Assignment Number: 4

Title:

Implement Nested queries DDL, DML

Problem statement:

Following tables are created in the previous assignment.

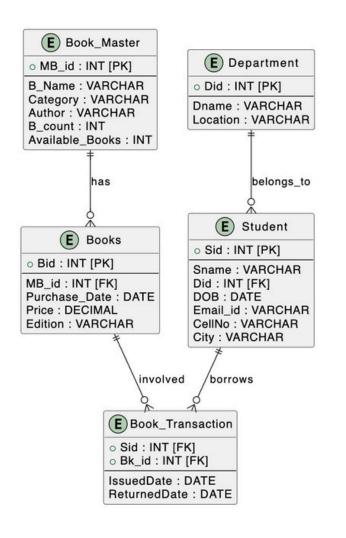
Book_Master (MB_id, B_Name, Category, Author, B_count, Available_Books)

Books (Bid, MB_id, Purchase_Date, Price, Edition)

Book_Transaction(Sid, Bk_id, IssuedDate, ReturnedDate)

Student(Sid, Sname, Did, DOB, Email_id, CellNo, City)

Department(Did, Dname, Location)



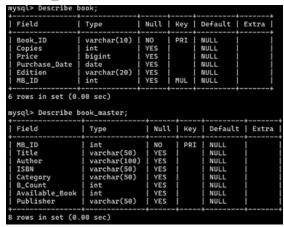
Queries:

1. Add a book in transaction which is not present in Books. What's your observation?



Since 'B008' is not present in the book table, the insert statement's attempt to add a record for transaction 'T1015' involving student 'B1509' and book 'B008' may violate any applicable foreign key constraints.

2. Make sure MB_id field in Books will have only those values which are present in MB_id in Book_Master;

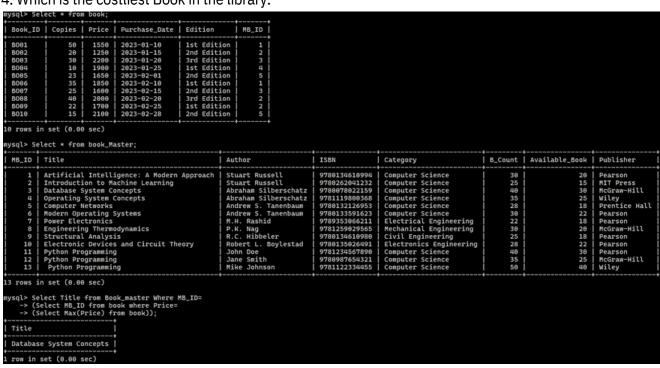


up_ID	Title				Author		ISBN	Category	B_Count	Available_Book	Publisher
1	Artificial	Intell:	igence: A Modern	Approach	Stuart Rus	ssell	9780134610994	Computer Science	30	20	Pearson
2	Introducti	on to Mi	achine Learning		Stuart Rus	ssell	9780262041232	Computer Science	25	15	MIT Press
3 1	Database S	ystem Co	oncepts		Abraham Si	ilberschatz	9780078022159	Computer Science	40	30	McGraw-Hill
4	Operating	System (Concepts		Abraham Si	ilberschatz	9781119800368	Computer Science	35	25	Wiley
5	Computer N	letworks			Andrew S.	Tanenbaum	9788132126953	Computer Science	28	18	Prentice Hal
	Modern Ope		Systems		Andrew S.		9780133591623	Computer Science	30	22	Pearson
	Power Elec				M.H. Rashi	id	9789353066211	Electrical Engineering	22	18	Pearson
	Engineerin				P.K. Nag		9781259029565	Mechanical Engineering	30	20	McGraw-Hill
	Structural				R.C. Hibbe		9780134610980	Civil Engineering	25	18	Pearson
			and Circuit The	eory	Robert L.	Boylestad	9780135026491	Electronics Engineering	28	22	Pearson
	Python Programming				John Doe		9781234567890		40	30	Pearson
	12 Python Programming				Jane Smith		9780987654321	Computer Science	35	25	McGraw-Hill
		13 Python Programming									
13 rows in	Python Pr set (0.00	sec)	ng		Mike Johns	son	9781122334455	Computer Science	j 50 +	40	Wiley
13 rows in	Python Pr set (8.88 ect * from t	sec) book;	g Purchase_Date	Edition	Mike Johns	-+ 	9781122334455	Computer Science			
13 rows in	Python Pr set (8.88 ect * from t	sec) book;	ng	Edition	Mike Johns	-+ 	9781122334455	Computer Science			
13 rows in sql> Sel	Python Pr set (0.00 ect * from	sec) book; Price	g Purchase_Date	Edition	Mike Johns MB_ID		9781122334455	Computer Science			
rows in sql> Sel- Book_ID B001 B002	Python Pr set (0.00 ect * from Copies	ogrammi sec) book; Price	Purchase_Date	Edition	Mike Johns MB_ID		9781122334455	Computer Science			
13 rows in sql> Sel- Book_ID B081 B082 B083	Python Pr set (0.00 ect * from Copies 50 20	sec) book; Price 1550 1250	Purchase_Date 2023-01-10 2023-01-15	Edition 1st Edit: 2nd Edit:	Mike Johns MB_ID on 1 on 2 on 3		9781122334455	Computer Science			
13 rows in sql> Sel- Book_ID 8081 8082 8083 8084	Python Pr set (0.00 ect * from Copies 50 20 30	price 1550 1250 2200	Purchase_Date 2023-01-10 2023-01-20	Edition 1st Edit: 2nd Edit: 3rd Edit:	Mike Johns MB_ID on 1 on 2 on 3 on 4		9781122334455	Computer Science			
13 rows in sql> Sel Book_ID Bool Bool Bool Bool Bool Bool Bool Boo	Python Pr set (0.00 ect * from Copies 50 20 30 10 23 35	price 1550 1250 2200 1900	Purchase_Date 2023-01-10 2023-01-15 2023-01-20 2023-01-25	Edition 1st Edit: 2nd Edit: 3rd Edit: 1st Edit:	Mike Johns MB_ID on 1 on 2 on 3 on 4 on 5		9781122334455	Computer Science			
13 rows in sql> Sel- 800k_ID 8001 8002 8003 8004 8005 8006 8006 8007	Fython Pr set (0.00 ect * from Copies 50 20 30 10 23 35 25	price Sec) book; Price 1558 1259 2200 1900 1650 1858 1600	Purchase_Date 2023-01-16 2023-01-15 2023-01-25 2023-02-01 2023-02-10 2023-02-10 2023-02-10	Edition 1st Edit: 2nd Edit: 3rd Edit: 1st Edit: 2nd Edit: 1st Edit: 2nd Edit:	Mike Johns MB_ID on 1 on 2 on 3 on 4 on 5 on 1 on 1		9781122334455	Computer Science			
13 rows in sql> Sel- Book_ID BO01 BO02 BO03 BO04 BO05 BO06 BO06 BO06 BO06 BO06 BO06 BO06 BO06	Python Pr set (0.00 ect * from Copies 50 20 30 10 23 35 40	sec) book; Price 1550 1250 2200 1900 1650 1850 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	Purchase_Date 2023-01-10 2023-01-15 2023-01-25 2023-02-01 2023-02-10 2023-02-20 2023-02-20 2023-02-20	Edition 1st Edit: 2nd Edit: 1st Edit: 2nd Edit: 1st Edit: 2nd Edit: 3rd Edit: 3rd Edit:	Mike Johns MB_ID on 1 on 2 on 3 on 4 on 5 on 1 on 2		9781122334455	Computer Science			
13 rows in sql> Sel- Book_ID B001 B002 B003 B004 B004 B005 B006 B006 B007	Fython Pr set (0.00 ect * from Copies 50 20 30 10 23 35 25	price Sec) book; Price 1558 1259 2200 1900 1650 1858 1600	Purchase_Date 2023-01-16 2023-01-15 2023-01-25 2023-02-01 2023-02-10 2023-02-10 2023-02-10	Edition 1st Edit: 2nd Edit: 3rd Edit: 1st Edit: 2nd Edit: 1st Edit: 2nd Edit:	MB_ID		9781122334455	Computer Science			

