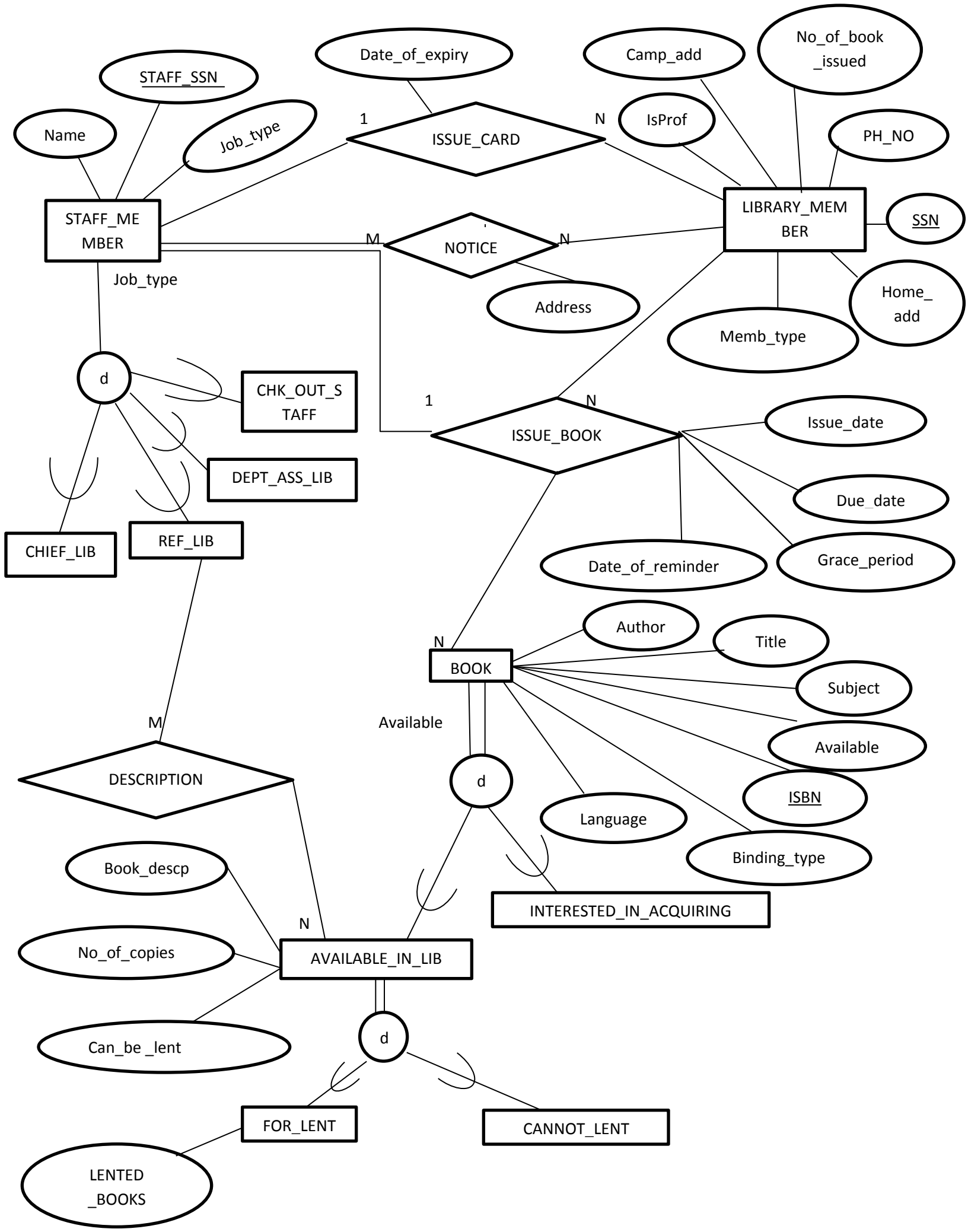
