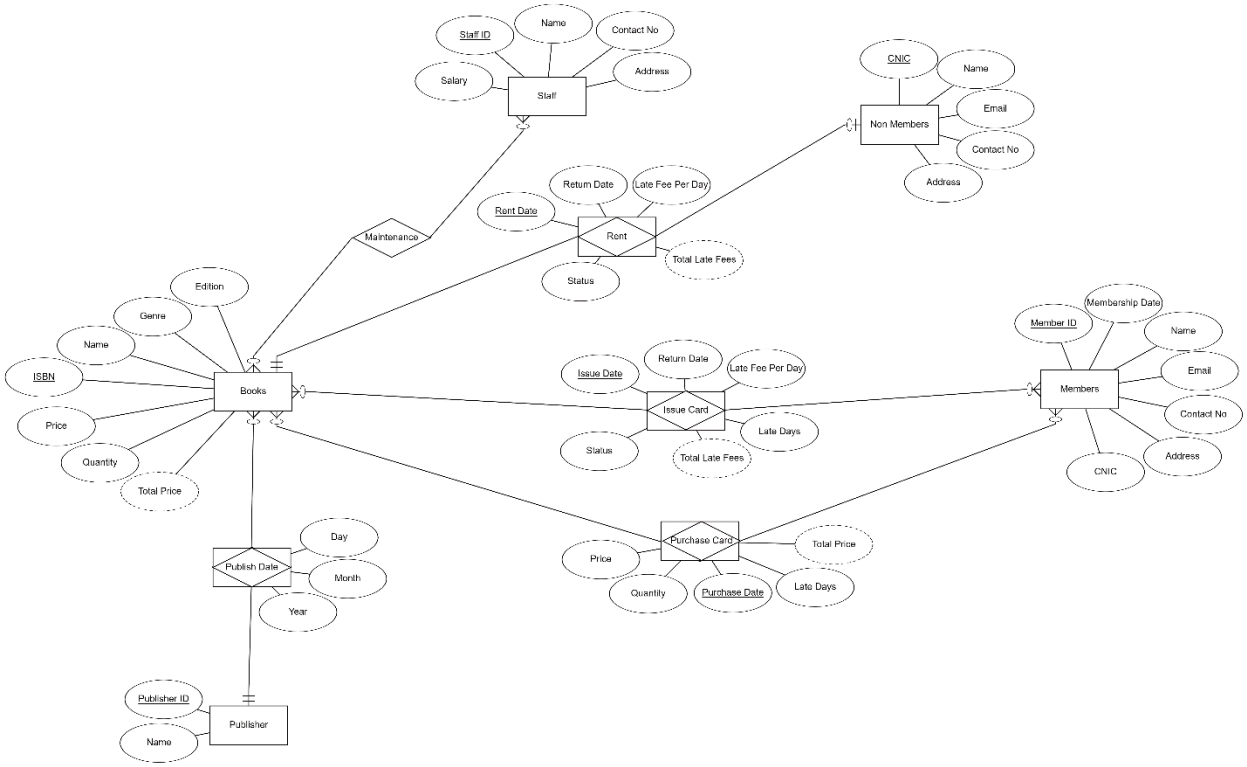
DBMS PROJECT

Group Members:

Ali Muhammad (11344)

Muhammad Nomir (11330)

ER Diagram:


Staff ID
Name
Contact No
Salary
Address
Staff
CNIC
Name
Email
Non Members
Contact No
Address
Return Date
Late Fee Per Day
Rent Date
Rent
Total Late Fees
Status
Maintenance
Edition
Genre
Name
ISBN
Books
Price
Quantity
Total Price
Issue Date
Return Date
Late Fee Per Day
Issue Card
Late Days
Status
Total Late Fees
Membership Date
Member ID
Name
Email
Members
Contact No
Address
CNIC
Day
Publish Date
Month
Year
Purchase Card
Total Price
Price
Quantity
Purchase Date
Late Days
Publisher ID
Name
Publisher

Internal Schema:

Books = {ISBN, Name, Genre, Edition, Price, Quantity, Publisher_ID**}**

Members = {Member_ID, Name, Email, Contact No, Address, CNIC, Membership Date**}**

Issue Card = {(ISBN, Member_ID, Issue Date), Return Date, Late Fee Per Day, Late Days, Status**}**

Purchase Card = {(ISBN, Member_ID, Purchase Date), Price, Quantity**}**

Staff = {Staff_ID, Name, Contact No, Address, Salary**}**

Maintenance = {ISBN,Staff_ID**}**

Non-Members = {CNIC, Name, Email, Contact No, Address, ISBN**}**

Rent = {(ISBN, CNIC, Rent Date), Return Date, Late Fee Per Day, Late Days, Status**}**

Publisher = {Publisher_ID, Name**}**

Publish Date = {(ISBN,Publisher_ID), Day, Month, Year**}**

Normalization:

Publishers Table:

Publisher = {Publisher_ID, Name**}**

1NF:

Already In 1NF

2NF:

Single primary key so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Books Table:

Books = {ISBN, Name, Genre, Edition, Price, Quantity, Publisher_ID**}**

1NF:

Already In 1NF

2NF:

Single primary key so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Publish Date Table:

Publish Date = {(ISBN,Publisher_ID), Day, Month, Year**}**

1NF:

Already In 1NF

2NF:

No partial dependency in composite primary keys so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Members Table:

Members = {Member_ID, Name, Email, Contact No, Address, CNIC, Membership Date**}**

1NF:

Already In 1NF

2NF:

Single primary key so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Issue Table:

Issue Card = {(ISBN, Member_ID, Issue Date), Return Date, Late Fee Per Day, Late Days, Status**}**

1NF:

Already In 1NF

2NF:

No partial dependency in composite primary keys so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Purchase Table:

Purchase Card = {(ISBN, Member_ID, Purchase Date), Price, Quantity**}**

1NF:

Already In 1NF

2NF:

No partial dependency in composite primary keys so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Non-Members Table:

Non-Members = {CNIC, Name, Email, Contact No, Address, ISBN**}**

1NF:

Already In 1NF

2NF:

Single primary key so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Rent Table:

Rent = {(ISBN, CNIC, Rent Date), Return Date, Late Fee Per Day, Late Days, Status**}**

1NF:

Already In 1NF

2NF:

No partial dependency in composite primary keys so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Staff Table:

Staff = {Staff_ID, Name, Contact No, Address, Salary**}**

1NF:

Already In 1NF

2NF:

Single primary key so in 2NF

3NF:

No transitivity so in 3NF

BCNF:

All primary keys are candidate

Table is normalized

Maintenance Table:

Maintenance = {ISBN,Staff_ID**}**

1NF:

Already In 1NF

2NF:

Single primary key so in 2NF

3NF:

No additional attributes so no transitivity can occur so in 3NF

BCNF:

All primary keys are candidate

Table is normalized