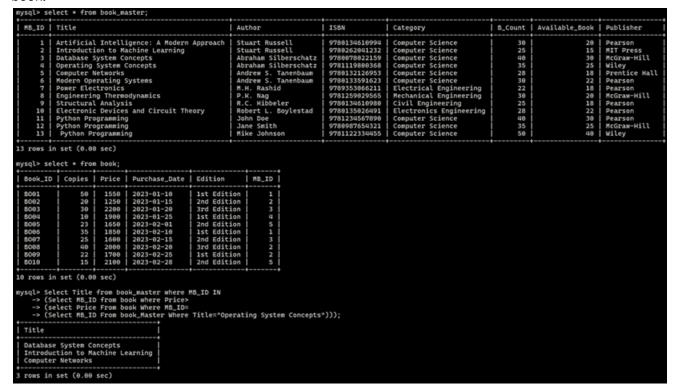
3. Display all mechanical student names

S_ID	Name	Email		i	Mobile_No	DOB	Dep_ID
B1500	H Aarav Sharma	aarav.sha	rma@gmail.co	n	9876543210	 2000-01-15	+ D001
B1501	Vivaan Patel	Vivaan@gma		" i	9123456789	1999-02-20	D003
B1503	Vihaan Gupta		ota@gmail.co	m i	9871234567	2002-04-25	D002
B1504	Arjun Rao		gmail.com	i	9988776655	1998-05-30	D001
B1505	Sai Kumar	sai.kumar	@gmail.com		9876543210	2000-06-15	D005
B1506	Reyansh Singh		ingh@gmail.c		9123456789	2003-07-20	D004
B1507	Krishna Iyer		yer@gmail.co	m	9988776655	1997-08-05	D003
B1508	Rohan Mehta		ta@gmail.com		9871234567	2001-09-12	D002
B1509	Anaya Joshi	anaya.josh	ni@gmail.com		9123456789	2002-10-30	D001
D002 D003 D004	Electrical Eng Mechanical Eng Civil Engineer	gineering	2nd Floor 2nd Floor 3rd Floor		10.00 5.00 3.00		
D005	Electronics E		7th Floor	i	2.00		
rows i	n set (0.00 sec)		+	+	+		
-> (elect Name from S Select Dep_ID Fro here Department_N	om Departmen	nt	erir	ng");		
Name							
	Patel						

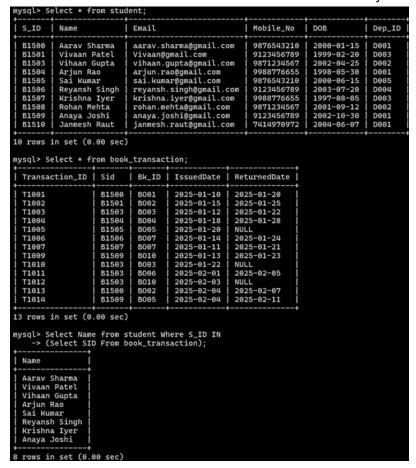
4. Which is the costliest Book in the library.



