PROGRAM 8

Consider the following database of Student Enrollment in courses and books adopted for each course:

STUDENT (regno: String, name: String, major: String, bdate: date)

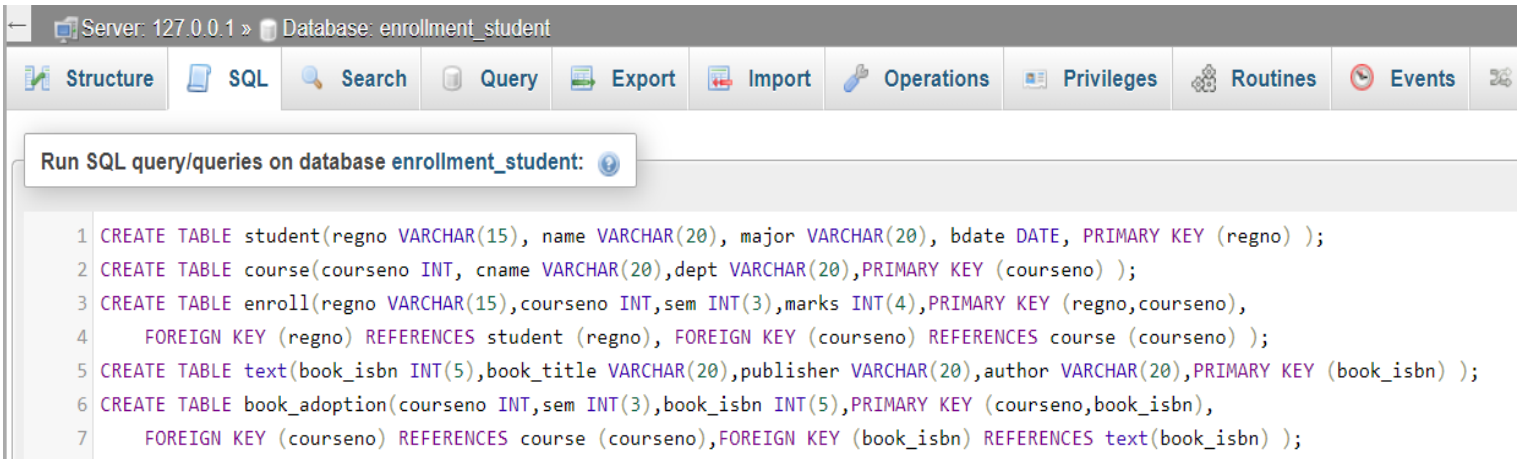
COURSE (course #: int, cname: String, dept: String)

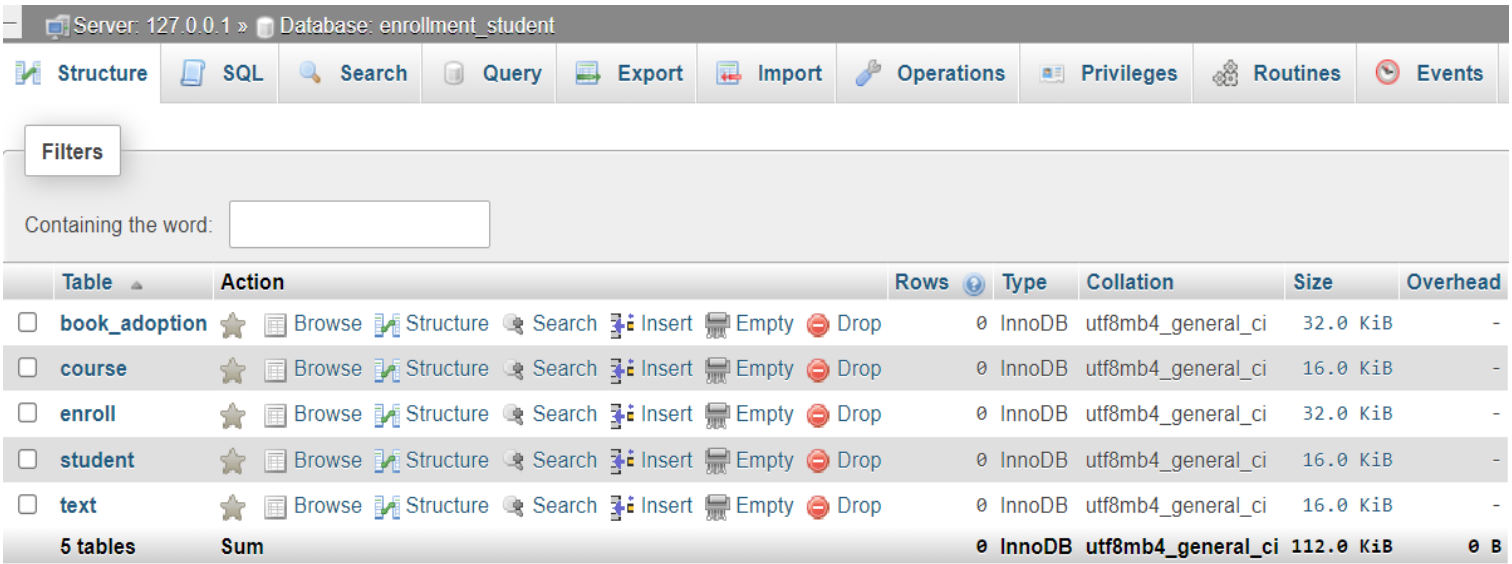
ENROLL (regno: String, cname: String, sem: int, marks: int)

BOOK_ADOPTION (course #: int, sem: int, book-ISBN: int)

TEXT(book-ISBN:int, book-title:String, publisher:String, author:String)

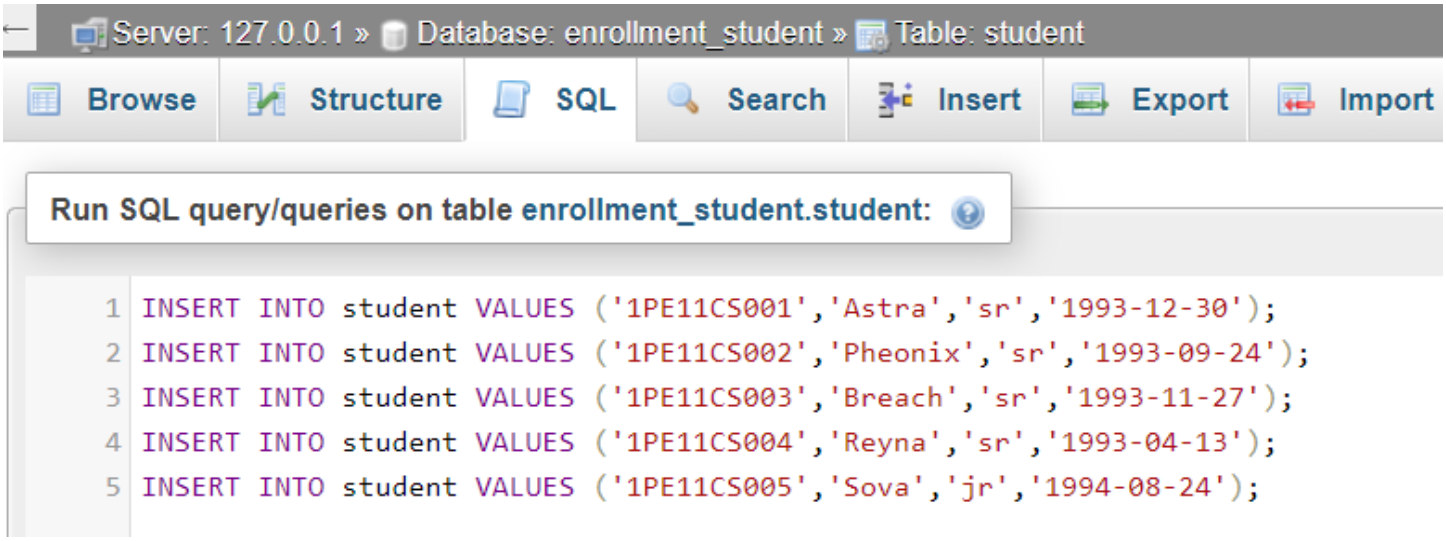
i. Create the above tables by properly specifying the primary keys and the foreign keys.

