ACTIVITY 7.1: - Subqueries with =

Problem statement: -

1. Write a SQL query to find the names and ages of the youngest authors
2. Try inserting another author with the same youngest age (31) and rerun the query

Solution: -

1. The query and the result is provided in the screenshot below: -

select A1.name , A1.age from authors A1 where A1.age = (select min(age) from authors A2);

Text

Description automatically generated

1. When we try to insert another author with the same youngest age, then the query in a) returns two rows as given below: -

Text

Description automatically generated

**ACTIVITY 7.2: -Subqueries with IN**

Problem statement: -

1. Find the titles of books published by Viking. Use a subquery.
2. Find the authors that have a book with a title that begins with the letter (use Like ‘I%’ to find titles that begin with I).
3. Redo 1 and 2 as joins

Solution: -

1. The query to solve this problem along with the results is given below: -

select B2.title from books B2 where B2.id IN (select B1.id from books B1, publishers P where B1.pubid = P.id and P.name = 'Viking');

Text

Description automatically generated

1. The query to solve this problem along with the result is given below: -

Select A.name from authors A where A.id IN (select B.authorid from books B where B.title like 'I%');

Text

Description automatically generated

1. Writing a) and b) using joins, we get the following queries along with their results.

For a), we have the following: -

select B.title from books B, Publishers P where B.pubid = P.id and P.name = 'Viking';

Text

Description automatically generated

For b), we have the following: -

select A.name from authors A JOIN books B ON A.id = B.authorid AND B.title LIKE 'I%';

Text

Description automatically generated

**ACTIVITY 7.3: - A mix of queries**

Problem statement: -

9 queries written in order given in activity screen

Solution: -

1. The query and the screenshot of the result is given below: -

select A.name, P.name , count(\*) as numbooks from authors A, books B, publishers P where A.id = B.authorid and B.pubid = P.id group by (A.name,P.name);

A picture containing timeline

Description automatically generated

1. select A.name from authors A, books B, publishers P where A.id = B.authorid and B.pubid=P.id and P.name = 'Putnam';

Text

Description automatically generated

1. select A.name from authors A,books B where A.id = B.authorid group by A.name having count(\*) > 1

Graphical user interface, text

Description automatically generated

1. select A.name from authors A, books B, publishers P where A.id = B.authorid and B.pubid = P.id and P.name = ‘AndrewsMcMeal’ group by A.name having count(\*) > 1;

Text

Description automatically generated

1. (select P.name from publishers P ) except (select P.name from publishers P, books B where P.id = B.pubid);

Text

Description automatically generated

1. (select P .name from publishers P)

except

(select P.name from publishers P , books B

where P.id = B.pubid)

union

(select A.name from authors A)

except

(select A.name from authors A, books B

where A.id = B.authorid);

Graphical user interface, text

Description automatically generated

1. select P.name from publishers P, books B

where P.id = B.pubid group by P.id having count(\*) =

(select max(count) from

(select count(\*) as count from books B group by pubid)

as countbooks);

Text

Description automatically generated

1. select count(\*) from authors A, books B, publishers P

where A.id = B.authorid and B.pubid = P.id

and P.name = 'AndrewsMcMeel' group by A.name having count(\*) > 1;

Text

Description automatically generated

1. select distinct A2.name, A2.age, P2.name

from authors A2,publishers P2, books B2

where A2.id = B2.authorid and

B2.pubid = P2.id and A2.age = (

select min(age) from authors A1, books B1

where A1.id = B1.authorid and

B1.pubid = B2.pubid);

Timeline

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ACTIVITY 8.1 Write Some Views

Problem statement: -

1. Write a view that lists only horror books
2. Write a view that lists books published by viking
3. Which one of the two views can be updated

Solution: -

1. Create view HorrorBooks as

Select \* from books where genre= 'Horror';

Timeline

Description automatically generated

1. create view VikingPubs as

select \* from books b, publishers p where

b.pubid = p.id and p.name= 'Viking';

A picture containing text

Description automatically generated

1. The first view can be updated and the second view cannot be updated. This is because the second view is formed with the joins of two views which makes it impossible to update the view on its own.