5. Display the books information costlier than the price of the 'Operating System Concepts' book.



6. List the names of the students who have accessed library book. (without duplicates)



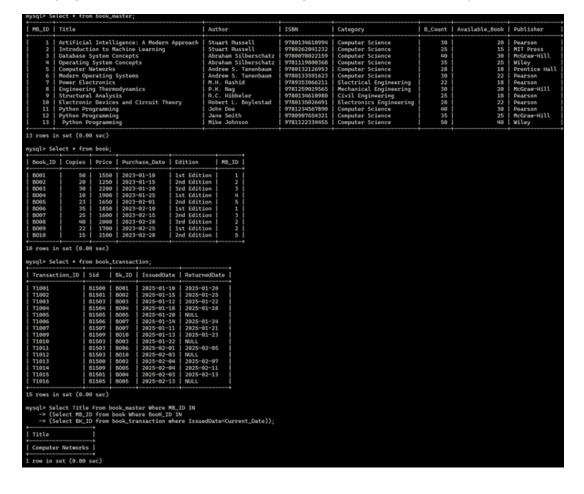
7. List the student Names who have not accessed a single book from Library.

mysql> Select * f	rom stud	ent;					
S_ID Name	i	Email			Mobile_No	DOB	Dep_ID
B1500 Aarav S B1501 Vivaan B1503 Vihaan B1504 Arjun R B1505 Sai Kum B1506 Reyansh B1507 Krishna B1508 Rohan M B1509 Anaya J B1510 Janmesh	Patel Gupta Gupta Singh Iyer Sehta Oshi Raut	Vivaan@g vihaan.g arjun.ra sai.kuma reyansh. krishna. rohan.ma anaya.jo	narma@gmail.com gmail.com gupta@gmail.com ar@gmail.com ar@gmail.com singh@gmail.com ehta@gmail.com oshi@gmail.com	om	9876543210 9123456789 9871234567 9988776655 9876543210 9123456789 9988776655 9871234567 9123456789 7414970972	2000-01-15 1999-02-20 2002-04-25 1998-05-30 2000-06-15 2003-07-20 1997-08-05 2001-09-12 2002-10-30 2004-06-07	D001 D003 D002 D001 D005 D004 D003 D002 D001
mysql> Select * f		_transact	ion;				
Transaction_ID	Sid	Bk_ID	IssuedDate	Ret	turnedDate		
T1001 T1002 T1003 T1004 T1005 T1006 T1007 T1010 T1011 T1011 T1011	B1500 B1501 B1503 B1504 B1505 B1506 B1507 B1509 B1503 B1503 B1503 B1500 B1509	B001 B002 B003 B007 B007 B010 B003 B006 B010 B002 B005	2025-01-10 2025-01-15 2025-01-12 2025-01-20 2025-01-14 2025-01-11 2025-01-13 2025-01-22 2025-02-01 2025-02-03 2025-02-04 2025-02-04	202 202 NUL 202 202 NUL 202 NUL 202	25-01-24 25-01-21 25-01-23 L 25-02-05		
13 rows in set (0 mysql> Select Nam	e from s			IN			

8. Display the book names which are returned today(13-2-2025).(remove duplication)

ysql> Sel	lect * fr	om book,	master;										
MB_ID	Title					Author			ISBN	Category	B_Count	Available_Book	Publisher
1	Artifici	al Intel	ligence	: A Modern	Approach	Stuart	Russel	1	9780134610994	Computer Science	30	20	Pearson
2				Learning		Stuart	Russel		9780262041232	Computer Science	25	15	MIT Press
	Database							rschatz	9780078022159	Computer Science	40	30	McGraw-Hill
	Operatin			ts				rschatz	9781119800368	Computer Science	35	25	Wiley
	Computer							enbaun	9780132126953	Computer Science	28	18	Prentice Hall
6	Modern O	perating	System	s		Andrew		enbaum	9780133591623	Computer Science	30	22	Pearson
7 !	Pomer El	ectronic	5			M.H. R			9789353066211	Electrical Engineering	22	18	Pearson McGraw-Hill
8	Engineer. Structur	ing iner	modynam:	ıcs		P.K. N.	ag (bbalar		9781259029565	Mechanical Engineering Civil Engineering	30	29	Pearson
10	Flactron	ic David	os and o	Circuit The	oru.	Robert	1 Roy	lastad	9780135026491	Electronics Engineering	28	22	Pearson
	Python P			carcare ine	,	John D		cescan	9781234567890	Computer Science	40	30	Pearson
	Python P					Jane Si			9780987654321	Computer Science	35	25	McGraw-Hill
13	Python					Mike J			9781122334455	Computer Science	50	49	Wiley
rows in	n set (0.	00 sec)											
rsql> Sel	lect * fr	on book;											
Book_ID	Copies	Price	Purch	hase_Date	Edition	MB.	ID						
8091	50	1550		-01-10	1st Edit		1						
8002	20	1256		-01-15	2nd Edit:		2						
8003 8004	30	1900		-01-20	3rd Edit:		3						
8095	10	1656		-01-25 -02-01	1st Edit: 2nd Edit:		5						
B006	35	1850		-02-10	1st Edit:		1						
8097	25	1600		-02-15	2nd Edit:		3 j						
8008	40	2000		-02-20	3rd Edit:		2						
B009	22	1700	2023	-02-25	1st Edit:		2						
8010	15	2106	2023	-02-28	2nd Edit:	on	5						
	lect * fr						:						
	tion_ID			IssuedDat		edDate							
T1001	. !	B1500	8091	2025-01-1			!						
T1002		81501	8002	2025-01-1			!						
T1003 T1004		B1593 B1594	8093 8094	2025-01-1			!						
T1004		81505	8005	2025-01-2		1-20							
T1006	i	81506	8097	2025-01-1		1-24	i						
T1007	i	81507	8007	2025-01-1									
T1009		81509	8019	2025-01-1			i .						
T1010		B1503	8093	2025-01-2									
T1011		B1503	8006	2025-02-0		2-05	!						
T1012	. !	81503	8010	2025-02-0			!						
T1013		B1500	8092	2025-02-0									
T1014 T1015		81509	8005 8004	2025-02-0									
11015		B1501	8094	2025-02-0	3 2025-	72-13	<u> </u>						
rows in	n set (0.	90 sec)											
-> (Se	elect MB_	ID from	book Who	ter Where M ere BooK_ID ansaction w	IN	medDate	-Curren	t_Date))					
Title			i										
Operation	ng System	Concept	s I										
row in s	set (0.00	sec)											

