

# Report 10 - Magazine Database

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## **1 Determine concepts that needs to be stored**

Manage the magazine where each magazine have several article. Every article has author. There are 3 classes that need to be handled

- Magazine
- Article
- Author

## 2 Determine attributes of each concept

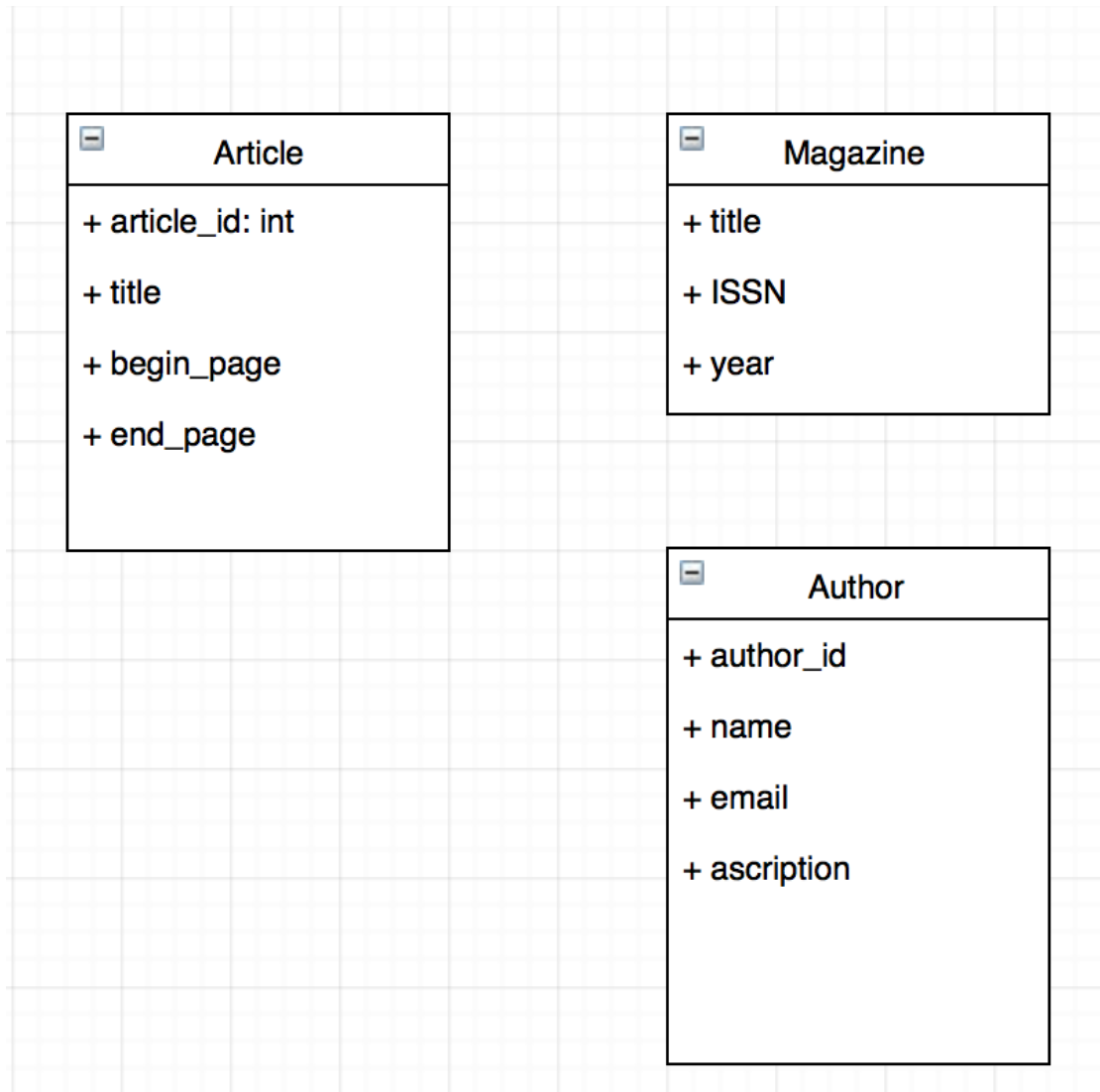


Figure 1: Determine Attribute

### 3 Determine links (relationships) between them

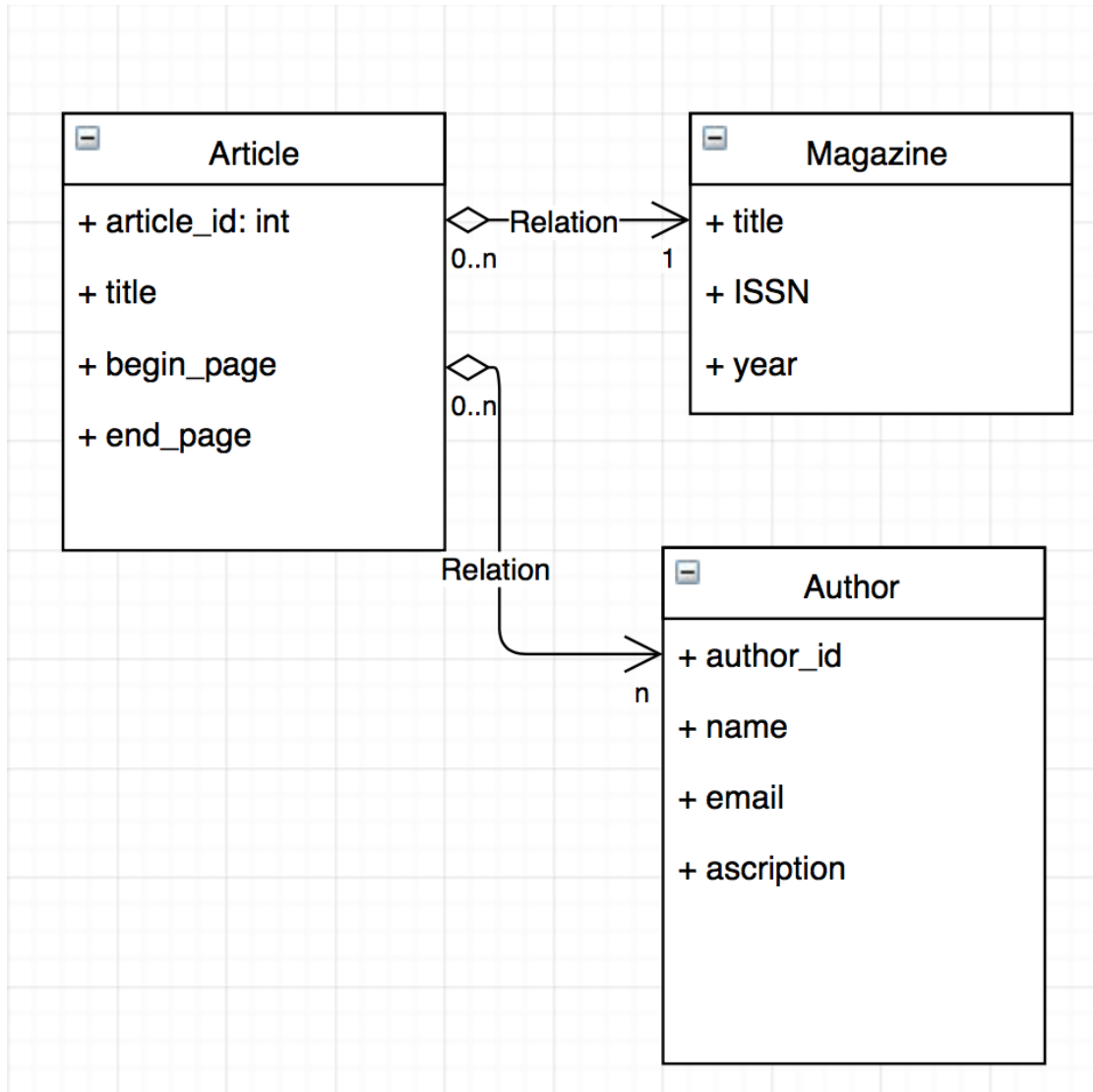


Figure 2: Determine relationship

