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ID: e20211624

TD02_data

```
1 •   USE librarydb;
2     select *from books;
3
4 •   INSERT INTO books (Title,publisher,year) values
5         ("Book1","McGraw-Hill",1980),
6         ("Book2","Allen &Unwin",1990),
7         ("Book3","Scholastic",1995),
8         ("Book4","McGraw-Hill",2000),
9         ("Book5","Allen &Unwin",2010),
10        ("Book6","Scholastic",2020),
11        ("Book7","McGraw-Hill",1975),
12        ("Book8","Allen &Unwin",1985),
13        ("Book9","Scholastic",2014);
14
15 •  delete from books;
16
17 •  INSERT INTO books (Docid,Title,publisher,year) values
18        (2,"Book1","McGraw-Hill",1980);
19
20    select * from students;
21
22 •  INSERT INTO students(stname,major,age) values
23        ("Smith","Computer Science",30);
24
25    -- INSERT INTO students(stname,major,age) values
26    --  ("Tom","English Literature","32"),
27    --  ("Jerry","Mathematics","31"),
28    --     ("Dara","Computer Science","20"),
29    --     ("Paul","French Literature","22"),
30         ("Sara","Mathematics","21"),
29    --     ("Paul","French Literature","22"),
30    --     ("Sara","Mathematics","21"),
31    --     ("Sok","Computer Science","31"),
32    --  ("San","English Literature","33"),
33    --     ("Sabay","Mathematics","34");
34
35 •  select *from borrows;
36 •  INSERT INTO borrows VALUES
37        (1,1,"2024-04-27");
38
39    -- INSERT INTO borrows values
40    --  (2,1,"2024-04-26"),
41    --     (6,1,"2024-04-22"),
42    --     (2,2,"2024-04-26"),
43    --     (2,2,"2024-04-27"),
44    --     (7,2,"2024-04-21"),
45    --     (3,3,"2024-04-25"),
46    --     (3,3,"2024-04-28"),
47    --     (8,3,"2024-04-20"),
48    --     (1,4,"2024-04-24"),
49    --     (3,4,"2024-04-29"),
50    --     (4,4,"2024-04-24"),
51    --     (1,5,"2024-04-25"),
52    --     (5,5,"2024-04-23");
53
54 •  SELECT*FROM DESCRIBES;
55    -- INSERT INTO DESCRIBES VALUES
56    --  (1,"database"),
57    --     (1,"programming"),
```
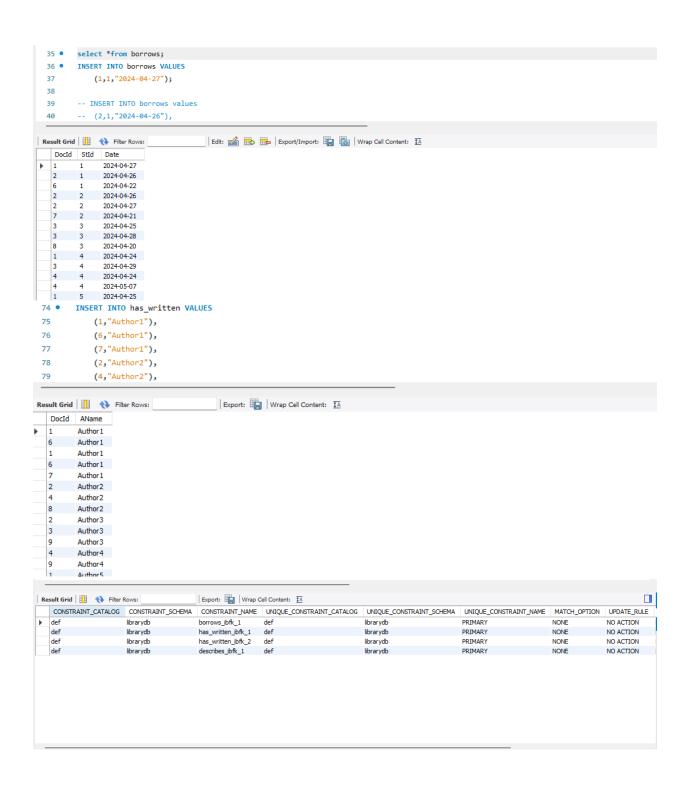
```sql
57   --      (1,"programming"),
58   --      (2,"programming"),
59   --      (2,"web"),
60   --      (3,"database"),
61   --      (3,"security"),
62   --      (4,"database"),
63   --      (5,"programming"),
64   --      (5,"web"),
65   --      (6,"network"),
66   --      (6,"security"),
67   --      (7,"network"),
68   --      (8,"security"),
69   --      (9,"mobile"),
70   --      (9,"web");
71
72   select*from has_written;
73
74   -- INSERT INTO has_written VALUES
75   --  (1,"Author1"),
76   --      (6,"Author1"),
77   --      (7,"Author1"),
78   --      (2,"Author2"),
79   --      (4,"Author2"),
80   --      (8,"Author2"),
81   --      (2,"Author3"),
82   --      (3,"Author3"),
83   --  (9,"Author3"),
85   --      (9,"Author4"),
86   --      (1,"Author5"),
87   --      (5,"Author5"),
88   --      (2,"Author6"),
89   --      (5,"Author6"),
90   --      (6,"Author6");
91
92   SELECT *FROM Authors;
93
94   -- INSERT INTO authors values
95   --  ("Author1","9399 Old Davis Road, Davis, CA 95616,USA"),
96   --      ("Author2","123 Phoebe Street,New York"),
97   --      ("Author3","301 C Street,Davis,CA 95616, USA"),
98   --      ("Author4","739 Mockingbird lane, Australia"),
99   --      ("Author5","987 Pemberley Street, England"),
100  --      ("Author6","321 West Egg Street, New York");
101
102  SELECT * from INFORMATION_SCHEMA.REFERENTIAL_CONSTRAINTS WHERE CONSTRAINT_SCHEMA="librarydb";
103
104  delete from borrows where docId=1;
105  delete from books where docId=1;
106  UPDATE books set Title="new book" where docid=1;
107
108  create table borrow_title(