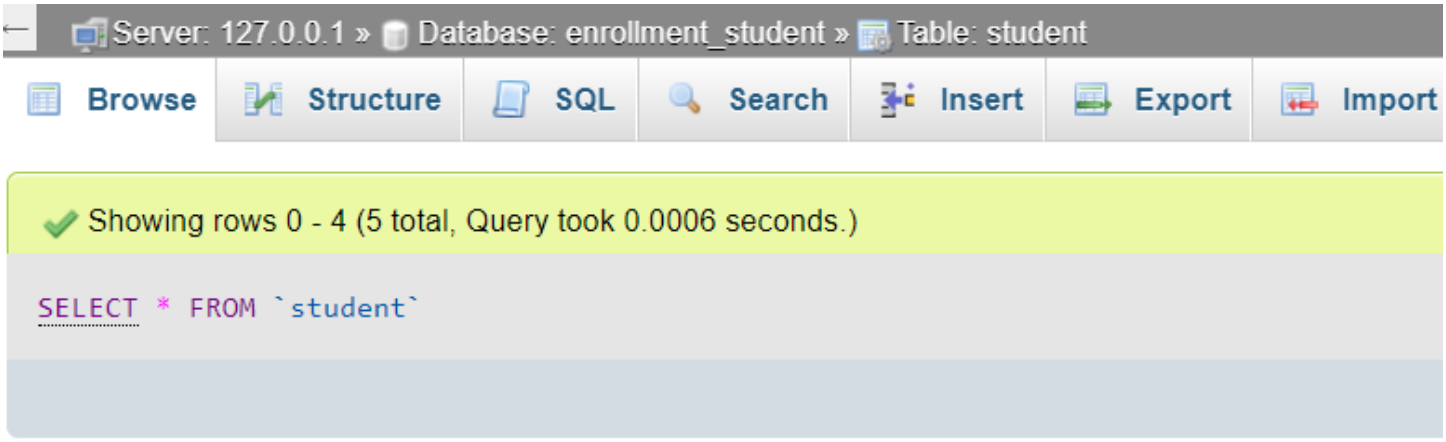




ii. Enter at least five tuples for each relation.

'STUDENT' table:



