

----- Reader Menu -----

1. Search by ID, Title, Publisher

```
SELECT DOCID, TITLE,PDATE,PUBNAME FROM DOCUMENT D
JOIN PUBLISHER P ON D.PUBLISHERID = P.PUBLISHERID
where DOCID = 8 OR Title = 'Pride and Prejudice' OR PublisherID = 1
```

2. Document Check

```
insert into BORROWING (BOR_NO, BDTIME, RDTIME) values (1,'2012-12-03','2012-12-23');
```

```
insert into BORROWS (DOCID, COPYNO, BID, RID) values (1,5,4,7)
```

3. Document Return

```
update BORROWING set RDTIME=@RDTIME where BOR_NO=1
```

4. Document Reserve

```
insert into RESERVATION (RES_NO, DTIME) values (1, CURRENT_DATE());
insert into RESERVES (RID, RESERVATION_NO, DOCID, COPYNO, BID) values
(4,3,1,5);
```

5. Compute fine for a document copy borrowed by a reader based on the current date

```
Select *, IF(b2.RDTIME is NULL and DATEDIFF(CURRENT_DATE, b2.BDTIME)>30,
DATEDIFF(CURRENT_DATE, b2.BDTIME)*0.2,0)
from BORROWS b1, BORROWING b2
WHERE b1.BOR_NO=b2.BOR_NO and b1.RID=3
```

6. Print the list of documents reserved by a reader and their status

```
SELECT b1.DOCID, b1.COPYNO, b1.BID,
CASE
WHEN b2.RDTIME is NULL THEN 'Not Available'
ELSE 'Available'
END AS STATUS
FROM BORROWS b1, BORROWING b2
WHERE b2.BOR_NO = b1.BOR_NO
AND b1.DOCID in (SELECT r.DOCID FROM RESERVES r where r.RID = 3
```

7. Print the document id and document titles of documents published by a publisher

```
SELECT DOCID, TITLE,PUBNAME FROM DOCUMENT D JOIN PUBLISHER P ON
P.PUBLISHERID=D.PUBLISHERID
```

----- Admin Menu -----

8. Add a document copy.

```
INSERT INTO DOCUMENT(TITLE, PDATE, PUBLISHERID) VALUES ('To Kill a Mockingbird','1999-12-03',1);
```

9. Search document copy and check its status.

```
SELECT * ,
CASE
WHEN b2.RDTIME is NULL THEN 'Not Available'
WHEN b2.RDTIME is not NULL THEN 'Available'
END AS STATUS

FROM COPY c, BORROWS b1, BORROWING b2
WHERE c.COPYNO = b1.COPYNO AND c.DocID = b1.DocID AND c.BID = b1.BID
AND b1.BOR_NO = b2. BOR_no
AND c.COPYNO=1
```

10. Add new reader.

```
INSERT INTO READER (RTYPE, RNAME, RADDRESS, PHONE_NO) VALUES ('Student', 'Alex Hamilton','1804, Greenwich Village, New York, NY','9917890704');
```

11. Print branch information (name and location).

```
Select * from Branch
```

12. Get number N and branch number I as input and print the top N most frequent borrowers (Rid and name) in branch I and the number of books each has borrowed.

13. Get number N as input and print the top N most frequent borrowers (Rid and name) in the library and the number of books each has borrowed.

```
Select top 5 b.rid,r.RNAME , count(b.BOR_NO)
from BORROWS b, READER r
Where b.RID = r.RID
GROUP BY b.RID,r.RNAME
ORDER BY count(b.BOR_NO) desc
```

14. Get number N and branch number I as input and print the N most borrowed books in branch I.

```
Select top 4 b.BID,d.TITLE ,count(b.BOR_NO)
from BORROWS b, DOCUMENT d
Where d.DOCID = b.DOCID
and b.BID=1
GROUP BY b.BID,d.TITLE
```

```
ORDER BY count(*) desc
```

15. Get number N as input and print the N most borrowed books in the library.

```
Select top 3 b.DOCID , d.TITLE, count(b.BOR_NO)
from BORROWS b, DOCUMENT d
Where b.DOCID= d.DOCID
GROUP BY b.DOCID , d.TITLE
ORDER BY count(b.BOR_NO) desc
```

16. Get a year as input and print the 10 most popular books of that year in the library.

```
Select top 5 b.DOCID , d.TITLE, count(b.BOR_NO)
from BORROWS b, DOCUMENT d , BORROWING b2
Where b.DOCID= d.DOCID
and b.BOR_NO=b2.BOR_NO
and b2.BDTIME between '2012-01-01' and '2012-12-31'
GROUP BY b.DOCID ,d.TITLE
ORDER BY count(b.BOR_NO) desc
```

17. Get a start date S and an end date E as input and print, for each branch, the branch Id and name and the average fine paid by the borrowers for documents borrowed from this branch during the corresponding period of time

```
Select b3.LNAME, b3.BID,
Avg(IF(b2.bdttime between '2019-12-01' and '2019-12-15' and b2.RDTIME is NULL and
DATEDIFF(CURRENT_DATE, b2.BDTIME)>30, DATEDIFF(CURRENT_DATE, b2.BDTIME)*0.2,NULL))
from BORROWS b1, BORROWING b2 , BRANCH b3
WHERE b1.BOR_NO=b2.BOR_NO
and b1.BID = b3.BID
Group By b3.BID
```