript:ret_Column('SYSTEM.BOOK01');) | | | | | | [BOOKID](javascript:ret_Column('BOOKID');) | Number | - | 5 | 0 | 1 | - | - | - |
|  | | | | | | [BOOKNAME](javascript:ret_Column('BOOKNAME');) | Varchar2 | 10 | - | - | - | nullable | - | - |
|  | | | | | | [AUTHORID](javascript:ret_Column('AUTHORID');) | Number | - | 10 | 0 | - | nullable | - | - |
|  | | | | | | [PUBLISHER](javascript:ret_Column('PUBLISHER');) | Varchar2 | 10 | - | - | - | nullable | - | - |
|  | | | | | | [BRANCHID](javascript:ret_Column('BRANCHID');) | Number | - | 10 | 0 | - | nullable | - | - |
| |  |  |  |  | | --- | --- | --- | --- | |  |  | 1 - 5 |  | | | | | | | | | | | | | | | | |

create table borrow01(usn number(10) references student03,bookid number(10) references book01,borrowed\_date date);

desc borrow01;

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [BORROW01](javascript:ret_Column('SYSTEM.BORROW01');) | [USN](javascript:ret_Column('USN');) | Number | - | 10 | 0 | - | nullable | - | - |
|  | [BOOKID](javascript:ret_Column('BOOKID');) | Number | - | 10 | 0 | - | nullable | - | - |
|  | [BORROWED\_DATE](javascript:ret_Column('BORROWED_DATE');) | Date | 7 | - | - | - | nullable | - | - |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | 1 - 3 |  |  | | | | | | | | | | |

insert into branch01 values('101','mca','dr.anitha');

insert into branch01 values('102','mca','dr.latha');

insert into branch01 values('103','mca','prof.sapna');

insert into branch01 values('104','mba','dr.rama');

insert into branch01 values('105','mcom','dr.ranjit');

select \* from branch01;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **BRANCHID** | | **BRANCHNAME** | **HOD** | |
| 101 | | mca | dr.anitha | |
| 102 | | mca | dr.latha | |
| 103 | | mca | prof.sapna | |
| 104 | | mba | dr.rama | |
| 105 | | mcom | dr.ranjit | |
|  | |  | [CSV Export](http://127.0.0.1:8080/apex/f?p=4500:1204:1531032573289929::::P1204_BROWSER_LANG:en-us) | |

insert into student03 values(034,'aditya','chennai','101',1);

insert into student03 values(035,'abhi','nepal','102',2);

insert into student03 values(036,'sindhu','delhi','103',3);

insert into student03 values(037,'suma','amdra','104',4);

insert into student03 values(038,'lakshmi','bangalore','105',4);

insert into student03 values(039,'sihi','nepal','103',4);

select \* from student03;

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **USN** | | **NAME** | **ADDRESS** | **BRANCHID** | **SEM** |
| 34 | | aditya | chennai | 101 | 1 |
| 35 | | abhi | nepal | 102 | 2 |
| 36 | | sindhu | delhi | 103 | 3 |
| 37 | | suma | amdra | 104 | 4 |
| 38 | | lakshmi | bangalore | 105 | 4 |
| 39 | | sihi | nepal | 103 | 4 |
| insert into author01 values(023,'vickey koshal','india',45);  insert into author01 values(024,'suman rao','india',59);  insert into author01 values(025,'john harray','america',63);  insert into author01 values(026,'akash reddy','india',40);  insert into author01 values(027,'prem deep','uk',35);  select \* from author01;   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **AUTHORID** | | **AUTHORNAME** | | **COUNTRY** | | **AGE** | | | 23 | | vickey koshal | | india | | 45 | | | 24 | | suman rao | | india | | 59 | | | 25 | | john harray | | america | | 63 | | | 26 | | akash reddy | | india | | 40 | | | 27 | | prem deep | | uk | | 35 | | |  | |  | | [CSV Export](http://127.0.0.1:8080/apex/f?p=4500:1204:1531032573289929::::P1204_BROWSER_LANG:en-us) | | | | |  | [CSV Export](http://127.0.0.1:8080/apex/f?p=4500:1204:1531032573289929::::P1204_BROWSER_LANG:en-us) |

insert into book01 values(211,'cloud','023','penguin',101);

insert into book01 values(212,'dbms','024','pearson',102);

insert into book01 values(213,'software','025','shah',103);

insert into book01 values(214,'c prg','026','gm',104);

insert into book01 values(215,'AI','027','spring',105);

select \* from book01;