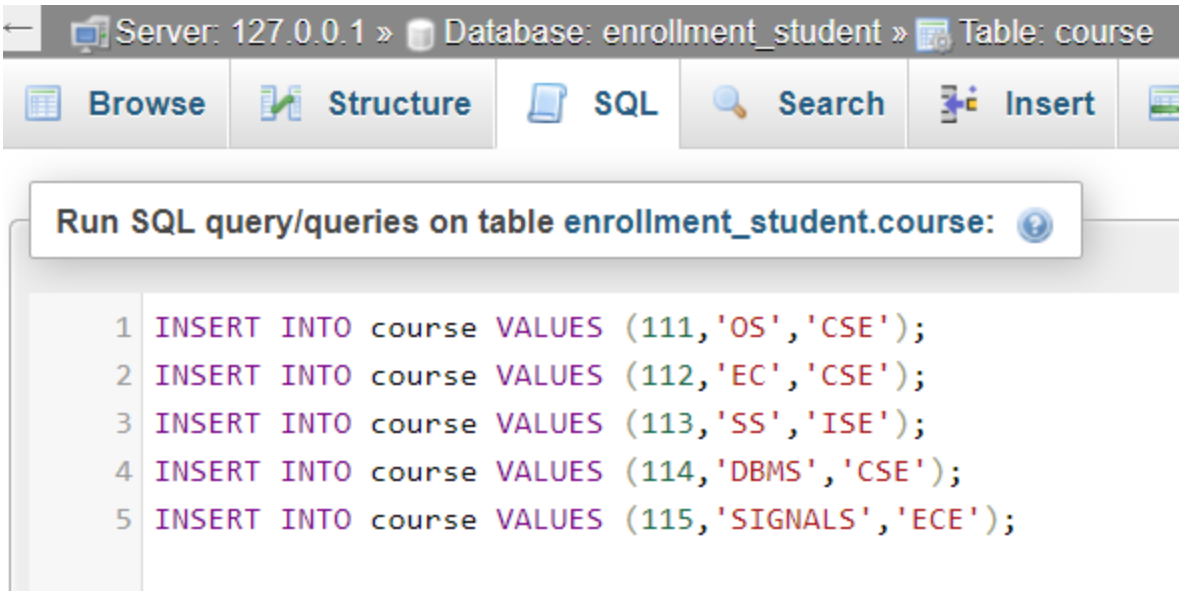


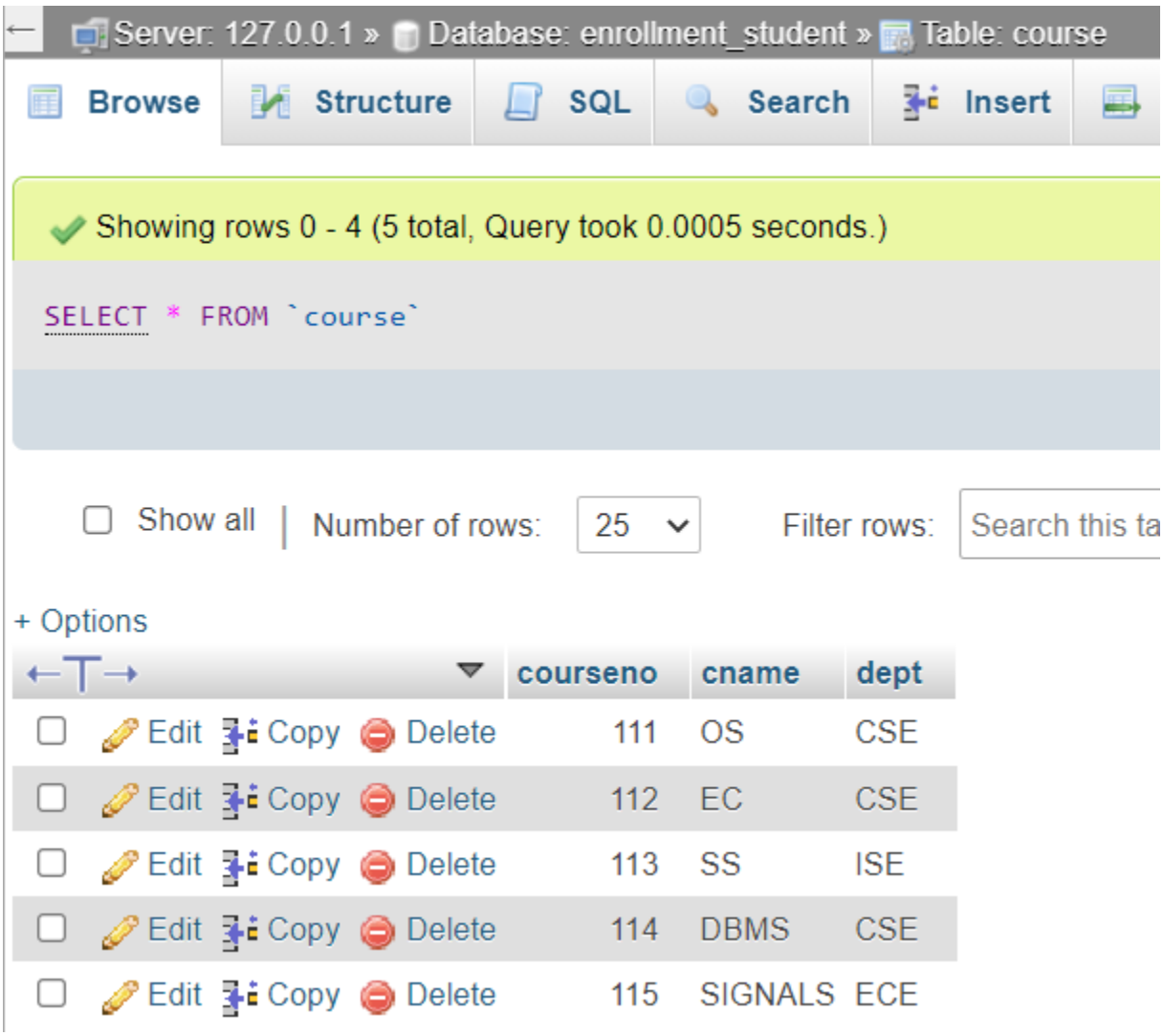
Show all | Number of rows: 25 Filter rows: Search this table Sort by k

+ Options

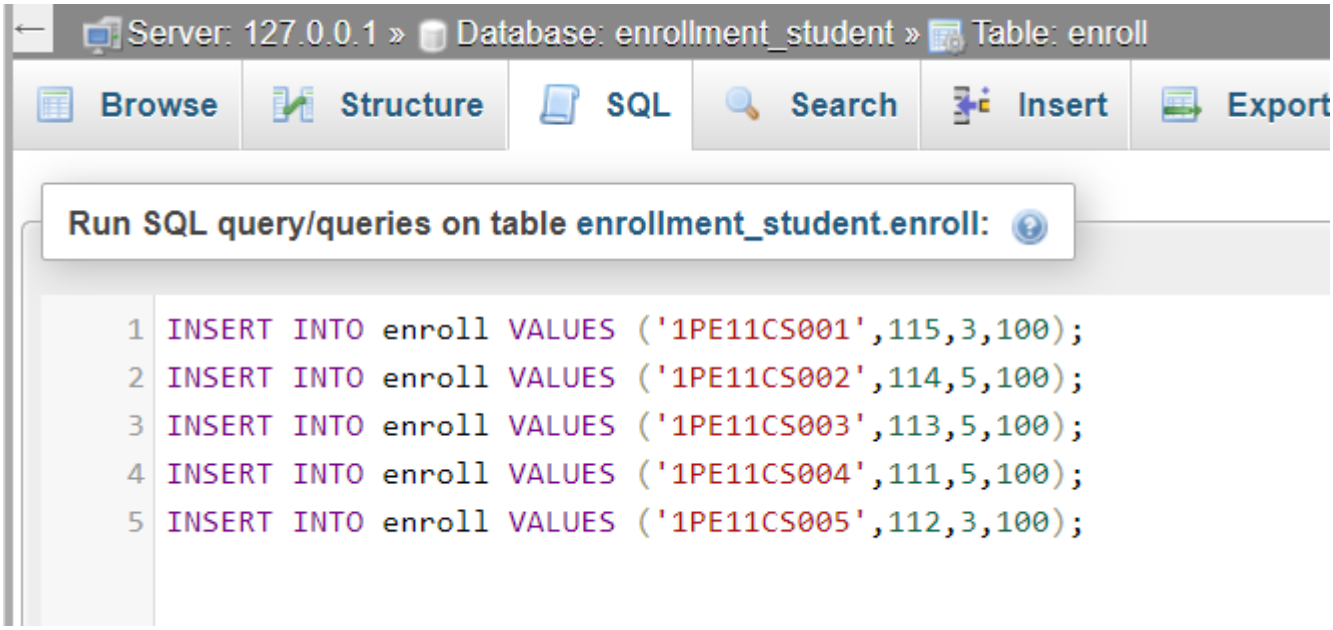
	regno	name	major	bdate
Edit Copy Delete	1PE11CS001	Astra	sr	1993-12-30
Edit Copy Delete	1PE11CS002	Pheonix	sr	1993-09-24
Edit Copy Delete	1PE11CS003	Breach	sr	1993-11-27
Edit Copy Delete	1PE11CS004	Reyna	sr	1993-04-13
Edit Copy Delete	1PE11CS005	Sova	jr	1994-08-24

