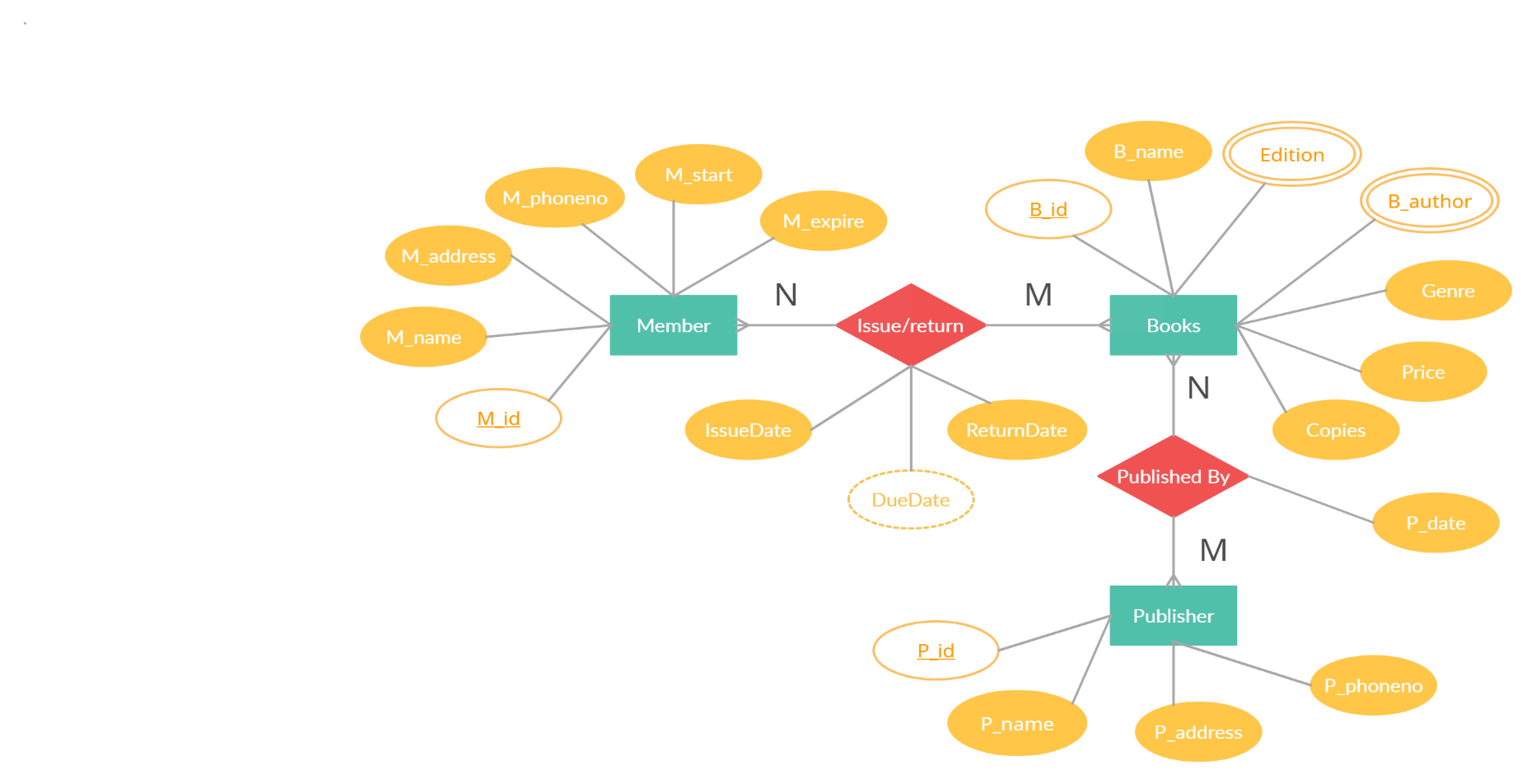
**ER DIAGRAM OF LIBRARY MANAGEMENT SYSTEM**



Made using: - <https://creately.com/>

**Entities: -**

1. Member – ( M\_id, M\_name, M\_address, M\_phoneno, M\_start, M\_expire)
2. Books – ( B\_id, B\_name, B\_author, Edition, Genre, Price, Copies)
3. Publisher – ( P\_id, P\_name, P\_address, P\_phoneno)

**Relationship: -**

1. Member **Issue/Return** Books

Issue\_Return – ( M\_id, B\_id, IssueDate, DueDate, ReturnDate)

1. Books **Published By** Publisher

Published – ( B\_id, P\_id, P\_date)

**ER DIAGRAM TO RELATIONAL MODEL**

CREATE TABLE Member(

M\_id varchar(8) primary key,

M\_name varchar(20) not null,

M\_address varchar(30) not null,

M\_phoneno int8 not null unique,

M\_start date not null,

M\_expire date not null,

constraint ck\_no check (M\_phoneno>0 and length(M\_phoneno) =10),

constraint ck\_mship check(M\_start<M\_expire));

CREATE TABLE Books(

B\_id varchar(8) primary key,

B\_name varchar(20) not null,

Genre varchar(20)not null,

Price numeric(10,2) not null,

Copies int default 0,

constraint ck\_cp check(Copies>=0),

constraint ck\_price check(Price>0));

**For Multivalued Attributes Edition and B\_author , created two different relation having B\_id as primary key : -**

CREATE TABLE Book\_edition(

B\_id varchar(8),

Edition int,

Primary key( B\_id, Edition ),

constraint ck\_ed check( Edition>0 ),

foreign key( B\_id ) references Books( B\_id )

on delete cascade);

CREATE TABLE Book\_author(

B\_id varchar(8),

B\_author varchar(20),

Primary key( B\_id, B\_author ),

foreign key(B\_id) references Books( B\_id )

on delete cascade);

CREATE TABLE Publisher(

P\_id varchar(8) primary key,

P\_name varchar(20) not null,

P\_address varchar(30) not null,

P\_phoneno int8 not null,

constraint ck\_no check(P\_phoneno>0 and length(P\_phoneno)=10));

CREATE TABLE Published(

B\_id varchar(8),

P\_id varchar(8),

P\_date date not null,

Primary key( B\_id, P\_id ),

foreign key( B\_id ) references Books( B\_id )

on delete cascade,

foreign key( P\_id ) references Publisher( P\_id )

on delete cascade);

CREATE TABLE Issue\_Return(

M\_id varchar(8),

B\_id varchar(8),

IssueDate date not null,

DueDate date not null,

ReturnDate date,

Primary key(M\_id,B\_id),

constraint ch\_date check(IssueDate<DueDate),

foreign key(M\_id) references Member(M\_id)

on delete cascade,

foreign key(B\_id) references Books(B\_id)

on delete cascade);