109      DocId int  auto_increment,
110      StId  int not null,
111      Date date not null,
112      Title varchar(20) not null,
113      FOREIGN KEY(StId) REFERENCES STUDENTS(StId) on delete restrict on update cascade,
```

```sql
112        Title varchar(20) not null,
113        FOREIGN KEY(StId) REFERENCES STUDENTS(StId) on delete restrict on update cascade,
114        FOREIGN KEY(DOCID) references Books(docid) on delete restrict on update cascade,
115        PRIMARY KEY(DocId,Date,StId)
116    );
117
118 •  select*from borrow_title;
119
120    -- select b.docid,st.stid,bor.date,b.title from books as b,students as st,borrows as bor
121    -- where bor.docid=b.docid;
122
123 •  select * from  books natural join borrows natural join students;
124
125 •  delete from books where docid=1;
126 •  update books set title="Kid book" where docid=2;
127 •  select*from books;
128
129 •  INSERT INTO borrows VALUES
130        (1,1,"2024-04-27"),
131        (1,4,"2024-04-29"),
132        (1,5,"2024-04-25");
133
134 •  select*from borrows;
135
136    -- exercise 4
137 •  insert into students(stname,major) values ("Jerry","Computer Science");
138 •  update books set title="book1" where docid="1";
139 •  insert into books(title) values ("Book1");
140 •  insert into describes(docid,keyword) values
141        (11,"database"),
142        (11,"business intelligent"),
143        (11,"application");
144
145 •  INSERT INTO borrows(docid,stid) values (4,4);
146
147 •  alter table borrows alter date set default (current_date);
148
149    -- exercise 5
150 •  Update authors set address="216 Toul Kok Phnom Penh" where aname="Author4";
151 •  select*from authors;
152 •  Update authors set aname="LuckyStar" where aname="Author1";
153 •  select*from has_written;
154
155    -- exercise 6
156 •  delete from books where docId=10;
157 •  select*from books;
158
159    -- exercise 7
160 •  select*from borrows;
161 •  select*from students;
162 •  select*from describes;
163 •  insert into borrows(docid,stid) values(5,100); -- no cant add
164 •  insert into students(major,age) values(Mathematics,30); -- no cant add
165 •  insert into describes values(8,"network"); -- yes you can
166 •  insert into borrows values(2,1,"2024-05-26"); -- yes you can
167 •  update books set docid=100 where docid=1; -- yes you can
168 •      update books set docid=1 where docid=100; -- undo
169 •  delete from books where docid=1; -- no you cant
170
```

```sql
171     -- exercise 8
172     -- 8a
173  •  select year,title from books;
174     -- 8b
175  •  select *from students where major="Computer Science";
176     -- 8c
177  •  select * from students natural join borrows;
178     -- 8d
179  •  select * from books where Publisher="McGraw-Hill" and Year < 1990;
180     -- 8e
181  •  select aName as name from authors where Address like "%Davis%";
182
183
184
4   •   INSERT INTO books (Title,publisher,year) values
5           ("Book1","McGraw-Hill",1980),
6           ("Book2","Allen &Unwin",1990),
7           ("Book3","Scholastic",1995),
8           ("Book4","McGraw-Hill",2000),
9           ("Book5","Allen &Unwin",2010),
10          ("Book6","Scholastic",2020),
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: IA

DocId	Title	Publisher	Year
6	Book5	Allen &Unwin	2010
7	Book6	Scholastic	2020
8	Book7	McGraw-Hill	1975
9	Book8	Allen &Unwin	1985
10	Book9	Scholastic	2014
11	Book1	McGraw-Hill	1980
12	Book2	Allen &Unwin	1990
13	Book3	Scholastic	1995
14	Book4	McGraw-Hill	2000
15	Book5	Allen &Unwin	2010
16	Book6	Scholastic	2020
17	Book7	McGraw-Hill	1975
18	Book8	Allen &Unwin	1985
19	Book9	Scholastic	2014

