

SAMPLE A :

UNF:

CATALOGUE(catal_ddcno,catal_titile,(author_id,author_firstname,author_lastname),(subject_id,subject_desc),catal_descrip,publisher_id,publisher_name,published_date,catal_edition,catal_page_count,catal_language,catal_note,(isbn_no,isbn_booktype))

1NF:

CATALOGUE(catal_ddcno,catal_titile,catal_descrip,publisher_id,publisher_name,published_date,catal_edition,catal_page_count,catal_language,catal_note)

CK:

1. catal_ddcno

CATALAUTHOR(author_id,catal_ddcno,author_firstname,author_lastname)

CK:

1. author_id, catal_ddcno

CATALSUBJECT(catal_ddcno,subject_id,subject_desc)

CK:

1. subject_id,catal_ddcno

ISBN(isbn_no,isbn_booktype,catal_ddcno)

CK:

1. isbn_no
2. isbn_booktype,catal_ddcno

Partial Dependencies:

1. author_id -> author_firstname,author_lastname
2. subject_id ->subject_desc

2NF:

CATALOGUE(catal_ddcno,catal_titile,catal_descrip,publisher_id,publisher_name,published_date,catal_edition,catal_page_count,catal_language,catal_note)

CATALAUTHOR(author_id,catal_ddcno)

AUTHOR(author_id,author_firstname,author_lastname)

CATALSUBJECT(catal_ddcno,subject_id,subject_desc)

SUBJECT(subject_id,subject_desc)

ISBN(isbn_no,isbn_booktype,catal_ddcno)

Transitive Dependencies :

1. publisher_id -> publisher_name

3NF:

CATALOGUE(catal_ddcno,catal_titile,catal_descrip,publisher_id,published_date,catal_edition,catal_page_count,catal_language,catal_note)

PUBLISHER(publisher_id,publisher_name)

CATALAUTHOR(author_id,catal_ddcno)

AUTHOR(author_id,author_firstname,author_lastname)

CATALSUBJECT(catal_ddcno,subject_id)

SUBJECT(subject_id,subject_desc)

ISBN(isbn_no,isbn_booktype,catal_ddcno)

Full Dependencies :

1. catal_ddcno->catal_title,catal_descrip,publisher_id,published_date,catal_edition,catal_page_count,catal_language,catal_note
2. publisher_id ->publisher_name
3. author_id -> author_firstname,author_lastname
4. subject_id ->subject_desc
5. isbn_no -> isbn_booktype,catal_ddcno

SAMPLE B :

UNF:

BORROWER(borrower_no,borrower_first_name,borrower_last_name,borrower_class,borrower_borrowing_status,(branch_code,book_copy_id,branch_name,loan_start_datetime,loan_due_date,loan_returned_date_and_time,loan_fine_amount,loan_date_finepaid))

1NF:

BORROWER(borrower_no,borrower_first_name,borrower_last_name,borrower_class,borrower_borrowing_status)

CK:

1. borrower_no

LOAN(branch_code,book_copy_id,loan_start_datetime,borrower_no,branch_name,loan_due_date,loan_returned_date_and_time,loan_fine_amount,loan_date_finepaid)

CK's :

1. branch_code,book_copy_id,loan_start_datetime

Partial Dependencies:

1. branch_code -> branch_name

2NF:

BORROWER(borrower_no,borrower_first_name,borrower_last_name,borrower_class,borrower_borrowing_status)

LOAN(branch_code,book_copy_id,loan_start_datetime,borrower_no,loan_due_date,loan_returned_date_and_time,loan_fine_amount,loan_date_finepaid)

BRANCH(branch_code,branch_name)

Transitive Dependencies :

None

3NF:

BORROWER(borrower_no,borrower_first_name,borrower_last_name,borrower_class,borrower_borrowing_status)

LOAN(branch_code,book_copy_id,loan_start_datetime,borrower_no,loan_due_date,loan_returned_date_and_time,loan_fine_amount,loan_date_finepaid)

BRANCH(branch_code,branch_name)

Full Dependencies :

1. borrower_no->borrower_first_name,borrower_last_name,borrower_class,borrower_borrowing_status
2. branch_code,book_copy_id,loan_start_datetime->borrower_no,loan_due_date,loan_returned_date_and_time,loan_fine_amount,loan_date_finepaid
3. branch_code ->branch_name

COLLECTED 3NF RELATIONS :

1. CATALOGUE(catal_ddcno,catal_title,publisher_id,published_date,catal_edition,catal_page_count,catal_language,catal_note)
2. PUBLISHER(publisher_id,publisher_name)
3. CATALAUTHOR(author_id,catal_ddcno)
4. AUTHOR(author_id,author_firstname,author_lastname)
5. CATALSUBJECT(catal_ddcno,subject_id)
6. SUBJECT(subject_id,subject_desc)
7. ISBN(isbn_no,isbn_booktype,catal_ddcno)
8. BORROWER(borrower_no,borrower_first_name,borrower_last_name,borrower_class,borrower_borrowing_status)
9. LOAN(branch_code,book_copy_id,loan_start_datetime,borrower_no,loan_due_date,loan_returned_date_and_time,loan_fine_amount,loan_date_finepaid)
10. BRANCH(branch_code,branch_name)

Attribute synthesis :

None

FINAL 3NF RELATIONS :

CATALOGUE(catal_ddcno,catal_titile,catal_descrip,publisher_id,published_date,catal_edition,catal_page_count,catal_language,catal_note)

PUBLISHER(publisher_id,publisher_name)

CATALAUTHOR(author_id,catal_ddcno)

AUTHOR(author_id,author_firstname,author_lastname)

CATALSUBJECT(catal_ddcno,subject_id)

SUBJECT(subject_id,subject_desc)

ISBN(isbn_no,isbn_booktype,catal_ddcno)

BORROWER(borrower_no,borrower_first_name,borrower_last_name,borrower_class,borrower_borrowing_status)

LOAN(branch_code,book_copy_id,loan_start_datetime,borrower_no,loan_due_date,loan_returned_date_and_time,loan_fine_amount,loan_date_finepaid)

BRANCH(branch_code,branch_name)