9. Display BookNames which are issued today(13-2-2025) .(remove duplication)



10. Display the Book names which are read by student B1503.

	ect * from					·					·	+	
MB_ID 1	Title					Author			ISBN	Category	B_Count	Available_Book	Publisher
				A Modern	Approach	Stuart			9780134610994	Computer Science	30	20	Pearson
	Introduct:					Stuart			9780262041232	Computer Science	25	15	MIT Press
	Database : Operating							lberschatz lberschatz	9780078022159 9781119800368	Computer Science Computer Science	40 35	30 25	McGraw-Hill Wiley
	Computer !							Fanenbaum	9780132126953	Computer Science	28	18	Prentice Ha
	Modern Ope							Tanenbaum	9780133591623	Computer Science	30	22	Pearson
7 1	Power Ele	ctronic:				M.H. F	tashio		9789353066211	Electrical Engineering	22	18	Pearson
	Engineeri			ics		P.K. 1			9781259029565	Mechanical Engineering	30	20	McGram-Hill
	Structura					R.C. F			9780134610980	Civil Engineering	25	18	Pearson
	Electronic Python Pro			ircuit The	ory	John C		Boylestad	9780135026491	Electronics Engineering Computer Science	28] 22] 39	Pearson Pearson
	Python Pr					Jane S			9780987654321	Computer Science	35	25	McGraw-Hill
	Python P					Mike :		on	9781122334455		50		
	set (0.00												
		·	Purch	ase_Date	Edition	ME	_ID	i					
8001	59	1550	2023-	-01-10	1st Edit	ion	1	i					
B002	20	1250		01-15	2nd Edit		2	i					
B003	30	2200		01-20	3rd Edit		3	!					
B064 B065	10	1900 1650		-01-25 -02-01	1st Edit		4 5						
B005 B006	35	1850		-02-01	2nd Edit 1st Edit		1	1					
B087	25	1600		02-15	2nd Edit		3	i					
8008	40	2000		02-20	3rd Edit		2	i					
B009	22	1788		02-25	1st Edit		2	!					
8010	15	2100	2023-	02-28	2nd Edit	ion	5	!					
	set (0.0		transact	ion;									
Transact:	ion_ID !	Sid	Bk_ID	IssuedDat	e Retur	nedDate	1						
T1001		31500	B091	2025-01-1		01-20							
T1002 T1003		81501 81503	B092 B093	2025-01-1		01-25	1						
T1003		81504	B093	2025-01-1 2025-01-1		01-22 01-28	i .						
T1005		31505	B005	2025-01-2		-1 20	i						
T1006		81506	B097	2025-01-1		01-24							
1007		31507	B007	2025-01-1		01-21							
11009		31509	B010	2025-01-1		01-23							
T1010		81503	B003	2025-01-2		03-05	!						
T1011		81503 81503	B096 B019	2025-02-0		02-05	1						
		31500	B092	2025-02-0		-02-07	i						
		31509	B005	2025-02-0		02-11	i						
T1013						02-13							
T1012 T1013 T1014 T1015 T1016	j (81501 81505	B094 B095	2025-02-0		02-13							

mysql> Se	elect * from stud	lent;			
S_ID	Name	Email	Mobile_No	DOB	Dep_ID
B1500 B1501 B1503 B1504 B1505 B1506 B1507 B1508 B1509	Aarav Sharma Vivaan Patel Vihaan Gupta Arjun Rao Sai Kumar Reyansh Singh Krishna Iyer Rohan Mehta Anaya Joshi Janmesh Raut	aarav.sharma@gmail.com Vivaan@gmail.com vihaan.gupta@gmail.com arjun.rao@gmail.com sai.kumar@gmail.com reyansh.singh@gmail.com krishna.iyer@gmail.com rohan.mehta@gmail.com anaya.joshi@gmail.com janmesh.raut@gmail.com	9876543210 9123456789 9871234567 9988776655 9876543210 9123456789 9988776655 9871234567 9123456789 7414970972	2000-01-15 1999-02-20 2002-04-25 1998-05-30 2000-06-15 2003-07-20 1997-08-05 2001-09-12 2002-10-30 2004-06-07	D001 D003 D002 D005 D004 D003 D002 D001 D0001 D0001
mysql> Se -> (S	Select MB_ID from	book_Master Where MB_ID IN book Where Book_ID IN book_Transaction Where SI			·
Artific	se System Concept rial Intelligence r Networks	:s e: A Modern Approach			
3 rows in	set (0.00 sec)				