#### 4 Determine types of each concept attribute

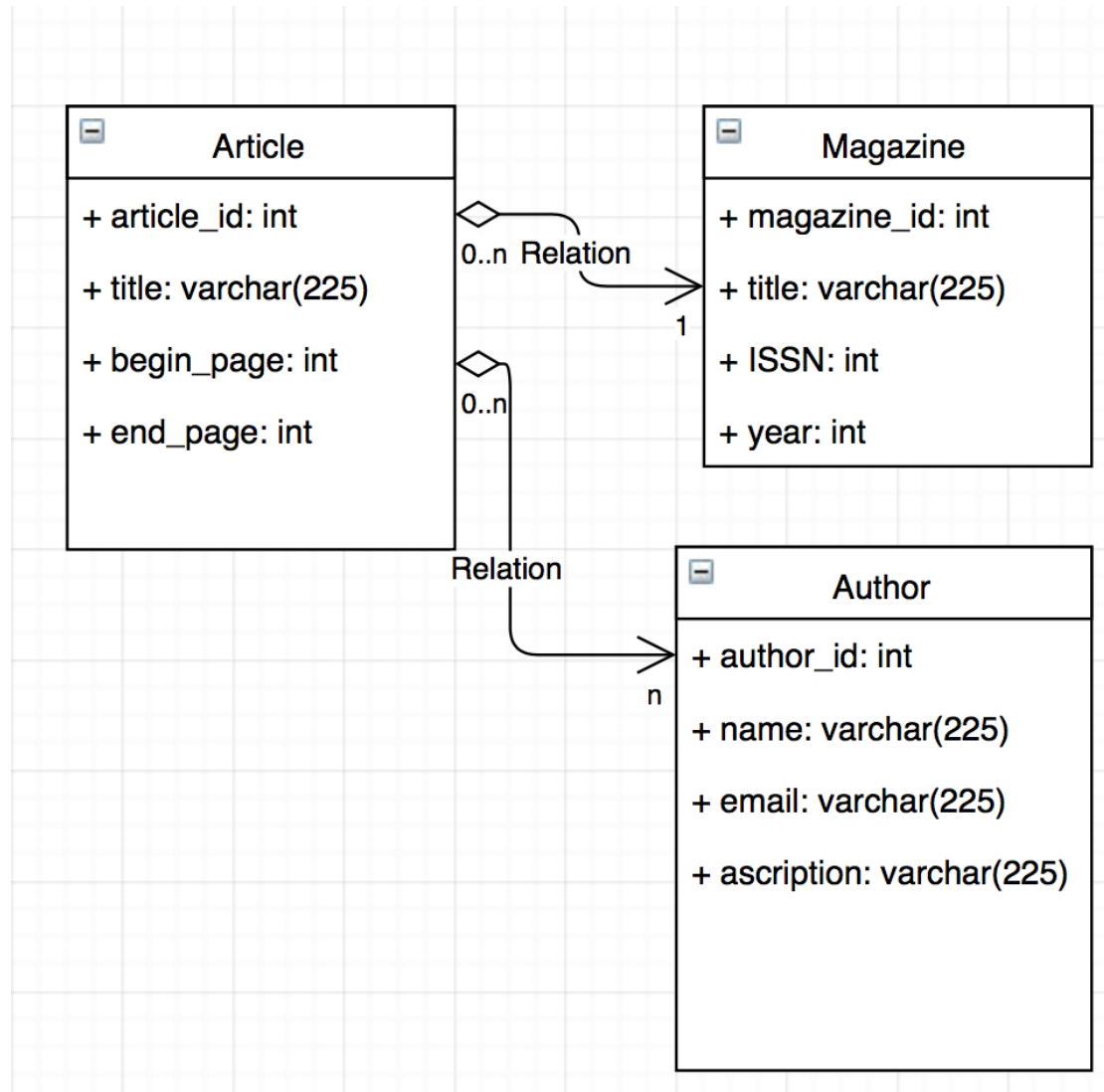


Figure 3: Determine attribute type

## 5 Solve foreign key links

As the article and author has the relationship many-to-many so that we split into a middle table (called Article\_Author)

