**BOOKSTORE Database Structure and SQL Queries**

Database Schema

**Tables and Columns**

Author
- authorid
- authorname

Customer
- customerid
- customername
- address
- city

Employees
- employeeid
- firstname
- lastname
- employeerole

Item
- itemid
- booktitle
- authorid

Orderinfo
- id
- itemid
- customerid

Supplier
- supplierid
- suppliername
- city

## INNER JOIN

### Query 1: Retrieve order items and customer names

```
SELECT o.itemid, c.customername
FROM orderinfo AS o
INNER JOIN customer AS c ON o.customerid=c.customerid;
```

### Query 2: Get book titles and author names

```
SELECT i.booktitle, a.authorname
FROM item AS i
```

```
INNER JOIN author AS a ON i.authorid=a.authorid;
```

## LEFT JOIN

### Query 1: Get all book titles with author names (if available)

```
SELECT i.booktitle, a.authorname
FROM item AS i
LEFT JOIN author AS a ON i.authorid=a.authorid
ORDER BY i.booktitle;
```

### Query 2: Get all customers with their order items (if any)

```
SELECT c.customername, o.itemid
FROM customer AS c
LEFT JOIN orderinfo AS o ON c.customerid=o.customerid
ORDER BY c.customername;
```

## RIGHT JOIN

### Query 1: Get all customers with their order items (if any)

```
SELECT o.itemid, c.customername
FROM orderinfo AS o
RIGHT JOIN customer AS c ON o.customerid=c.customerid
ORDER BY c.customername;
```

### Query 2: Get all book titles with author names (if available)

```
SELECT a.authorname, i.booktitle
FROM author AS a
RIGHT JOIN item AS i ON a.authorid=i.authorid
ORDER BY a.authorname;
```

## SELF JOIN and CROSS JOIN

### Query 1: Get employee names and their manager names

```
SELECT e.firstname AS EmployeeName, em.firstname AS ManagerName
FROM employees e
INNER JOIN employees em
ON e.managerid=em.managerid;
```

### Query 2: Cross join between item and author tables

```
SELECT *
FROM item
CROSS JOIN author;
```

### Query 3: Get matching author names and book titles

```
SELECT a.authorname, i.booktitle
FROM author AS a
INNER JOIN item AS i ON a.authorid=i.authorid;
```

## UNION and UNION ALL

### Query 1: Combine customer names and employee first names

```
SELECT customername FROM customer
UNION
SELECT firstname FROM employees
ORDER BY customername;
```

### Query 2: Combine cities from customer and supplier tables

```
SELECT city FROM customer
UNION ALL
SELECT city FROM supplier
```

```
ORDER BY city;
```