11. Display the Book names which are read by "Sai Kumar".

MB_ID	Title				Author		ISBN	Category	B Count	Available_Book	Dublishor
110_10	11000				MACHUL		1301		- D_COUNT		
1	Artificial	Intelli	igence: A Modern	Approach	Stuart Ru	ssell	9780134610994	Computer Science	30	20	Pearson
			chine Learning		Stuart Ru		9780262041232		25	15	MIT Press
	Database S						9780078022159		40		McGraw-Hill
	Operating		Concepts				9781119800368		35	25	
	Computer N					Tanenbaum	9780132126953		28	18	Prentice Ha
		dern Operating Systems wer Electronics				Tanenbaum		30	22	Pearson	
					M.H. Rash	id	9789353866211		22	18	Pearson
	Engineering Thermodynamics				P.K. Nag		9781259029565		30	20	McGraw-Hill
	Structural				R.C. Hibb		9780134610980		25	18	Pearson
			and Circuit The	eory		Boylestad	9780135026491		28	22	Pearson
	Python Pro				John Doe		9781234567890	Computer Science	40 35		Pearson McGraw-Hill
	Python Pro				Jane Smit		9788987654321				
13	Python Pr	ogrammin	ng		Mike John	son	9781122334455	Computer Science	50	40	Wiley
	set (0.00										
Book_ID	Copies	Price	Purchase_Date	Edition	MB_IC	i					
B001	50	1550	2023-01-10	1st Edit:	ion 1	i					
B002	20	1250	2023-01-15	2nd Edit:	ion 2	i					
8003	30	2288	2023-01-20	3rd Edit:	ion 3						

B001	50	1550	2023-01-10	1st Edition	1
B002	20	1250	2023-01-15	2nd Edition	2
B093	30 [2200	2023-01-20	3rd Edition	3
B094	10	1900	2023-01-25	1st Edition	48
B065	23	1650	2023-02-01	2nd Edition	5
B096	35	1850	2023-02-10	1st Edition	1
B007	25	1600	2023-02-15	2nd Edition	
8008	48	2000	2023-02-20	3rd Edition	
B009	22	1700	2023-02-25	1st Edition	2
BO10	15	2100	2023-02-28	2nd Edition	5

2 rows in set (0.00 sec)

mysql> Select * fi	rom book	_transact	tion:				
Transaction_ID		+	IssuedDate	Ret	turnedDate		
T1001	B1500	B001	2025-01-10		25-01-20		
T1002	B1501 B1503	B002 B003	2025-01-15 2025-01-12		25-01-25 25-01-22		
T1003	B1503	B003	2025-01-12		25-01-28		
T1005	B1505	B005	2025-01-20	NUL			
T1006	B1506	B007	2025-01-14		25-01-24		
T1007	B1507	B007	2025-01-11		25-01-21		
T1009	B1509	B010	2025-01-13		25-01-23		
T1010	B1503	B003	2025-01-22	NUL	L İ		
T1011	B1503				25-02-05		
T1012	B1503	B010	2025-02-03	NUL			
T1013	B1500	B002	2025-02-04	202	25-02-07		
T1014	B1509	B005	2025-02-04	202	25-02-11		
T1015	B1501	B004	2025-02-03		25-02-13		
T1016	B1505	B006	2025-02-13	NUL	L		
15 rows in set (0. mysql> Select * fi		ent;					
S_ID Name	i	Email			Mobile_No	DOB	Dep_ID
B1500 Aarav Sh	narma	aarav.sl	narma@gmail.co	om	9876543210	2000-01-15	D001
B1501 Vivaan F	Patel	Vivaan@c	mail.com	İ	9123456789	1999-02-20	D003
B1503 Vihaan 0	Supta	vihaan.	gupta@gmail.co	om	9871234567	2002-04-25	D002
B1504 Arjun Ra	10	arjun.ra	ao@gmail.com		9988776655	1998-05-30	D001
B1505 Sai Kuma	ır		ar@gmail.com		9876543210	2000-06-15	D005
B1506 Reyansh			.singh@gmail.d		9123456789	2003-07-20	D004
B1507 Krishna			.iyer@gmail.co		9988776655	1997-08-05	D003
B1508 Rohan Me			hta@gmail.com		9871234567	2001-09-12	D002
B1509 Anaya Jo			oshi@gmail.com		9123456789	2002-10-30	D001
B1510 Janmesh	Raut	janmesh.	.raut@gmail.co	om	7414970972	2004-06-07	D001
10 rows in set (0.	.00 sec)					+	
mysql> Select Titl -> (Select MB_ -> (Select Bk_ -> (Select S_1	ID from	book Who	ere Book_ID II	l re Si	ID=		
Title							
Computer Network		: A Mode	rn Approach				

12. Find out the department of Janmesh Raut.

mysql> Se	lect * from stud	lent;				
S_ID	Name	Email		Mobile_No	DOB	Dep_ID
B1500 B1501 B1501 B1503 B1504 B1505 B1506 B1507 B1508 B1509 B1510	Aarav Sharma Vivaan Patel Vihaan Gupta Arjun Rao Sai Kumar Reyansh Singh Krishna Iyer Rohan Mehta Anaya Joshi Janmesh Raut	Vivaan@gma vihaan.gup arjun.rao@ sai.kumar@ reyansh.si krishna.iy rohan.meht anaya.josl	ota@gmail.com @gmail.com	9123456789 9871234567 9988776655 9876543210 9123456789 9988776655 9871234567 9123456789	2000-01-15 1999-02-20 2002-04-25 1998-05-30 2000-06-15 2003-07-20 1997-08-05 2001-09-12 2002-10-30 2004-06-07	D001 D003 D002 D001 D005 D004 D003 D002 D001
	n set (0.00 sec) lect * from depa Department_Nam	ertment;	Location	+ Budget_Cr		
D001 D002 D003 D004 D005	Computer Scier Electrical Eng Mechanical Eng Civil Engineer Electronics En	jineering jineering ring	6th Floor 2nd Floor 2nd Floor 3rd Floor 7th Floor	20.00 10.00 5.00 3.00 2.00		
mysql> Se -> (So + Departmo + Computes	set (0.00 sec) lect Department elect Dep_ID fro ent_Name r Science set (0.00 sec)					

