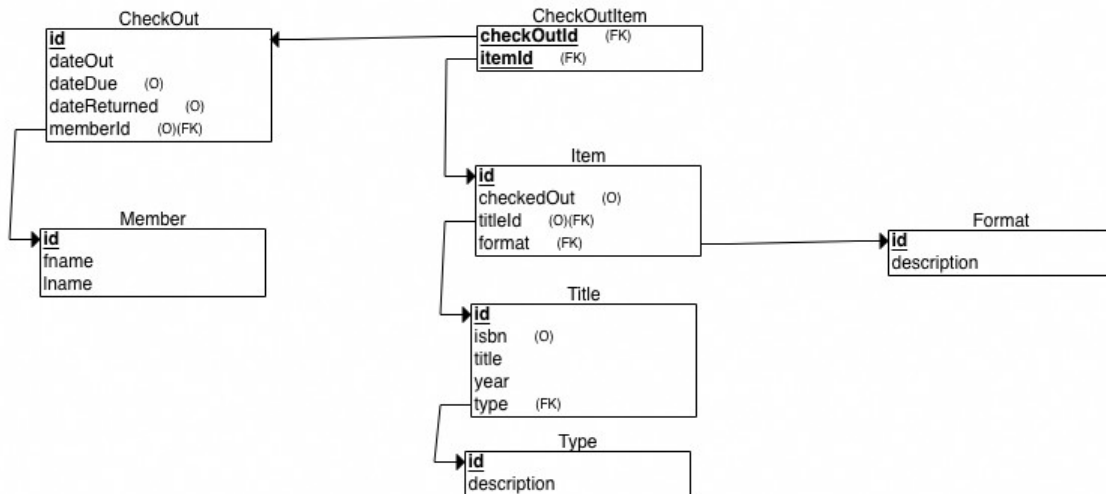


1. Relational Schema Attached Below:



2. Queries with joins

a) SELECT COUNT(*) FROM Title

JOIN Type ON Title.type = Type.id
WHERE description = 'Book';

COUNT(*)
24

b) SELECT COUNT(*) FROM Item

JOIN Title ON Item.titleId = Title.id
JOIN Type ON Title.type = Type.id
WHERE description = 'Book';

COUNT(*)
136

c) SELECT COUNT(*) FROM Item

JOIN Title ON Item.titleId = Title.id
JOIN Type ON Title.type = Type.id
WHERE description = 'Book' AND format = 'cdsc';

COUNT(*)
34

d) SELECT DISTINCT fname, lname FROM CheckOut
 JOIN Member ON CheckOut.memberId = Member.id
 WHERE dateReturned > dateDue AND lname LIKE 'Z%';

fname	lname
Corene	Zeller

e) SELECT isbn FROM CheckOutItem
 JOIN Item ON CheckOutItem.itemId = Item.id
 JOIN Title ON Item.titleId = Title.id
 GROUP BY isbn
 ORDER BY COUNT(*) DESC
 LIMIT 1;

isbn
9782519046816

3. Queries with aggregation

a) SELECT fname, lname, COUNT(itemId) FROM CheckOutItem
 JOIN CheckOut ON CheckOutItem.checkOutId = CheckOut.id
 JOIN Member ON CheckOut.memberId = Member.id
 GROUP BY Member.id
 ORDER BY COUNT(itemId) DESC
 LIMIT 3;

fname	lname	COUNT(itemId)
Quincy	Crowley	215
Nilsa	Catron	187
Britt	Solis	168

b) SELECT isbn, title, COUNT(*) FROM CheckOutItem
 JOIN Item ON CheckOutItem.itemId = Item.id

```

JOIN Title ON Item.titleId = Title.id
GROUP BY isbn, title
ORDER BY COUNT(*) DESC
LIMIT 1;

```

isbn	title	COUNT(*)
9782519046816	Merry Scroobers: Crown of Evil	522

c) SELECT description, COUNT(*) FROM CheckOutItem

```

JOIN Item ON CheckOutItem.itemId = Item.id
JOIN Title ON Item.titleId = Title.id
JOIN Type ON Title.type = Type.id
GROUP BY type
ORDER BY COUNT(*) DESC;

```

description	COUNT(*)
Music	7073
Book	6428
Game	5475
Movie	3884