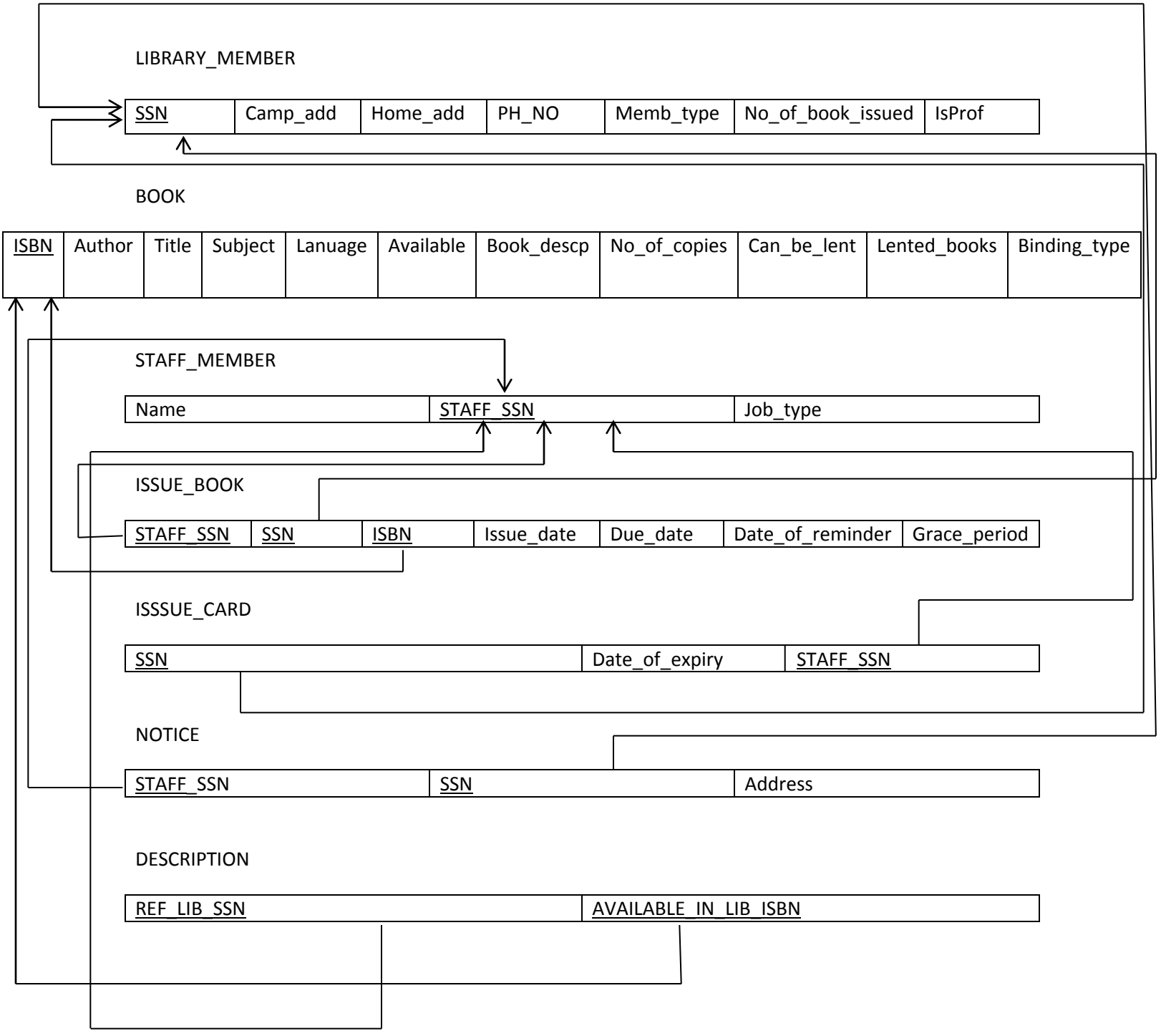

