

Designing three tables (Composers, Publications, Publishers) and considering the following constraints:

One Publication can belong to one Composer, one Composer can have multiple Publications. One Publication can belong only to one Publisher and one Publisher can have multiple Publications.

There are three entities (Composers, Publication, Publishers). There is a relationship between three of them. Publications and Composers have M-1 (many to one) cardinality which means one Publication can belong to one Composer, one Composer can have multiple Publications. Publications and Publishers have again M-1 (many to one) cardinality which means one Publication can belong only to one Publisher and one Publisher can have multiple Publications.

Entity Relationship Diagram(ERD):



The script below creates an empty table named as composers and has 2 columns (composer_id, composer_name).

```
CREATE TABLE composers(
composer_id VARCHAR(10),
composer_name VARCHAR(25) NOT NULL,
PRIMARY KEY(composer_id));
```

The script below inserts data to an empty composers table and fills the table.

```
INSERT INTO
composers
VALUES
('A1','Aarons'),
('A2','Abel'),
('A3','Abdey');
```

Composers table:

composer_id	composer_name
A1	Aarons
A2	Abel
A3	Abdey

The script below creates an empty table named as publishers and has 2 columns (publisher_id, publisher_name).

```
CREATE TABLE publishers(  
publisher_id VARCHAR(10),  
publisher_name VARCHAR(25),  
PRIMARY KEY(publisher_id));
```

The script below inserts data to an empty publishers table and fills the table.

```
INSERT INTO  
publishers  
VALUES  
( 'C1','Witmark'),  
( 'C2','Printed for the author'),  
( 'C3','Shapiro');
```

Publishers table:

publisher_id	publisher_name
C1	Witmark
C2	Printed for the author
C3	Shapiro

The script below creates an empty table named as publications and has 5 columns.(publication_id, publication_name, publication_date, composer_id, publisher_id).

```
CREATE TABLE publications(  
publication_id VARCHAR(10),  
publication_name VARCHAR(25) NOT NULL,  
publication_date INT(10),  
composer_id VARCHAR(10),  
publisher_id VARCHAR(10),  
PRIMARY KEY (publication_id),  
FOREIGN KEY (composer_id) REFERENCES composer(composer_id),  
FOREIGN KEY (publisher_id) REFERENCES publisher(publisher_id));
```

The script below inserts data to an empty publications table and fills the table.

```
INSERT INTO  
publications  
VALUES  
( 'B1','A China Doll',1904,'A1','C1'),  
( 'B2','Six symphonies',1780,'A2','C2'),  
( 'B3','Pam the wonder',1908,'A3','C3');
```

Publications table:

publication_id	Publication_name	publication_date	composer_id	publisher_id
B1	A China Doll	1904	A1	C1
B2	Six symphonies	1780	A2	C2
B3	Pam the Wonder	1908	A3	C3

Note: The script below runs the query to see who is the composer and publisher of publications.

```
SELECT composer_name,publication_name,publication_date,publisher_name
FROM composers,publications,publishers
WHERE
composers.composer_id=publications.composer_id
AND
publishers.publisher_id=publications.publisher_id;
```

composer_name	publication_name	publication_date	publisher_name
Aarons	A China Doll	1904	Witmark
Abel	Six simphonies	1780	Printed for the author
Abdey	Pam the Wonder	1908	Shapiro