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **BOOKID** | | **BOOKNAME** | **AUTHORID** | **PUBLISHER** | **BRANCHID** |
| 211 | | cloud | 23 | penguin | 101 |
| 212 | | dbms | 24 | pearson | 102 |
| 213 | | software | 25 | shah | 103 |
| 214 | | c prg | 26 | gm | 104 |
| 215 | | AI | 27 | spring | 105 |
|  | |  | [CSV Export](http://127.0.0.1:8080/apex/f?p=4500:1204:1531032573289929::::P1204_BROWSER_LANG:en-us) |

insert into borrow01 values(034,'211','02-feb-2021');

insert into borrow01 values(035,'212','22-march-2023');

insert into borrow01 values(036,'213','30-dec-2022');

insert into borrow01 values(037,'214','03-mar-2021');

insert into borrow01 values(038,'215','05-jun-2023');

insert into borrow01 values(038,'212','23-dec-2023');

insert into borrow01 values(034,'215','13-apr-2023');

insert into borrow01 values(037,'213','28-sep-2022');

select \* from borrow01;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **USN** | | **BOOKID** | **BORROWED\_DATE** | |
| 34 | | 211 | 02-FEB-21 | |
| 35 | | 212 | 22-MAR-23 | |
| 36 | | 213 | 30-DEC-22 | |
| 37 | | 214 | 03-MAR-21 | |
| 38 | | 215 | 05-JUN-23 | |
| 38 | | 212 | 23-DEC-23 | |
| 34 | | 215 | 13-APR-23 | |
| 37 | | 213 | 28-SEP-22 | |
| select \* from student03 where sem='2' and branchid in(select branchid from branch01 where branchname='mca');   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **USN** | | **NAME** | **ADDRESS** | **BRANCHID** | **SEM** | | 35 | | abhi | nepal | 102 | 2 | |  | | |  | | |  | [CSV Expor](http://127.0.0.1:8080/apex/f?p=4500:1204:1531032573289929::::P1204_BROWSER_LANG:en-us) | |

select \* from student03 where usn not in(select usn from borrow01);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **USN** | **NAME** | **ADDRESS** | **BRANCHID** | **SEM** |
| 39 | sihi | nepal | 103 | 4 |

select student03.usn, student03.name,branch01.branchname,book01.bookname,author01.authorname,borrowed\_date from student03,branch01,book01,author01,borrow01 where student03.usn=borrow01.usn and borrow01.bookid=book01.bookid and book01.authorid=author01.authorid and student03.branchid=branch01.branchid and student03.sem='2' and branch01.branchname='mca';

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **USN** | | **NAME** | **BRANCHNAME** | **BOOKNAME** | **AUTHORNAME** | **BORROWED\_DATE** |
| 35 | | abhi | mca | dbms | suman rao | 22-MAR-23 |
|  | |  |

select count(\*) as "total books",authorid from book01 group by authorid;

|  |  |  |  |
| --- | --- | --- | --- |
| **Total Books** | | **AUTHORID** | |
| 1 | | 25 | |
| 1 | | 26 | |
| 1 | | 24 | |
| 1 | | 23 | |
| 1 | | 27 | |
|  | |

select \* from student03 where usn in(select usn from borrow01 group by usn having count(usn)>=2);

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **USN** | | **NAME** | **ADDRESS** | **BRANCHID** | **SEM** |
| 34 | | aditya | chennai | 101 | 1 |
| 37 | | suma | amdra | 104 | 4 |
| 38 | | lakshmi | bangalore | 105 | 4 |
|  | | |  |

select \* from student03 s where exists(select usn from borrow01 br join book01 bk on br.bookid=bk.bookid where br.usn=s.usn group by usn having count (distinct authorid)>1);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **USN** | **NAME** | **ADDRESS** | **BRANCHID** | **SEM** |
| 34 | aditya | chennai | 101 | 1 |
| 37 | suma | amdra | 104 | 4 |
| 38 | lakshmi | bangalore | 105 | 4 |

select bookname from book01 order by bookname desc;

|  |
| --- |
| **BOOKNAME** |
| software |
| dbms |
| cloud |
| c prg |
| AI |
|  |

select bookname from book01 order by bookname asc;

|  |
| --- |
| **BOOKNAME** |
| AI |
| c prg |
| cloud |
| dbms |
| software |
|  |

select \* from student03 s where exists (select usn,publisher from borrow01 br join book01 bk on br.bookid=bk.bookid where s.usn=br.usn group by usn having count (distinct publisher)=1);

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **USN** | | **NAME** | **ADDRESS** | **BRANCHID** | **SEM** |
| 35 | | abhi | nepal | 102 | 2 |
| 36 | | sindhu | delhi | 103 | 3 |
| select s.usn,s.name,count(bk.publisher) as same\_publisher from student03 s, book01 bk,borrow01 bw where s.usn=bw.usn and bk.bookid=bw.bookid group by s.usn,s.name having count (bk.publisher)>1;   |  |  |  |  | | --- | --- | --- | --- | | **USN** | | **NAME** | **SAME\_PUBLISHER** | | 34 | | aditya | 2 | | 38 | | lakshmi | 2 | | 37 | | suma | 2 | |  | |  | | | |  |