Date_of_expiry
Camp_add
No_of_book
_issued
STAFF_SSN
Name
Job_type
1
ISSUE_CARD
N
IsProf
PH_NO
STAFF_ME
MBER
LIBRARY_MEM
BER
SSN
M
NOTICE
N
Job_type
Address
Home_
add
Memb_type
d
CHK_OUT_S
TAFF
1
N
ISSUE_BOOK
Issue_date
DEPT_ASS_LIB
Due_date
CHIEF_LIB
REF_LIB
Date_of_reminder
Grace_period
Author
N
Title
BOOK
Subject
M
Available
Available
DESCRIPTION
d
ISBN
Language
Binding_type
Book_descp
INTERESTED_IN_ACQUIRING
N
No_of_copies
AVAILABLE_IN_LIB
Can_be _lent
d
FOR_LENT
CANNOT_LENT
LENTED
_BOOKS

MAPPING OF ABOVE EER DIAGRAM TO RELATIONAL SCHEMA :



CREATE TABLE STATEMENTS :

```
CREATE TABLE LIBRARY_MEMBER(
SSN int,
Camp_add VARCHAR(30),
Home_add VARCHAR(30),
PH_NO int,
No_of_Issued_Books int,
IsProf CHAR(5),
Memb_type VARCHAR(10),
PRIMARY KEY (SSN)
);
CREATE TABLE BOOK(
ISBN int,
Title VARCHAR(20),
Binding_type VARCHAR(10),
Language VARCHAR(20),
Author VARCHAR(20),
Subject VARCHAR(20),
Available VARCHAR(20),
Can_be_lent VARCHAR(20),
No_of_copies int,
Book_descp VARCHAR(30),
Lented_books int,
```

```
PRIMARY KEY (ISBN)
);
CREATE TABLE STAFF_MEMBER(
STAFF_SSN int,
Name VARCHAR(20),
Job_type Varchar(20),
PRIMARY KEY (STAFF_SSN)
);
CREATE TABLE ISSUE_BOOK(
STAFF_SSN int,
SSN int,
ISBN int,
Issue_date date,
Date_of_reminder date,
Due_date date,
Grace_period int,
constraint PK_STAFF_SSN PRIMARY KEY(STAFF_SSN),
constraint FK_STAFF_SSN FOREIGN KEY(STAFF_SSN) REFERENCES
STAFF_MEMBER(STAFF_SSN),

 FOREIGN KEY(SSN) REFERENCES LIBRARY_MEMBER(SSN),

 FOREIGN KEY(ISBN) REFERENCES BOOK(ISBN)
```

```
);
CREATE TABLE ISSUE_CARD(
SSN INT,
Date_of_expiry date,
STAFF_SSN int,
FOREIGN KEY(SSN) REFERENCES LIBRARY_MEMBER(SSN),
FOREIGN KEY(STAFF_SSN) REFERENCES STAFF_MEMBER(STAFF_SSN)
);
CREATE TABLE NOTICE(
STAFF_SSN int,
SSN int,
Address VARCHAR(20),
FOREIGN KEY(STAFF_SSN) REFERENCES
STAFF_MEMBER(STAFF_SSN),
FOREIGN KEY(SSN) REFERENCES LIBRARY_MEMBER(SSN)
);
CREATE TABLE DESCRIPTION(
REF_LIB_SSN int,
AVAILABLE_IN_LIB_ISBN int,
FOREIGN KEY(REF_LIB_SSN) REFERENCES
STAFF_MEMBER(STAFF_SSN),
FOREIGN KEY(AVAILABLE_IN_LIB_ISBN) REFERENCES BOOK(ISBN)
);
```

EXPLAINATION :

I have used specialization approach while drawing EER diagram

STAFF_MEMBER(Job_type) is in partial disjoint

BOOK (Available) is in total disjoint

Available_in_Lib is total disjoint.

EER diagram above have different set of relationship but a relationship is ternary there I have used the Step 7 of mapping procedure mentioned in the book.

- To map subclasses and superclasses I've followed approach 8c mentioned in the book i.e, **Single relation with one type attribute**

Reasons for Design choice:

I consider this diaram structure to be more simple as compare to UML. I don't prefer notations in case of UML diagram that is why I've followed this approach.

The cardinality described are as follows :

1:N for relationship ISSUE_CARD connecting entities LIB_MEMBER and STAFF_MEMBER

M:N for relationship NOTICE connecting STAFF_MEMBER and LIB_MEMBER

Ternar relationship ISSUE _BOOK is connecting STAFF_MEMBER and LIB_MEMBER by a cardinality of 1:1 and connecting STAFF_MEMBER and BOOK entities with cardinality ration 1:N respectively.

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