**SQL Queries with Joins**

**1.Retrieve the titles of all books along with their corresponding categories.**

SELECT b.Title, c.Category\_Name

FROM Book\_Details b

JOIN Category\_Details c ON b.Category\_ID = c.Category\_ID;

**2. List the names of all authors along with the titles of the books they have written.**

SELECT s.Name AS Student\_Name, b.Title AS Book\_Title

FROM Student\_Details s

JOIN Borrower\_Details br ON s.Student\_ID = br.Borrower\_ID

JOIN Book\_Details b ON br.Book\_ID = b.ISBN;

**3.Find the names of all students who borrowed a book along with the titles of the borrowed books.**

SELECT s.Name AS Student\_Name, b.Title AS Book\_Title

FROM Student\_Details s

JOIN Borrower\_Details br ON s.Student\_ID = br.Borrower\_ID

JOIN Book\_Details b ON br.Book\_ID = b.ISBN;

**4. List all transactions along with the book titles and borrower names.**

SELECT t.Transaction\_ID, t.Transaction\_Type, b.Title, s.Name

FROM Transaction\_Details t

JOIN Book\_Details b ON t.Book\_ID = b.ISBN

JOIN Borrower\_Details br ON t.Borrower\_ID = br.Borrower\_ID

JOIN Student\_Details s ON br.Borrower\_ID = s.Student\_ID;

**5. List the names of all students along with the number of books they have borrowed.**

SELECT s.Name AS Student\_Name, COUNT(br.Book\_ID) AS Borrowed\_Books

FROM Student\_Details s

LEFT JOIN Borrower\_Details br ON s.Student\_ID = br.Borrower\_ID

GROUP BY s.Student\_ID;

**6. Retrieve the titles of all books published by American authors.**

SELECT b.Title

FROM Book\_Details b

JOIN Author\_Details a ON b.ISBN = a.Author\_ID

WHERE a.Nationality = 'American';

**7. Find the names of all authors who have written books in the 'Fantasy' category.**

SELECT a.Name AS Author\_Name

FROM Author\_Details a

JOIN Book\_Details b ON a.Author\_ID = b.ISBN

JOIN Category\_Details c ON b.Category\_ID = c.Category\_ID

WHERE c.Category\_Name = 'Fantasy';

**8. List the names of all publishers who have published books in the 'Science Fiction' category**

SELECT Name

FROM Student\_Details

WHERE Student\_ID IN (

SELECT Borrower\_ID

FROM Borrower\_Details

WHERE Book\_ID IN (

SELECT ISBN

FROM Book\_Details

WHERE ISBN IN (

SELECT ISBN

FROM Book\_Details

JOIN Author\_Details ON Book\_Details.ISBN = Author\_Details.Author\_ID

WHERE Nationality = 'American'

)

)

);

**9. Retrieve the titles of all books borrowed by students in the 'Computer Science' department.**

SELECT b.Title

FROM Book\_Details b

JOIN Borrower\_Details br ON b.ISBN = br.Book\_ID

JOIN Student\_Details s ON br.Borrower\_ID = s.Student\_ID

WHERE s.Department = 'Computer Science';

**10. Find the names of all students who have borrowed books published after 2010.**

SELECT s.Name AS Student\_Name

FROM Student\_Details s

JOIN Borrower\_Details br ON s.Student\_ID = br.Borrower\_ID

JOIN Book\_Details b ON br.Book\_ID = b.ISBN

WHERE b.Publication\_Year > 2010;