13. Find out which Books have been returned most recently.

	Title				Author		ISBN	Category	B_Count	Available_Book	Publisher
1 1			igence: A Modern	Approach	Stuart Rus	sell	9780134610994	Computer Science	30	20	Pearson
2			achine Learning		Stuart Rus		9780262041232	Computer Science	25	15	MIT Press
3	Database :			- 1		lberschatz	9780078022159		40	30	McGraw-Hill
4	Operating		Concepts			lberschatz	9781119800368	Computer Science	35	25	Wiley
5	Computer !			- 1	Andrew S.		9780132126953	Computer Science	28	18	Prentice Hal
6	Modern Ope		Systems	- 1	Andrew S.		9780133591623	Computer Science	30	22	Pearson
7	Power Ele			- 1	M.H. Rashi	d	9789353066211	Electrical Engineering	22	18	Pearson
8	Engineeri			- 1	P.K. Nag		9781259029565	Mechanical Engineering	30	20	McGraw-Hill
9	Structura			- 1	R.C. Hibbe		9780134610980	Civil Engineering	25	18	Pearson
10			s and Circuit Th	eory	Robert L.	Boylestad	9780135026491	Electronics Engineering	28	22	Pearson
11	Python Pro				John Doe		9781234567890	Computer Science	40	30	Pearson
12		ython Programming			Jane Smith		9780987654321	Computer Science	35	25	McGraw-Hill
13					Mike Johns	on	9781122334455	Computer Science	50	40	Wiley
Book_ID	Copies	Price	Purchase_Date	Edition	MB_ID	†					
B001	50	1550	2023-01-10	1st Editi	on 1	†					
B002	20	1250	2023-01-15	2nd Editi	on 2	i					
B093	30	2200	2023-01-20	3rd Editi	on 3	i					
6003	1 10	1900	2023-01-25	1st Editi	on 4	İ					
B004	10										
	23	1650	2023-02-01	2nd Editi	on 5	1					
B004		1650 1850	2023-02-01 2023-02-10	2nd Editi							
B084 B085	23				on 1						
B004 B005 B006 B007 B008	23 35 25 48	1850 1600 2000	2023-02-10 2023-02-15 2023-02-20	1st Editi 2nd Editi 3rd Editi	on 1 on 3 on 2						
B004 B005 B006 B007	23 35 25	1859 1600 2000 1700	2023-02-10 2023-02-15	1st Editi 2nd Editi	on 1 on 3 on 2 on 2						

15. What is the name of recently purchased book.

ysql> Sele	ect * from	n book_m	aster;								4	
MB_ID 1	Title				Auti	hor		ISBN	Category	B_Count	Available_Book	Publisher
2 1 3 0 4 0 5 0 6 N 7 6 8 6 9 5 10 6 11 6	Artificial Intelligence: A Modern Approach Introduction to Machine Learning Database System Concepts Operating System Concepts Computer Networks Modern Operating Systems Power Electronics Engineering Thermodynamics Structural Analysis Electronic Devices and Circuit Theory Python Programming Python Programming I Python Programming in set (0.00 sec) Select * from book;					aham Sil rew S. 1	ll erschatz erschatz nenbaum nenbaum r ylestad	9780134610994 9780134610994 9780262041232 9780078022159 9781119808368 9780132126953 9780133591623 9780133666211 9781259029565 9780134610980 9780135626491 97812345678990 9780937654321	Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Electrical Engineering Mechanical Engineering Civil Engineering Electronics Engineering Computer Science Computer Science Computer Science	30 25 40 35 28 30 22 30 22 25 28 40 35 36	20 15 30 25 18 22 18 20 18 20 20 20	Pearson HIT Press McGraw-Hill Wiley Prentice Hal' Pearson McGraw-Hill Pearson Pearson Pearson Pearson Pearson Pearson
			Purchase_Date	Edition	i	MB_ID						
8001 8002 8003 8004 8005 8006 8007 8008 8009 8010 8011	50 20 30 10 23 35 25 40 22 15	1558 1259 2209 1909 1659 1850 1600 2000 1700 2100	2023-01-10 2023-01-15 2023-01-20 2023-01-25 2023-02-01 2023-02-10 2023-02-15 2023-02-25 2023-02-25 2023-03-02-28 2023-03-05	1st Editi 2nd Editi 3rd Editi 1st Editi 1st Editi 1st Editi 2nd Editi 3rd Editi 1st Editi 2nd Editi 1st Editi	on I	1 2 3 4 5 1 3 2 8 5						
B012 B013 B014 B015 B016 B017 B018 B019 B029	30 25 22 15 20 30 35 40 25	1800 1900 1700 2100 2100 2200 2300 2300 1800	2023-03-10 2023-03-15 2023-03-29 2023-03-25 2023-04-01 2023-04-05 2023-04-10 2023-04-15 2023-04-29	2nd Editi 3rd Editi 1st Editi 2nd Editi 1st Editi 2nd Editi 2nd Editi 3rd Editi 3rd Editi 2nd Editi	on on on on on on	7 8 9 10 6 7 8 9						
8021 8022 8023 8024 8025 8026 8027 8028 8029	39 25 40 35 50 20 30 40 25	2498 2298 2598 2198 2398 2498 2598 2698 2798	2023-04-25 2023-04-30 2023-05-05 2023-05-16 2023-05-15 2023-05-29 2023-05-25 2023-06-05	1st Editi 2nd Editi 3rd Editi 1st Editi 2nd Editi 3rd Editi 1st Editi 2nd Editi 3rd Editi	on on on on on	11 12 13 11 12 13 11 5						

