

Department of Information Systems and Technologies
2025-2026 Fall Semester
CTIS259 Database Management Systems and Applications
Lab Guide 07

Instructor : Nimet Ceren SERİM

Week: 05

Assistant : Engin Zafer KIRAÇBEDEL, Hatice Zehra YILMAZ

Date: 16-17.10.2025

Aim of this lab session:
1. Creating LibraryDB
2. SQL Queries

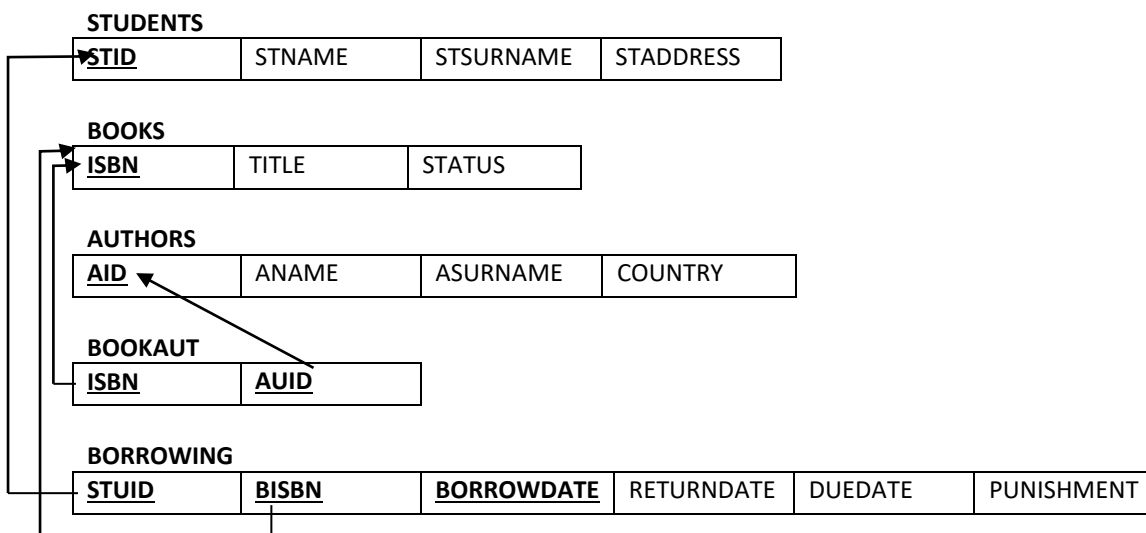
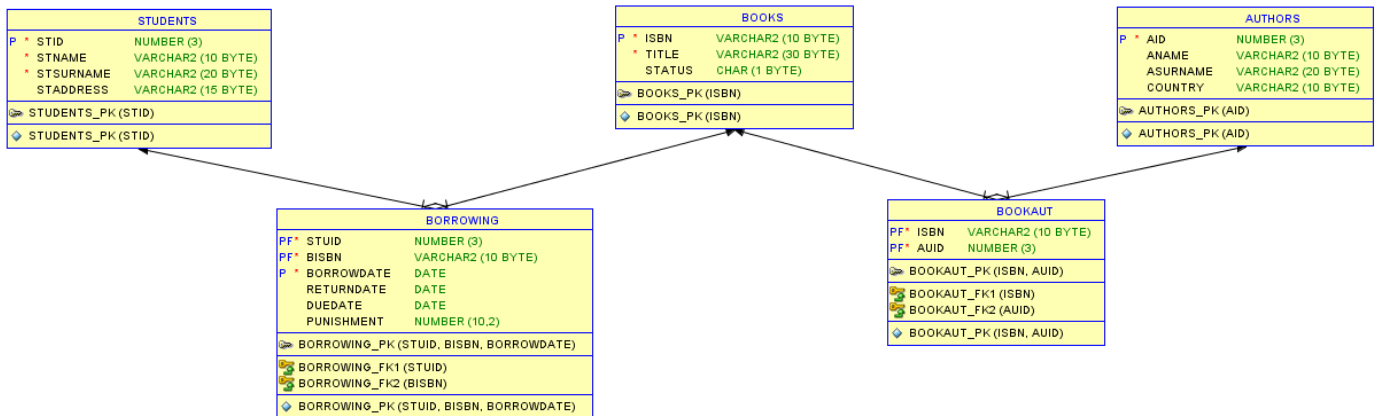
ORACLE Server Configurations:

IP Address: 139.179.33.231

Port number: 1522

SID: orclctis

Please USE stu (fYourStudentID) accounts



Creating tables and data insertions

Create the below tables in your account and insert data into the tables.

- Create a table as **STUDENTS** shown below.

