

1. Diagram

   Description automatically generated
2. One option would be to have 4 tables: Book, Copy\_Of, Person, and Is\_Copy\_Of. This would allow for modelling “Is copy of” as a many-to-many relationship if the library every wanted to, allowing for the possibility of possibly treating multiple books as a single copy (e.g., if the library lent out the entire Game of Thrones series to the same person it might want to be treated as one copy).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table | Rows | | | | |
| Book | book\_id | title |  |  |  |
| Is\_Copy\_Of | book\_id | copy\_of\_id |  |  |  |
| Copy\_Of | copy\_of\_id | person\_id |  |  |  |
| Person | person\_id | name | address |  |  |

Is\_Copy\_Of would have a composite primary key consisting of book\_id and copy\_of\_id as foreign keys. Copy\_Of would also have a foreign key person\_id to specify which person has the copy, or NULL if the library still has the copy.

Another option would be to only have 3 tables: Book, Copy\_Of, and Person. Here the difference is that Copy\_Of has another foreign key: book\_id, to indicate which book it is a copy of. This would allow for fewer joins when querying.

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| --- | --- | --- | --- | --- | --- |
| Table | Rows | | | | |
| Book | book\_id | title |  |  |  |
| Copy\_Of | copy\_of\_id | book\_id | person\_id |  |  |
| Person | person\_id | name | address |  |  |

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