16. Which Books(name) are not issued at all.

mysql> Select * from book_Master;							
MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1 1 2 3 3 4 4 5 5 6 6 7 7 8 8 9 10 11 1 12 12 13 13	Artificial Intelligence: A Modern Approach Introduction to Machine Learning Database System Concepts Operating System Concepts Computer Networks Modern Operating Systems Power Electronics Engineering Thermodynamics Structural Analysis Electronic Devices and Circuit Theory Python Programming Python Programming Python Programming Python Programming	Stuart Russell Stuart Russell Abraham Silberschatz Abraham Silberschatz Andrew S. Tanenbaum Andrew S. Tanenbaum Andrew S. Tanenbaum H. H. Rashid P. K. Nag R. C. Hibbeler Robert L. Boylestad John Doe Jane Smith Mike Johnson	9788262841232 9788078022159 9781119800368 9788132126953 9788133591623 9789133591623 9789134610980 9788135926491 9788135926491 9788937654321	Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science Computer Science	36 25 40 35 28 30 22 30 25 28 40 35 50	30 25 18 22 18 20 18 22 30 26	MIT Press McGraw-Hill Wiley Prentice Hall Pearson McGraw-Hill Pearson Pearson Pearson
13 rows i	n set (0.00 sec)		+				

13 rows in set (0.00 sec)								
mysql>								
Transact	ion_ID	Sid	Bk_ID	IssuedDate		ReturnedDa	ate	
T1001		B1500	B001	2025-01-10		2025-01-20	o i	
T1002		B1501	B002	2025-01-15		2025-01-25		
T1003	!	B1503	B003	2025-01-12		2025-01-22		
T1004	!	B1504	B004	2025-01-18		2025-01-28	3	
T1005 T1006	!	B1505 B1506	B005 B007	2025-01-2		NULL 2025-01-24	. !	
T1007	-	B1507	B007	2025-01-14 2025-01-11		2025-01-2		
T1009	i	B1509	B010	2025-01-11		2025-01-23		
T1010	i	B1503	B003	2025-01-22		NULL	i	
T1011	İ	B1503	B006	2025-02-01		2025-02-05	5	
T1012	!	B1503	B010	2025-02-03		NULL	ļ	
T1013	!	B1500	B002	2025-02-04		2025-02-07		
T1014	!	B1509	B005	2025-02-04		2025-02-13		
T1015 T1016	·	B1501 B1505	B004 B006	2025-02-03 2025-02-13		2025-02-13 2025-02-15		
T1017	i	B1507	B001	2025-02-14		2025-02-15		
T1018	i	B1503	B002	2025-02-14		2025-02-16		
T1019	i	B1505	B003	2025-02-14		2025-02-17		
T1020	Į.	B1504	B004	2025-02-14		2025-02-16	5 ļ	
T1021		B1506	B006	2025-02-14		NULL	1	
+in	+-	+-		+	+		+	
20 rows in	set (o.e	o sec)						
mysql> Sele	ct * fro	m book;						
Book_ID	Copies	Price	Purch	nase_Date	Ed	ition	MB_ID	
B001	50	1550		-01-10		t Edition	1	
B002	20	1250		-01-15		d Edition	2 3	
B003 B004	30 10	2200 1900		-01-20 -01-25		d Edition t Edition	4	
B005	23	1650		-02-01		d Edition	5	
B006	35	1850		-02-10		t Edition	ĭ	
B007	25	1600		-02-15	2 n	d Edition	3 [
B008	40	2000	2023-	-02-20		d Edition	2	
B009	22	1700		-02-25		t Edition	8	
B010	15	2100		-02-28		d Edition	5	
B011	40	2000		-03-05 -03-10	:	t Edition d Edition	6 7	
B012				-03-15		d Edition	8	
B014						t Edition	9	
B015	15	1700		-03-25		d Edition	10	
B016	20	2100	2023-	-04-01	1s	t Edition	6	
B017	30	2200		-04-05		d Edition	7	
B018	35	2000		-04-10		t Edition	8	
B019	40	2300		-04-15		d Edition d Edition	9 10	
B020 B021	25 30	1800		-04-20 -04-25		t Edition	10	
B022	25	2200		-04-30		d Edition	12	
B023	40	2500		-05-05		d Edition	13	
B024	35	2100	2023-	-05-10		t Edition	11	
B025	50	2300		-05-15		d Edition	12	
B026	20	2400		-05-20		d Edition	13	
B027	30	2500		-05-25		t Edition	11	
B028	40	2600		-06-05		d Edition	5	
B029	25	2700	+	-06-05 	31	d Edition		
29 rows in	29 rows in set (0.00 sec)							

17. Find out which category of books which is most popular. (issued most)

sql> Select * from book;

B_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
-	Artificial Intelligence: A Modern Approach	Stuart Russell	9788134618994	Computer Science	30	28	Pearson
2	Introduction to Machine Learning	Stuart Russell		Computer Science	25		
3	Database System Concepts	Abraham Silberschatz	9780078022159	Computer Science	48	30	McGraw-Hill
4	Operating System Concepts	Abraham Silberschatz	9781119800368	Computer Science	35	25	Wiley
5	Computer Networks	Andrew S. Tanenbaum	9780132126953	Computer Science	28	18	Prentice Ha
6	Modern Operating Systems	Andrew S. Tanenbaum		Computer Science	30	22	Pearson
7	Power Electronics	M.H. Rashid	9789353066211	Electrical Engineering	22	18	
8	Engineering Thermodynamics	P.K. Nag	9781259029565		30	28	McGraw-Hill
9	Structural Analysis	R.C. Hibbeler		Civil Engineering	25	18	Pearson
10	Electronic Devices and Circuit Theory	Robert L. Boylestad		Electronics Engineering	28		Pearson
11	Python Programming	John Doe		Computer Science	40		Pearson
12	Python Programming	Jane Smith		Computer Science	35		
13	Python Programming	Mike Johnson	9781122334455	Computer Science	50	48	Wiley