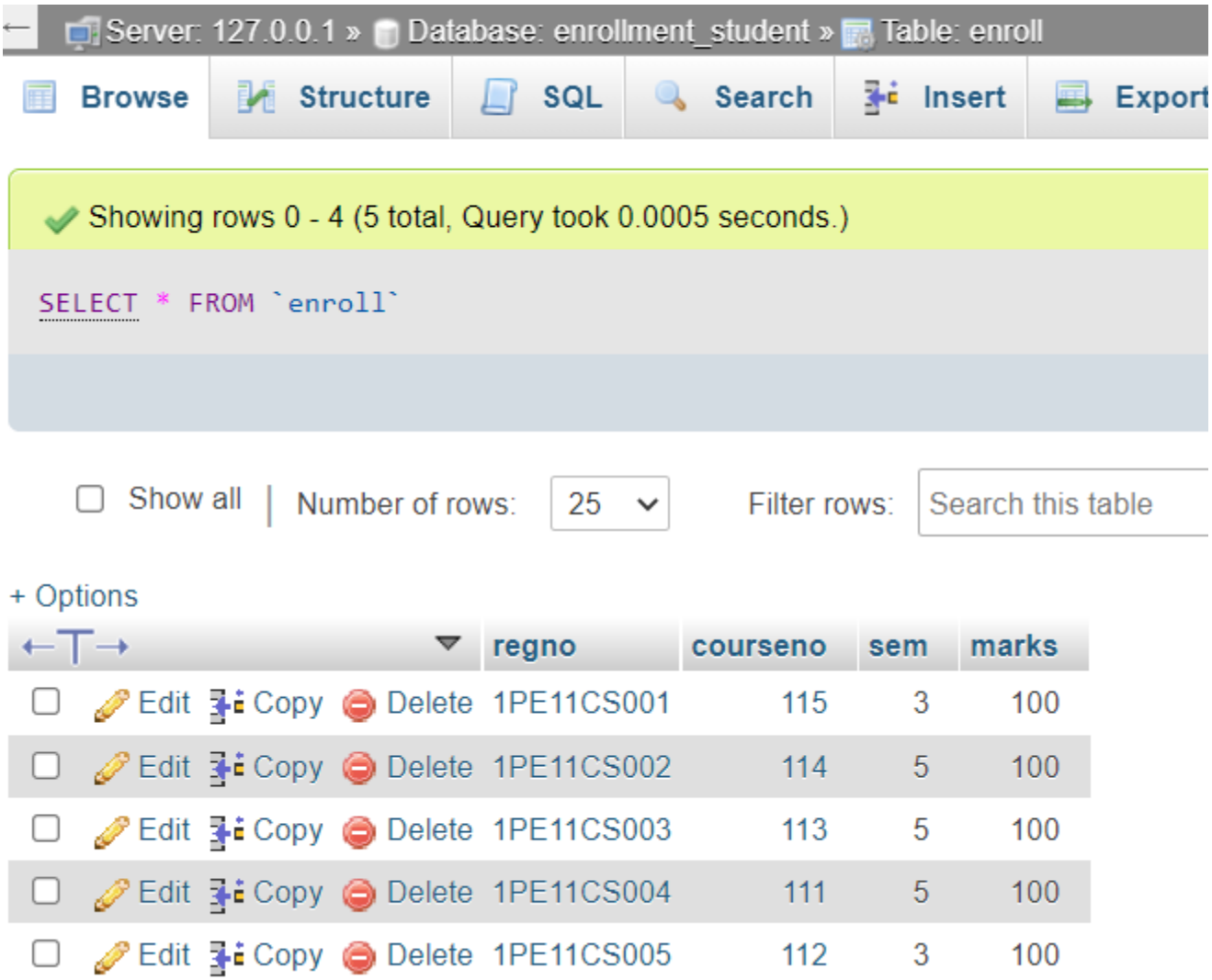
'COURSE' table:





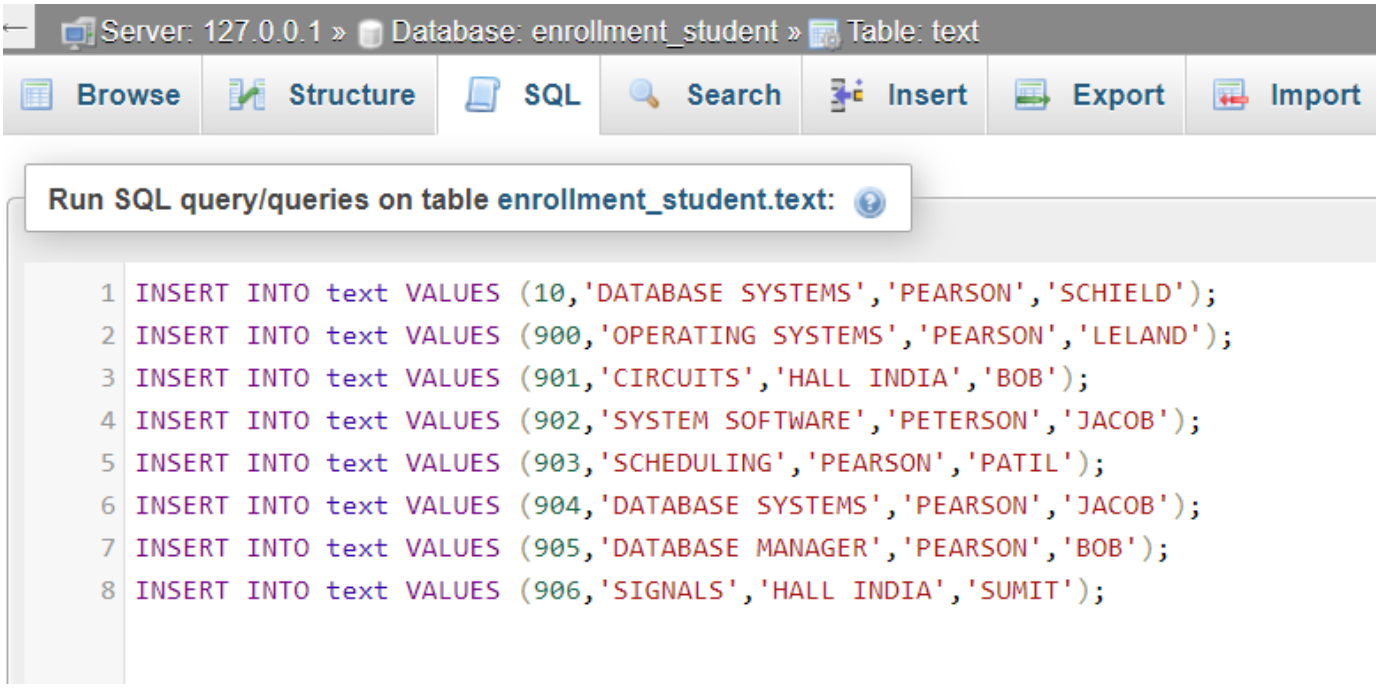
'ENROLL' table:

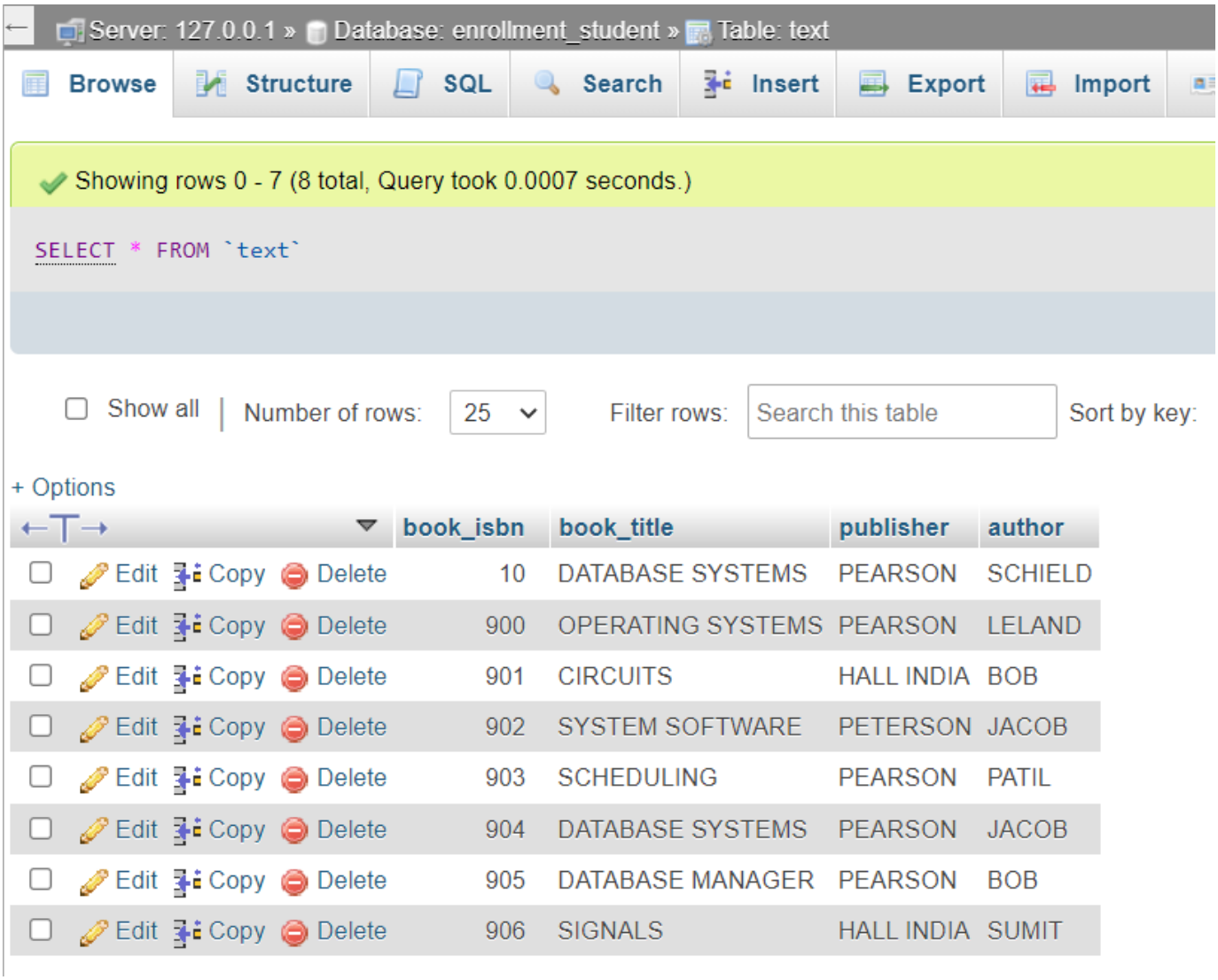




	regno	courseno	sem	marks
Edit Copy Delete	1PE11CS001	115	3	100
Edit Copy Delete	1PE11CS002	114	5	100
Edit Copy Delete	1PE11CS003	113	5	100
Edit Copy Delete	1PE11CS004	111	5	100
Edit Copy Delete	1PE11CS005	112	3	100

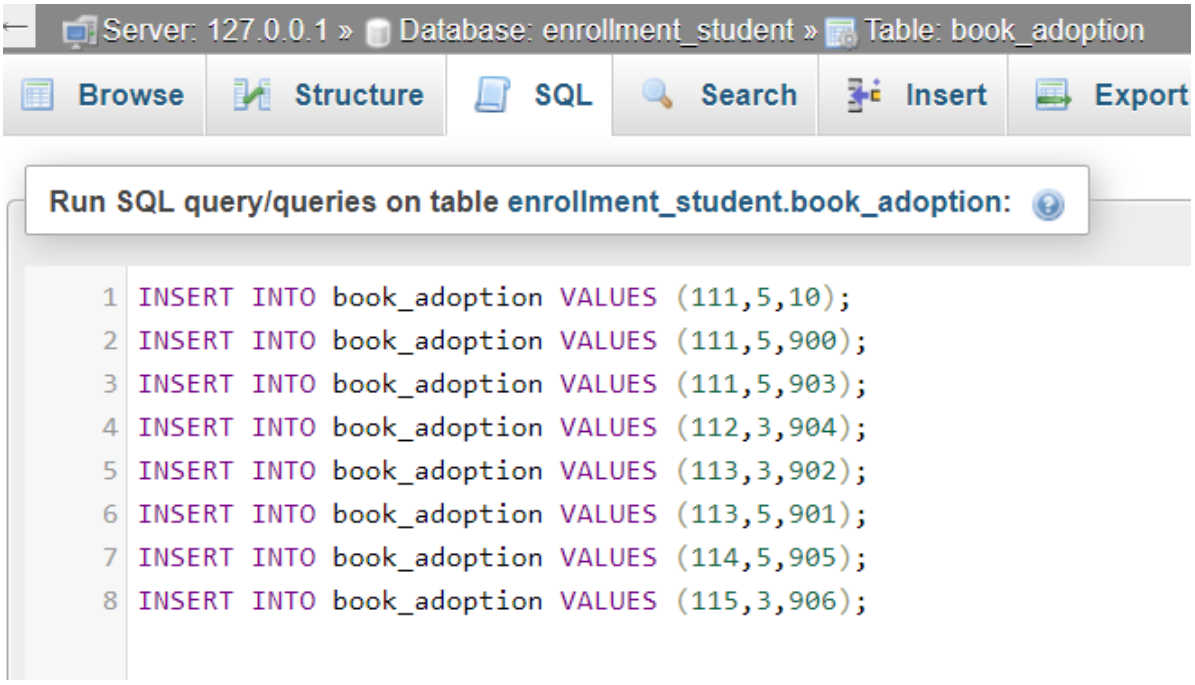
'TEXT' table:

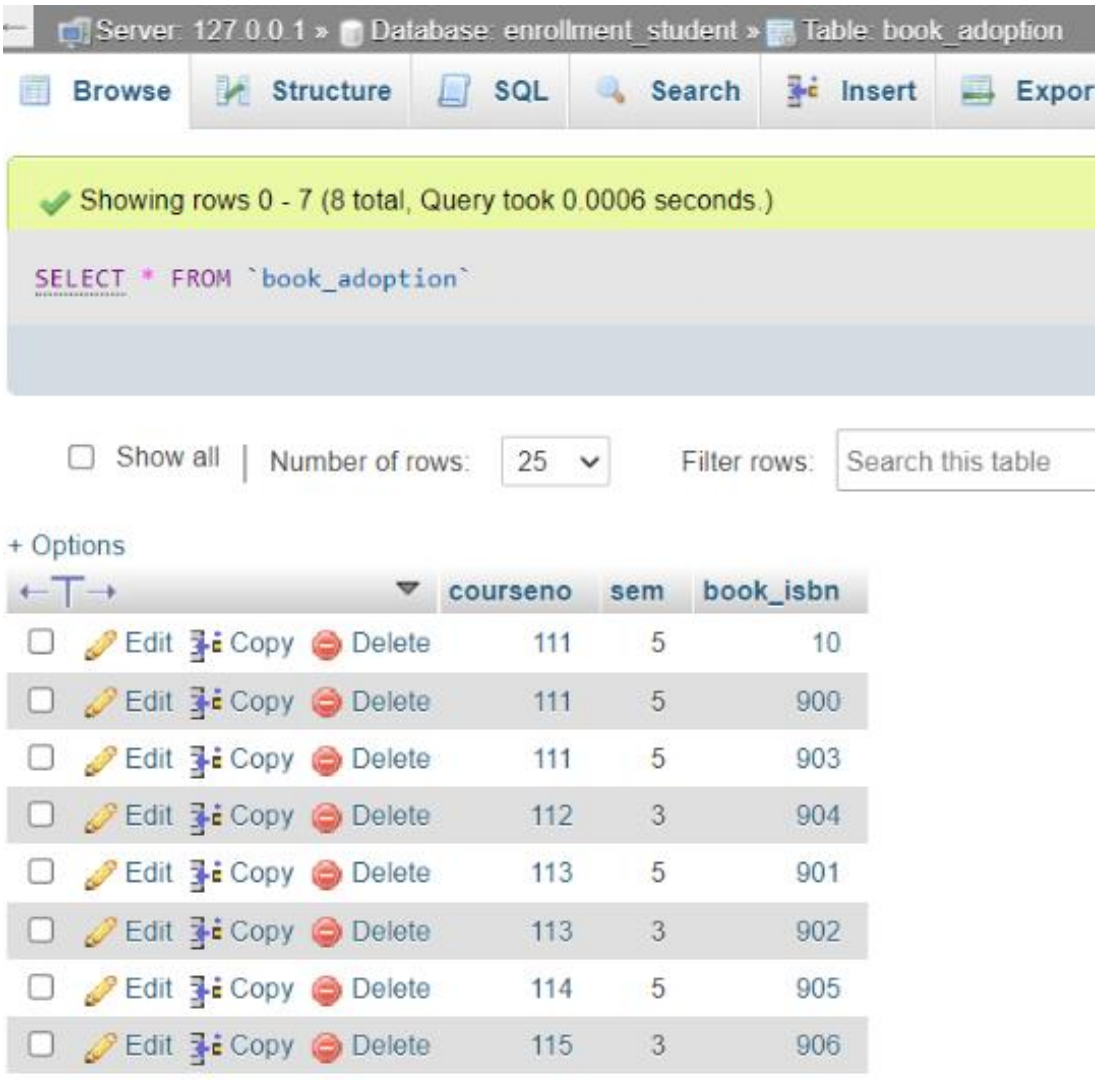




	book_isbn	book_title	publisher	author
Edit Copy Delete	10	DATABASE SYSTEMS	PEARSON	SCHIELD
Edit Copy Delete	900	OPERATING SYSTEMS	PEARSON	LELAND
Edit Copy Delete	901	CIRCUITS	HALL INDIA	BOB
Edit Copy Delete	902	SYSTEM SOFTWARE	PETERSON	JACOB
Edit Copy Delete	903	SCHEDULING	PEARSON	PATIL
Edit Copy Delete	904	DATABASE SYSTEMS	PEARSON	JACOB
Edit Copy Delete	905	DATABASE MANAGER	PEARSON	BOB
Edit Copy Delete	906	SIGNALS	HALL INDIA	SUMIT

'BOOK ADOPTION' table:



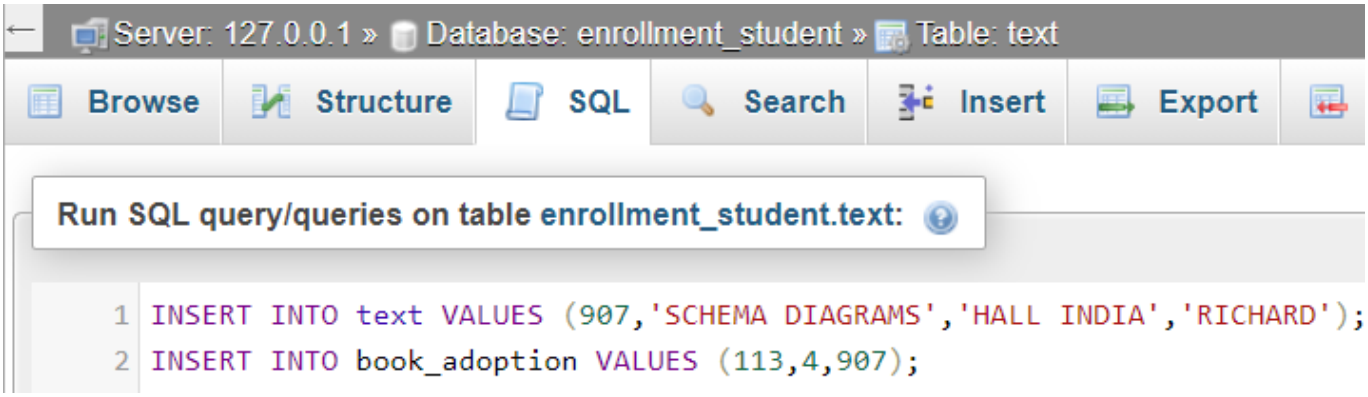


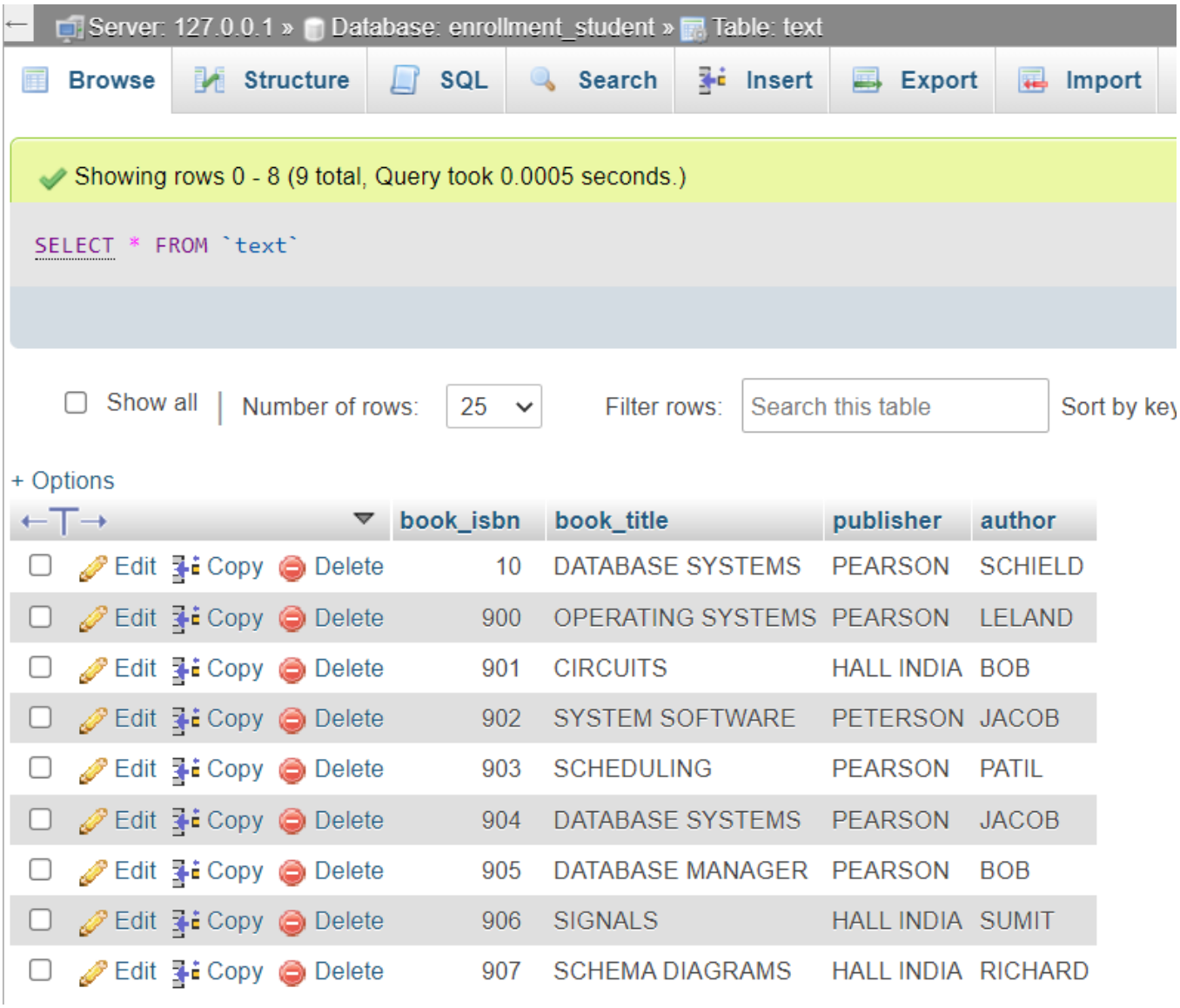
	courseno	sem	book_isbn
Edit Copy Delete	111	5	10
Edit Copy Delete	111	5	900
Edit Copy Delete	111	5	903
Edit Copy Delete	112	3	904
Edit Copy Delete	113	5	901
Edit Copy Delete	113	3	902
Edit Copy Delete	114	5	905
Edit Copy Delete	115	3	906