FIELD NAME	FIELD TYPE	SIZE	CONSTRAINTS
<u>STID</u>	NUMBER	PRECISION: 3	PRIMARY KEY
STNAME	VARCHAR2	10	NOT NULL
STSURNAME	VARCHAR2	20	NOT NULL
STADDRESS	VARCHAR2	15	

- Create a table as **BOOKS** shown below.

FIELD NAME	FIELD TYPE	SIZE	CONSTRAINTS
<u>ISBN</u>	VARCHAR2	10	PRIMARY KEY
TITLE	VARCHAR2	30	NOT NULL
STATUS	CHAR	1	A or N

- Create a table as **AUTHORS** shown below.

FIELD NAME	FIELD TYPE	SIZE	CONSTRAINTS
<u>AID</u>	NUMBER	PRECISION: 3	PRIMARY KEY
ANAME	VARCHAR2	10	
ASURNAME	VARCHAR2	20	
COUNTRY	VARCHAR2	10	

- Create a table as **BOOKAUT** shown below. This table has **composite primary key**.

FIELD NAME	FIELD TYPE	SIZE	CONSTRAINTS
<u>ISBN</u>	VARCHAR2	10	PRIMARY KEY FOREIGN KEY
<u>AUID</u>	NUMBER	PRECISION: 3	PRIMARY KEY FOREIGN KEY

- Create a table as **BORROWING** shown below. This table has **composite primary key**.

FIELD NAME	FIELD TYPE	SIZE	CONSTRAINTS
<u>STUID</u>	NUMBER	PRECISION: 3	PRIMARY KEY FOREIGN KEY
<u>BISBN</u>	VARCHAR2	10	PRIMARY KEY FOREIGN KEY
<u>BORROWDATE</u>	DATE		PRIMARY KEY DEFAULT SYSTEM DATE
RETURNDATE	DATE		
DUEDATE	DATE		
PUNISHMENT	NUMBER	PRECISION: 10, SCALE: 2	DEFAULT 0

A. Data Insertion

- The records as given below for the table of **STUDENTS**.

STID	STNAME	STSURNAME	STADDRESS
111	ALI	OKUR	ANKARA
222	SEVINC	ER	IZMIR
333	MESUT	ERSOY	ANKARA
444	VELI	SURER	ISTANBUL
555	AYSE	GEZER	ISTANBUL

- The records as given below for the table of **BOOKS**.

ISBN	TITLE	STATUS
0-201-20-8	Problem Solving in C	A
0-501-70-6	Programming in Java	N
4-258-60-7	DBMS	A
0-201-00-6	Visual Basic	A
5-401-80-5	ASP	A
6-201-50-9	Algorithm	A
4-580-20-5	Object Oriented Programming	N

- The records as given below for the table of **AUTHORS**.

AID	ANAME	ASURNAME	COUNTRY
121	JERI R.	HANLY	USA
122	ELLIOT B.	KOFFMAN	USA
211	RICK	DECKER	GERMANY
212	STUART	HIRSHFIELD	GERMANY
311	GARY J.	BRONSON	USA
411	ANDREW	DUTHIE	USA
512	ROBERT	SEDGEWICK	ENGLAND

- The records as given below for the table of **BOOKAUT**.

ISBN	AUID
0-201-20-8	121
0-201-20-8	122
0-501-70-6	211
0-501-70-6	212
4-258-60-7	512
0-201-00-6	512
5-401-80-5	411
6-201-50-9	311
4-580-20-5	311
4-580-20-5	121

- The records as given below for the table of **BORROWING**.

STUID	BISBN	BORROWDATE	RETURNDATE	DUE DATE	PUNISHMENT
111	0-501-70-6	07-DEC-24	(null)	22-DEC-24	0
111	5-401-80-5	04-OCT-24	08-OCT-24	19-OCT-24	0
111	5-401-80-5	08-NOV-24	28-NOV-24	23-NOV-24	0
222	5-401-80-5	29-OCT-24	01-DEC-24	14-OCT-24	0
333	6-201-50-9	27-SEP-24	14-OCT-24	12-OCT-24	0
444	4-580-20-5	14-SEP-24	05-OCT-24	29-SEP-24	0
444	6-201-50-9	05-NOV-24	29-NOV-24	20-NOV-24	0
333	4-580-20-5	09-DEC-24	(null)	24-DEC-24	0

- Do NOT forget to COMMIT changes!!!

SQL Queries

Query-1: Write a query to display the list of books borrowed by a specific student (use substitution variable)

Enter Substitution Variable

Enter value for student_id:

111

OK

Cancel

STUID	TITLE	BORROWDATE	RETURNDATE
111	Programming in Java	07-DEC-24	(null)
111	ASP	08-NOV-24	28-NOV-24
111	ASP	04-OCT-24	08-OCT-24

Query-2: Write a Query to list all borrowed books along with the student who borrowed them and the borrowing and return dates.