Book_ID | Copies | Price | Purchase_Date | Edition MB_ID | 2023-01-10 2023-01-15 2023-01-20 2023-01-25 2023-02-01 2023-02-10 Edition Edition 2nd Edition 3rd Edition 1st Edition 2200 1900 1650 1850 B065 B066 B067 2nd Edition 1st Edition 2nd Edition 3rd Edition 1st Edition 1600 2023-02-15 2000 1700 2100 2000 2023-02-25 B010 B011 2023-02-28 2023-03-05 2nd Edition
1st Edition
2nd Edition
3rd Edition
1st Edition
2nd Edition
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3rd Edition 2023-03-05 2023-03-10 2023-03-15 2023-03-20 2023-04-01 2023-04-05 2023-04-10 2023-04-15 2023-04-25 1800 1900 1760 2160 2160 2260 B014 B015 B016 B017 B018 2000 2300 1800 B019 B020 2023-04-20 2023-04-25 2023-04-30 2023-05-05 2023-05-10 2023-05-15 2023-05-25 2023-05-20 B021 B022 2400 2200 2500 2100 2300 2400 2500 B023 B024 B025 B027 40 25 2023-05-30 2023-06-05 B029 29 rows in set (0.00 sec) mysql> Select * from book_Transaction; Bk_ID | IssuedDate | ReturnedDate | Transaction_ID | Sid 2025-01-10 2025-01-15 2025-01-12 2025-01-18 2025-01-14 2025-01-11 2025-01-12 2025-01-12 2025-02-01 2025-02-03 2025-02-04 2025-02-04 2025-02-04 2025-02-03 2025-02-03 B1500 B1501 B1503 B1504 B1505 B1506 B1507 B1509 B1503 B1503 B1503 B1500 B1509 B1509 B1501 B1505 B061 B062 B063 B064 B065 B067 B067 B010 B063 B066 B010 B062 B065 2025-01-26 2025-01-25 2025-01-22 2025-01-28 NULL 2025-01-24 2025-01-21 2025-01-23 T1002 T1004 2025-01-23 NULL 2025-02-05 NULL 2025-02-07 2025-02-11 2025-02-13 NULL T1010 T1011 T1012 T1014 B084 B086 T1016 15 rows in set (0.00 sec) mysql> Select Category From Book_Master
-> Where MB_ID IN
-> (Select MB_ID from book Where Book_ID=
-> (Select Bk_ID from book_Transaction group by Bk_ID Order by Count(IssuedDate) DESC Limit 1)); Category Computer Science | 1 row in set (0.00 sec)

19. Which student visits library more frequently (assuming he issues a book every time he visits the library)

mysql> Select * from student;							
S_ID	Name	Email	Mobile_No	DOB	Dep_ID		
B1500 B1501 B1503 B1504 B1505 B1506 B1507 B1508 B1509 B1510	Aarav Sharma Vivaan Patel Vihaan Gupta Arjun Rao Sai Kumar Reyansh Singh Krishna Iyer Rohan Mehta Anaya Joshi Janmesh Raut	aarav.sharma@gmail.com Vivaan@gmail.com vihaan.gupta@gmail.com arjun.rao@gmail.com sai.kumar@gmail.com reyansh.singh@gmail.com krishna.iyer@gmail.com rohan.mehta@gmail.com anaya.joshi@gmail.com janmesh.raut@gmail.com	9876543210 9123456789 9871234567 9988776655 9876543210 9123456789 9988776655 9871234567 9123456789 7414970972	2000-01-15 1999-02-20 2002-04-25 1998-05-30 2000-06-15 2003-07-20 1997-08-05 2001-09-12 2002-10-30 2004-06-07	D001 D003 D002 D005 D004 D003 D002 D003 D002 D003 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D001 D0		
10 rows in set (0.00 sec)							

mysql> Select * from book_Transaction; +						
Transaction_ID	Sid	Bk_ID	IssuedDate	ReturnedDate		
T1001	B1500	B001	2025-01-10	2025-01-20		
T1002	B1501	B002	2025-01-15	2025-01-25		
T1003	B1503	B003	2025-01-12	2025-01-22		
T1004	B1504	B004	2025-01-18	2025-01-28		
T1005	B1505	B005	2025-01-20	NULL		
T1006	B1506	B007	2025-01-14	2025-01-24		
T1007	B1507	B007	2025-01-11	2025-01-21		
T1009	B1509	B010	2025-01-13	2025-01-23		
T1010	B1503	B003	2025-01-22	NULL		
T1011	B1503	B006	2025-02-01	2025-02-05		
T1012	B1503	B010	2025-02-03	NULL		
T1013	B1500	B002	2025-02-04	2025-02-07		
T1014	B1509	B005	2025-02-04	2025-02-11		
T1015	B1501	B004	2025-02-03	2025-02-13		
T1016	B1505	B006	2025-02-13	2025-02-15		
T1017	B1507	B001	2025-02-14	2025-02-15		
T1018	B1503	B002	2025-02-14	2025-02-16		
T1019	B1505	B003	2025-02-14	2025-02-17		
T1020	B1504	B004	2025-02-14	2025-02-16		
T1021	B1506	B006	2025-02-14	NULL		
t						

Conclusion:

This assignment deepens our understanding of nested queries using DDL and DML in MySQL. We explored constraints, foreign key dependencies, and complex queries to retrieve meaningful insights. Key learnings include identifying unissued books, tracking frequent library users, filtering data based on conditions, and handling duplicate records, reinforcing practical database management skills.