iii. Demonstrate how you add a new text book to the database and make this book be adopted by some department.

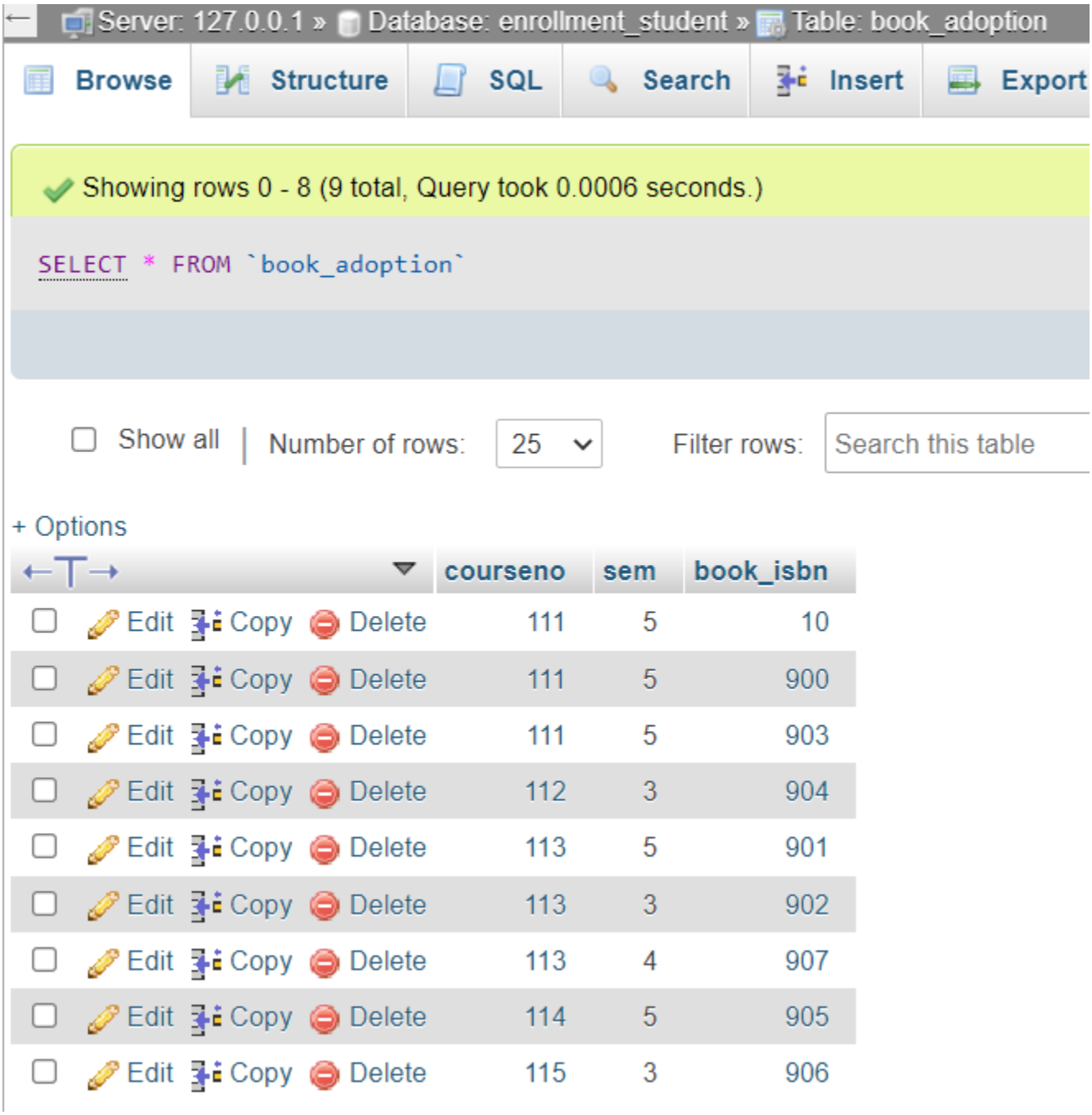
Query:

INSERT INTO text VALUES (907,'SCHEMA DIAGRAMS','HALL INDIA','RICHARD');
INSERT INTO book_adoption VALUES (113,4,907);