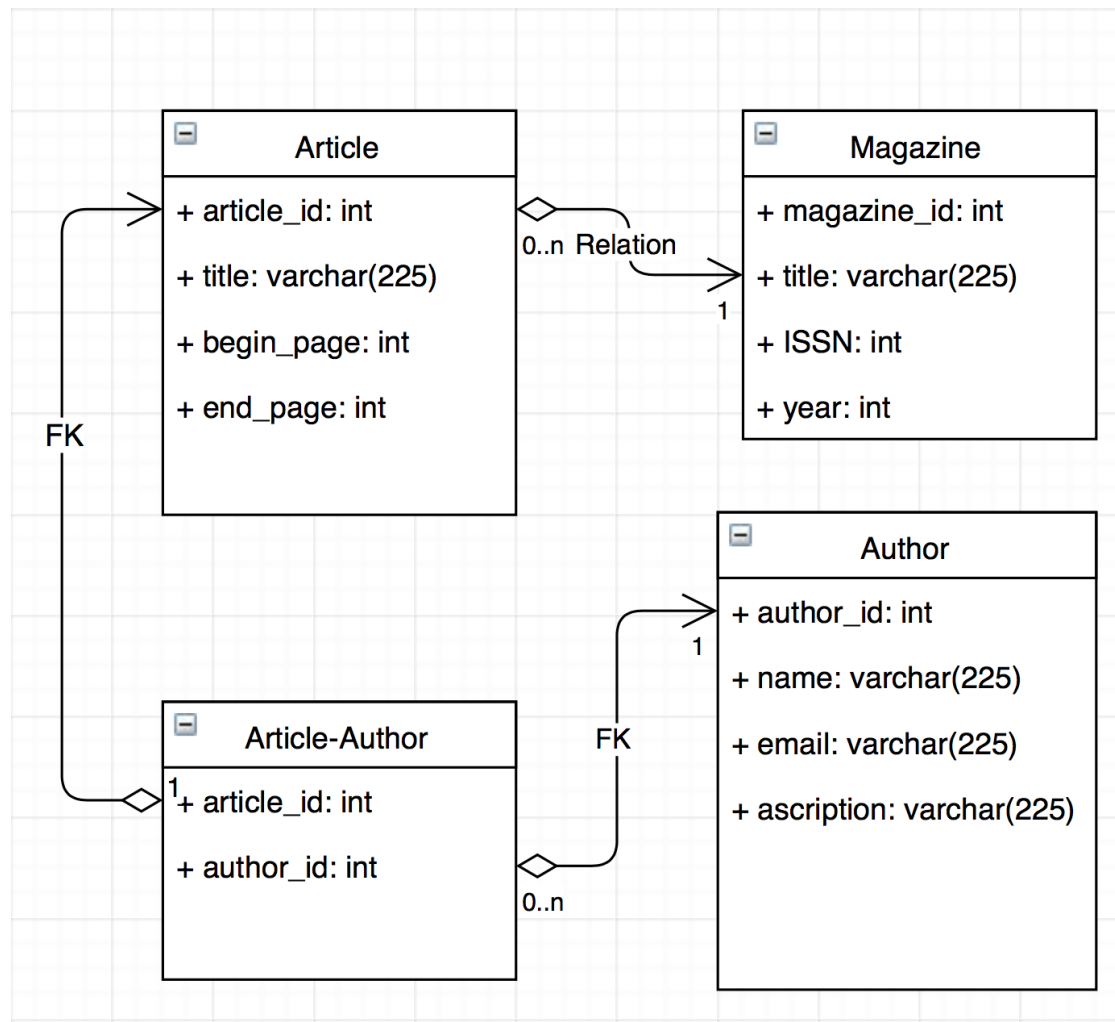


Figure 4: Solve Foreign Key

## 6 Implementation

```
create database magazine;
use magazine;
CREATE TABLE magazine (
```

```

        magazine_id INT NOT NULL AUTO INCREMENT,
        title VARCHAR(225),
        ISSN INT,
        year INT,
        PRIMARY KEY (magazine_id)
);

```

```

CREATE TABLE article (
    article_id INT NOT NULL AUTO INCREMENT,
    title VARCHAR(225),
    begin_page INT,
    end_page INT,
    PRIMARY KEY (article_id)
);

```

```

CREATE TABLE author (
    author_id INT NOT NULL AUTO INCREMENT,
    name VARCHAR(225),
    email INT,
    ascription INT,
    PRIMARY KEY (author_id)
);

```

```

CREATE TABLE article_author (
    magazine_id INT,
    author_id INT,
    PRIMARY KEY (magazine_id, author_id),
    FOREIGN KEY (magazine_id) REFERENCES magazine(magazine_id),
    FOREIGN KEY (author_id) REFERENCES author(author_id)
);

```

Describe table

```
DESCRIBE magazine;
```

| Field       | Type         | Null | Key | Default | Extra          |
|-------------|--------------|------|-----|---------|----------------|
| magazine_id | int(11)      | NO   | PRI | NULL    | auto_increment |
| title       | varchar(225) | YES  |     | NULL    |                |

|      |         |     |  |      |
|------|---------|-----|--|------|
| ISSN | int(11) | YES |  | NULL |
| year | int(11) | YES |  | NULL |

4 rows in set (0.00 sec)

DESCRIBE article;

| Field      | Type         | Null | Key | Default | Extra          |
|------------|--------------|------|-----|---------|----------------|
| article_id | int(11)      | NO   | PRI | NULL    | auto_increment |
| title      | varchar(225) | YES  |     | NULL    |                |
| begin_page | int(11)      | YES  |     | NULL    |                |
| end_page   | int(11)      | YES  |     | NULL    |                |

4 rows in set (0.00 sec)

DESCRIBE author;

| Field      | Type         | Null | Key | Default | Extra          |
|------------|--------------|------|-----|---------|----------------|
| author_id  | int(11)      | NO   | PRI | NULL    | auto_increment |
| name       | varchar(225) | YES  |     | NULL    |                |
| email      | int(11)      | YES  |     | NULL    |                |
| ascription | int(11)      | YES  |     | NULL    |                |

4 rows in set (0.00 sec)

DESCRIBE article-author;

| Field       | Type            | Null      | Key | Default     | Extra |
|-------------|-----------------|-----------|-----|-------------|-------|
| magazine_id | <b>int</b> (11) | <b>NO</b> | PRI | <b>NULL</b> |       |
| author_id   | <b>int</b> (11) | <b>NO</b> | PRI | <b>NULL</b> |       |