ISBN	TITLE	STNAME	STSURNAME	BORROWDATE	RETURNDATE
0-501-70-6	Programming in Java	ALI	OKUR	07-DEC-24	(null)
5-401-80-5	ASP	SEVINC	ER	29-OCT-24	01-DEC-24
5-401-80-5	ASP	ALI	OKUR	08-NOV-24	28-NOV-24
5-401-80-5	ASP	ALI	OKUR	04-OCT-24	08-OCT-24
6-201-50-9	Algorithm	VELI	SURER	05-NOV-24	29-NOV-24
6-201-50-9	Algorithm	MESUT	ERSOY	27-SEP-24	14-OCT-24
4-580-20-5	Object Oriented Programming	MESUT	ERSOY	09-DEC-24	(null)
4-580-20-5	Object Oriented Programming	VELI	SURER	14-SEP-24	05-OCT-24

Query-3: Write a query to display the authors who have written books that have been borrowed by students. The list should be displayed in ascending order based on the authors' surnames.

ANAME	ASURNAME
GARY J.	BRONSON
RICK	DECKER
ANDREW	DUTHIE
JERI R.	HANLY
STUART	HIRSHFIELD

Query-4: Write a query to find the books with the titles containing the word 'Programming'.

TITLE
Programming in Java
Object Oriented Programming

Query-5: Write a query to display students whose names start with 'A'.

STNAME	STSURNAME
ALI	OKUR
AYSE	GEZER

Query-6: Write a query to find the students who borrowed books written by authors from 'USA'.

STNAME	STSURNAME
SEVINC	ER
MESUT	ERSOY
VELI	SURER
ALI	OKUR

Query-7: Write a query to display the borrowing information for the books that were returned late (the return date is after the due date). The output should include the student's name, the book title, the borrow date, the due date, and the return date.

STUID	BISBN	BORROWDATE	RETURNDATE	DUEDATE
111	5-401-80-5	08-NOV-24	28-NOV-24	23-NOV-24
222	5-401-80-5	29-OCT-24	01-DEC-24	14-OCT-24
333	6-201-50-9	27-SEP-24	14-OCT-24	12-OCT-24
444	4-580-20-5	14-SEP-24	05-OCT-24	29-SEP-24
444	6-201-50-9	05-NOV-24	29-NOV-24	20-NOV-24

Query-8: Write a query to display the books currently borrowed and not returned yet.

STNAME	STSURNAME	TITLE
ALI	OKUR	Programming in Java
MESUT	ERSOY	Object Oriented Programming

Query-9: Write a query to display author names from GERMANY in alphabetical order by author names.

ANAME	ASURNAME
RICK	DECKER
STUART	HIRSHFIELD

Query-10: Write a query to find the students who borrowed the books with the ISBN; 4-580-20-5 or 6-201-50-9

STNAME	STSURNAME
MESUT	ERSOY
VELI	SURER

Query-11: Write a query to display all books and their authors in ascending order by book title.

TITLE	ANAME	ASURNAME
ASP	ANDREW	DUTHIE
Algorithm	GARY J.	BRONSON
DBMS	ROBERT	SEDEGWICK
Object Oriented Programming	JERI R.	HANLY
Object Oriented Programming	GARY J.	BRONSON
Problem Solving in C	ELLIOT B.	KOFFMAN
Problem Solving in C	JERI R.	HANLY
Programming in Java	RICK	DECKER
Programming in Java	STUART	HIRSHFIELD
Visual Basic	ROBERT	SEDEGWICK

Query-12: Write a query to display the student ID, book ISBN, and the total number of days each book was borrowed (only for records where the book has been returned).

STUID	BISBN	DAYS_BORROWED
111	5-401-80-5	4
111	5-401-80-5	20
222	5-401-80-5	33
333	6-201-50-9	17
444	4-580-20-5	21
444	6-201-50-9	24

Query-13: Write a query to display the names and surnames of students, the titles of the books they borrowed, and the borrowing dates for all borrowing records that occurred between two specified dates. Use substitution variable for the start and end dates.

Enter Substitution Variable

×

Enter value for start_date:

OK Cancel

Enter Substitution Variable

×

Enter value for end_date:

OK Cancel

STNAME	STSURNAME	TITLE	BORROWDATE
SEVINC	ER	ASP	29-OCT-24
ALI	OKUR	ASP	04-OCT-24
MESUT	ERSOY	Algorithm	27-SEP-24
VELI	SURER	Object Oriented Programming	14-SEP-24