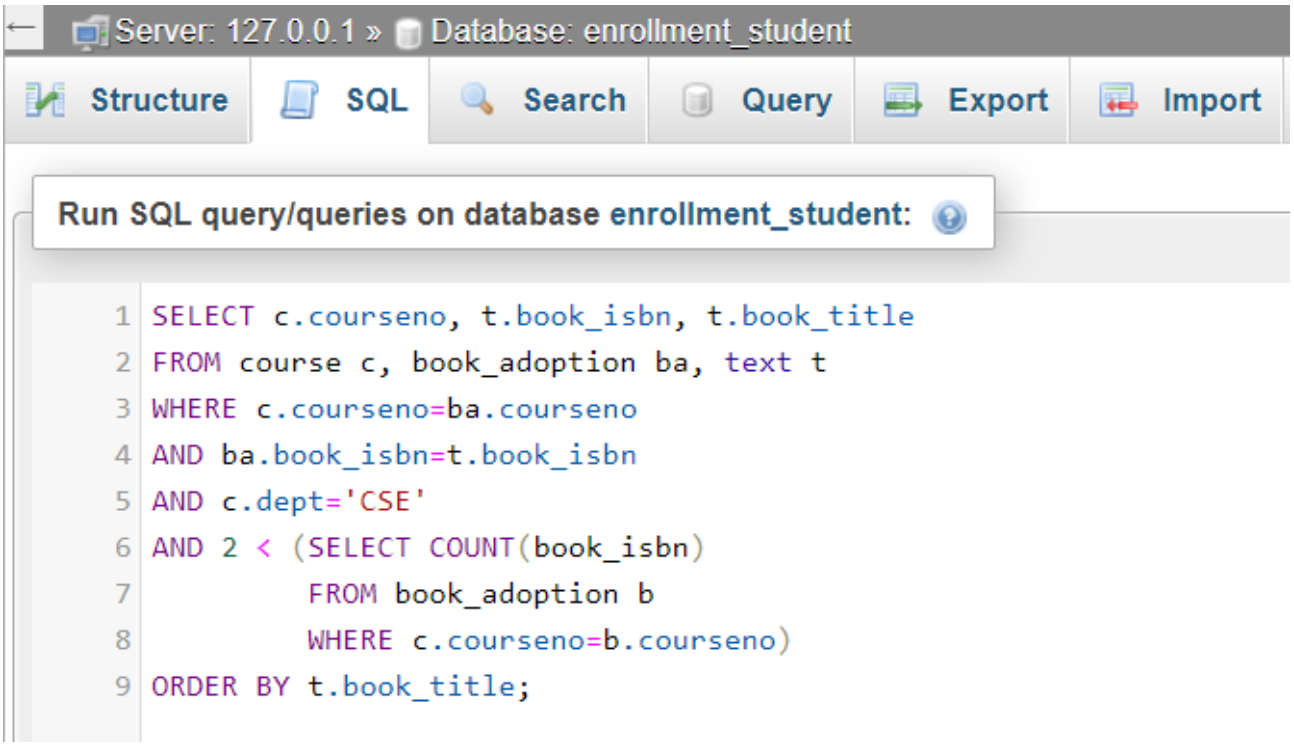
	book_isbn	book_title	publisher	author
Edit Copy Delete	10	DATABASE SYSTEMS	PEARSON	SCHIELD
Edit Copy Delete	900	OPERATING SYSTEMS	PEARSON	LELAND
Edit Copy Delete	901	CIRCUITS	HALL INDIA	BOB
Edit Copy Delete	902	SYSTEM SOFTWARE	PETERSON	JACOB
Edit Copy Delete	903	SCHEDULING	PEARSON	PATIL
Edit Copy Delete	904	DATABASE SYSTEMS	PEARSON	JACOB
Edit Copy Delete	905	DATABASE MANAGER	PEARSON	BOB
Edit Copy Delete	906	SIGNALS	HALL INDIA	SUMIT
Edit Copy Delete	907	SCHEMA DIAGRAMS	HALL INDIA	RICHARD

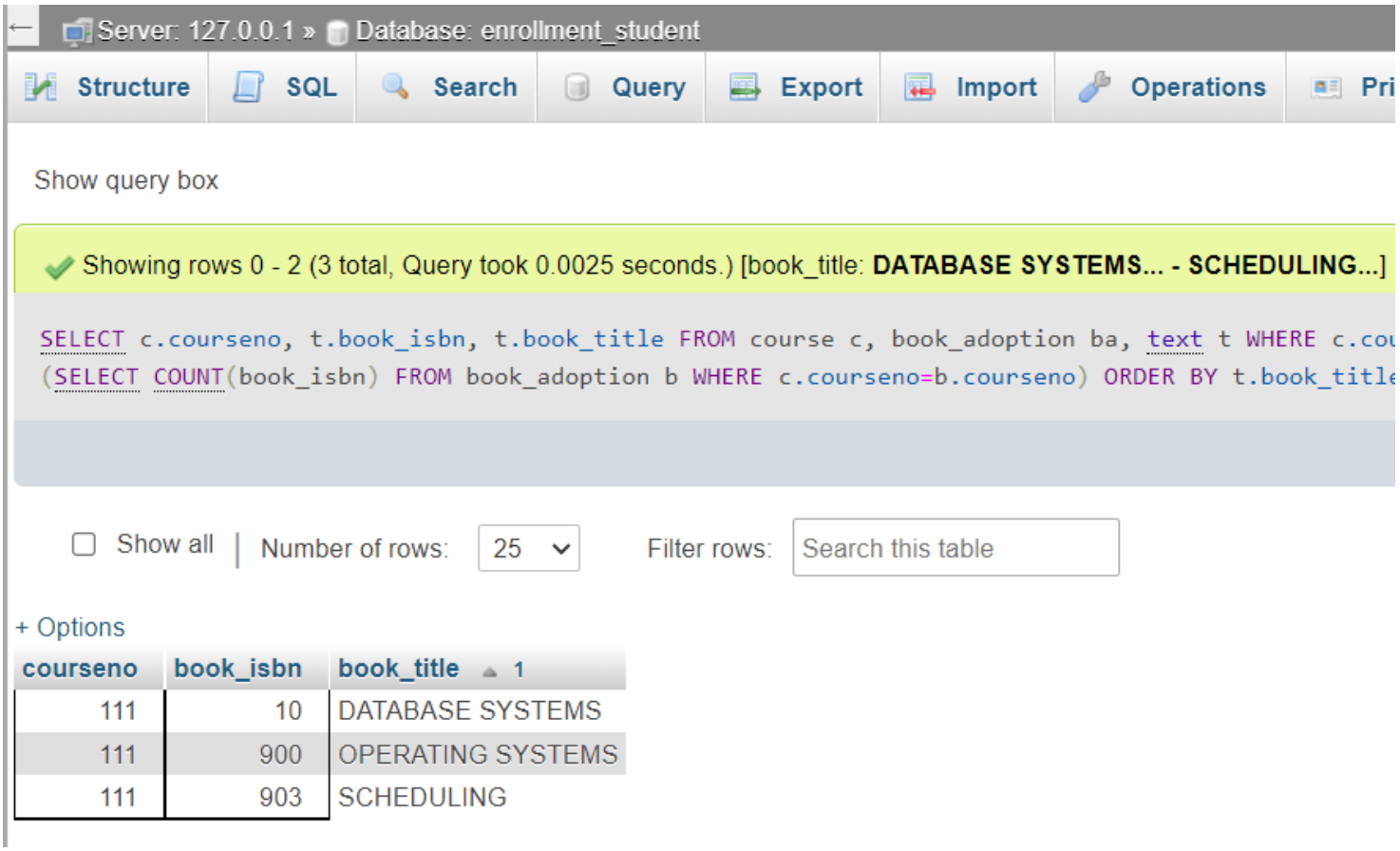


iv. Produce a list of text books (include Course #, Book-ISBN, Book-title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.

Query:

SELECT c.courseno, t.book_isbn, t.book_title FROM course c, book_adoption ba, text t WHERE c.courseno=ba.courseno AND ba.book_isbn=t.book_isbn AND c.dept='CSE' AND 2 < (SELECT COUNT(book_isbn) FROM book_adoption b WHERE c.courseno=b.courseno) ORDER BY t.book_title;





courseno	book_isbn	book_title ▲ 1
111	10	DATABASE SYSTEMS
111	900	OPERATING SYSTEMS
111	903	SCHEDULING

v. List any department that has all its adopted books published by a specific publisher.

Query:

SELECT DISTINCT c.dept FROM course c WHERE c.dept IN (SELECT c.dept FROM course c,book_adoption b,text t WHERE c.courseno=b.courseno AND t.book_isbn=b.book_isbn AND t.publisher='PEARSON') AND c.dept NOT IN (SELECT c.dept FROM course c,book_adoption b,text t WHERE c.courseno=b.courseno AND t.book_isbn=b.book_isbn AND t.publisher != 'PEARSON');