

## CATALOGUE SEARCH OUTPUT

### **UNF:**

CATALOGUE(cata\_ddnum, cata\_title, (author\_code, author\_fname, author\_lname),  
(sub\_id, sub\_description), cata\_description, publisher\_code, publisher\_name,  
cata\_publication\_year, cata\_edition, cata\_num\_page, cata\_language, cata\_note,  
(isbn\_value, isbn\_book\_type))

### **1NF:**

CATALOGUE (cata\_ddnum, cata\_title, cata\_description, publisher\_code, publisher\_name,  
cata\_publication\_year, cata\_edition, cata\_num\_page, cata\_language, cata\_note)

Cks:

- cata\_ddnum

AUTHOR(cata\_ddnum, author\_code, author\_name)

Cks:

- cata\_ddnum, author\_code

SUBJECT(cata\_ddnum, sub\_id, sub\_description)

Cks:

- cata\_ddnum, sub\_id

ISBN(cata\_ddnum, isbn\_value, isbn\_book\_type)

Cks:

- cata\_ddnum, isbn\_value

Partial Dependencies:

author\_code → author\_fname, author\_lname

sub\_id → sub\_description

isbn\_value → isbn\_book\_type

### **2NF:**

CATALOGUE (cata\_ddnum, cata\_title, cata\_description, publisher\_code, publisher\_name,  
cata\_publication\_year, cata\_edition, cata\_num\_page, cata\_language, cata\_note)

CATA\_AUTHOR(cata\_ddnum, author\_code)

CATA\_SUBJECT(cata\_ddnum, sub\_id)

CATA\_ISBN(cata\_ddnum, isbn\_value)

AUTHOR(author\_code, author\_fname, author\_lname)

SUBJECT(sub\_id, sub\_description)

ISBN(isbn\_value, isbn\_book\_type)

Transitive dependencies:

publisher\_code → publisher\_name

### **3NF:**

CATALOGUE (cata\_ddnum, cata\_title, cata\_description, publisher\_code, cata\_publication\_year, cata\_edition, cata\_num\_page, cata\_language, cata\_note)

CATA\_AUTHOR(cata\_ddnum, author\_code)

CATA\_SUBJECT(cata\_ddnum, sub\_id)

CATA\_ISBN(cata\_ddnum, isbn\_value)

AUTHOR(author\_code, author\_fname, author\_lname)

SUBJECT(sub\_id, sub\_description)

ISBN(isbn\_value, isbn\_book\_type)

PUBLISHER(publisher\_code, publisher\_name)

Full dependencies:

cata\_ddnum → cata\_title, cata\_description, publisher\_code, cata\_publication\_year, cata\_edition, cata\_num\_page, cata\_language, cata\_note

author\_code → author\_fname, author\_lname

sub\_id → sub\_description

isbn\_value → isbn\_book\_type

publisher\_code → publisher\_name

### **BORROWERS QUARTERLY REPORT:**

### **UNF:**

QUARTERLY\_REPORT(borrower\_id, borrower\_first\_name, borrower\_last\_name, borrower\_class, borrower\_status, (branch\_code, book\_copy\_id, branch\_name, loan\_time, loan\_due\_date, loan\_return\_date, loan\_fine, loan\_fine\_date\_paid))

**1NF:**

BORROWER(borrower\_id, borrower\_first\_name, borrower\_last\_name, borrower\_class, borrower\_status)

Cks:

- borrower\_id

LOAN(branch\_code, book\_copy\_id, loan\_time, branch\_name, loan\_due\_date, loan\_return\_date, loan\_fine, loan\_fine\_date\_paid, borrower\_id)

Cks:

- branch\_code, book\_copy\_id, loan\_time

Partial dependencies:

branch\_code → branch\_name

**2NF:**

BORROWER(borrower\_id, borrower\_first\_name, borrower\_last\_name, borrower\_class, borrower\_status)

BRANCH(branch\_code, branch\_name)

LOAN(branch\_code, book\_copy\_id, loan\_time, loan\_due\_date, loan\_return\_date, loan\_fine, loan\_fine\_date\_paid, borrower\_id)

No transitive dependencies present

**3NF:**

BORROWER(borrower\_id, borrower\_first\_name, borrower\_last\_name, borrower\_class, borrower\_status)

BRANCH(branch\_code, branch\_name)

LOAN(branch\_code, book\_copy\_id, loan\_time, loan\_due\_date, loan\_return\_date, loan\_fine, loan\_fine\_date\_paid, borrower\_id)

Full dependencies:

borrower\_id → borrower\_first\_name, borrower\_last\_name, borrower\_class, borrower\_status

branch\_code → branch\_name

branch\_code, book\_copy\_id, loan\_time → loan\_due\_date, loan\_return\_date, loan\_fine,  
loan\_fine\_date\_paid, borrower\_id

#### **ATTRIBUTE SYNTHESIS:**

CATALOGUE (cata\_ddnum, cata\_title, cata\_description, publisher\_code,  
cata\_publication\_year, cata\_edition, cata\_num\_page, cata\_language, cata\_note)

CATA\_AUTHOR(cata\_ddnum, author\_code)

CATA\_SUBJECT(cata\_ddnum, sub\_id)

CATA\_ISBN(cata\_ddnum, isbn\_value)

AUTHOR(author\_code, author\_name)

SUBJECT(sub\_id, sub\_description)

ISBN(isbn\_value, isbn\_book\_type)

PUBLISHER(publisher\_code, publisher\_name)

BORROWER(borrower\_id, borrower\_first\_name, borrower\_last\_name, borrower\_class,  
borrower\_status)

BRANCH(branch\_code, branch\_name)

LOAN(branch\_code, book\_copy\_id, loan\_time, loan\_due\_date, loan\_return\_date, loan\_fine,  
loan\_fine\_date\_paid, borrower\_id)