n << m

Books

m — NO. Name Publisher DOP

n — Issuings: B_NO S_NO DoI EmployeeID (pk)

Students

ID Name phone

Employee

ID Name phno Sup.ID

1 a x1 d1

2 b x2 d2

I. get B.NO of book titled 'DATABASE'

```
SELECT  B.NO
FROM    Books as B
WHERE   B.Name = 'Database'
```

n log m ?

II. Get names of books that are currently issued :-

O(n log m)

```
SELECT  B.Name
FROM    Books as B, Issuings as I
WHERE   B.NO = I.B_NO
```

```
SELECT  B.NAME
FROM    Books as B
WHERE   B.NO IN
        (SELECT I.B_NO
         FROM   Issuings I)
```

O(n log n) + O(n log n) + O(m log n)

III- Names of Students who took books that are atmost 6 months old.

DATEDIFF(D1, D2) return in days

```
SELECT   DISTINCT S.Name
FROM     Student as S, Issues as I, Books as B
WHERE    B.NO = I.B_NO AND S.ID = I.S_ID AND DATEDIFF(I.DOI, B.DOP) <= 180
```

```
Select *
FROM   Issues
where  St_id = 19
```

⇒

return employee name & their supervisor name

```
Select E.name, S.name
FROM   EMPLOYEE as E, EMPLOYEE as S
WHERE  E.SID = S.ID
```

(4e). Need ID of students who took more than 2 books currently.

```
Select  S.SID
From    Issueing I
where   ( Select  count(*)
          From    Issueing I2
          where   S.SID = I2.SID ) > 2
```

(nested).

Issueing

B_NO	S_ID	DOI	E_ID
101	1		
103	1		
106	2		
108	3		

101	1
103	1
106	2

> 2 → 101

101

```
SELECT  I.SID
FROM    Issueings I
GROUP BY I.SID
HAVING  COUNT(*) >= 2
```

```
Select  S.name,
FROM    Students as S, Issued as I
WHERE   S.Id = I.SID
Group by  S.Id
HAVING    Count(*) >= 2.
```