```sql
22  •   INSERT INTO students(stname,major,age) values
23          ("Smith","Computer Science",30);
24
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: IA

StId	StName	Major	Age
1	Smith	Computer Science	30
2	Tom	English Literature	32
3	Jerry	Mathematics	31
4	Dara	Computer Science	20
5	Paul	French Literature	22
6	Sara	Mathematics	21
7	Sok	Computer Science	31
8	San	English Literature	33
9	Sabay	Mathematics	34
104	Jerry	Computer Science	NULL
105	Smith	Computer Science	30
NULL	NULL	NULL	NULL

```sql
35 •    select *from borrows;
36 •    INSERT INTO borrows VALUES
37          (1,1,"2024-04-27");
38
39      -- INSERT INTO borrows values
40      --  (2,1,"2024-04-26"),
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

DocId	StId	Date
1	1	2024-04-27
2	1	2024-04-26
6	1	2024-04-22
2	2	2024-04-26
2	2	2024-04-27
7	2	2024-04-21
3	3	2024-04-25
3	3	2024-04-28
8	3	2024-04-20
1	4	2024-04-24
3	4	2024-04-29
4	4	2024-04-24
4	4	2024-05-07
1	5	2024-04-25

```sql
74 •    INSERT INTO has_written VALUES
75          (1,"Author1"),
76          (6,"Author1"),
77          (7,"Author1"),
78          (2,"Author2"),
79          (4,"Author2"),
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

DocId	AName
1	Author1
6	Author1
1	Author1
6	Author1
7	Author1
2	Author2
4	Author2
8	Author2
2	Author3
3	Author3
9	Author3
4	Author4
9	Author4
1	Author5

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CONSTRAINT_CATALOG	CONSTRAINT_SCHEMA	CONSTRAINT_NAME	UNIQUE_CONSTRAINT_CATALOG	UNIQUE_CONSTRAINT_SCHEMA	UNIQUE_CONSTRAINT_NAME	MATCH_OPTION	UPDATE_RULE
def	librarydb	borrows_ibfk_1	def	librarydb	PRIMARY	NONE	NO ACTION
def	librarydb	has_written_ibfk_1	def	librarydb	PRIMARY	NONE	NO ACTION
def	librarydb	has_written_ibfk_2	def	librarydb	PRIMARY	NONE	NO ACTION
def	librarydb	describes_ibfk_1	def	librarydb	PRIMARY	NONE	NO ACTION

```sql
118 ●    select*from borrow_title;
119
120 ●    select b.docid,st.stid,bor.date,b.title from books as b,students as st,borrows as bor
121      where bor.docid=b.docid;
122
123 ●    select * from  books natural join borrows  natural join students;
124
125 ●    delete from books where docid=1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

docid	stid	date	title
2	107	2024-04-26	Book1
2	106	2024-04-26	Book1
2	105	2024-04-26	Book1
2	104	2024-04-26	Book1
2	9	2024-04-26	Book1
2	8	2024-04-26	Book1
2	7	2024-04-26	Book1
2	6	2024-04-26	Book1
2	5	2024-04-26	Book1
2	4	2024-04-26	Book1
2	3	2024-04-26	Book1
2	2	2024-04-26	Book1
2	1	2024-04-26	Book1
6	107	2024-04-22	Book5

```sql
123 ●    select * from  books natural join borrows  natural join students;
124
125 ●    delete from books where docid=1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

StId	DocId	Title	Publisher	Year	Date	StName	Major	Age
1	2	Book1	McGraw-Hill	1990	2024-04-26	Smith	Computer Science	30
1	6	Book5	Allen & Unwin	2010	2024-04-22	Smith	Computer Science	30
2	2	Book1	McGraw-Hill	1990	2024-04-26	Tom	English Literature	32
2	2	Book1	McGraw-Hill	1990	2024-04-27	Tom	English Literature	32
2	7	Book6	Scholastic	2020	2024-04-21	Tom	English Literature	32
3	3	Book2	Allen & Unwin	1990	2024-04-25	Jerry	Mathematics	31
3	3	Book2	Allen & Unwin	1990	2024-04-28	Jerry	Mathematics	31
3	8	Book7	McGraw-Hill	1975	2024-04-20	Jerry	Mathematics	31
4	3	Book2	Allen & Unwin	1990	2024-04-29	Dara	Computer Science	20
4	4	Book3	Scholastic	1995	2024-04-24	Dara	Computer Science	20
4	4	Book3	Scholastic	1995	2024-05-07	Dara	Computer Science	20
5	5	Book4	McGraw-Hill	2000	2024-04-23	Paul	French Literature	22
104	4	Book3	Scholastic	1995	2024-05-07	Jerry	Computer Science	NULL

```sql
125 ●    delete from books where docid=1;
126 ●    update books set title="Kid book" where docid=2;
127 ●    select*from books;
128
129 ●    INSERT INTO borrows VALUES
130          (1,1,"2024-04-27"),
131          (1,4,"2024-04-29"),
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: IA

DocId	Title	Publisher	Year
1	new book	NULL	NULL
2	Kid book	McGraw-Hill	1990
3	Book2	Allen & Unwin	1990
4	Book3	Scholastic	1995
5	Book4	McGraw-Hill	2000
6	Book5	Allen & Unwin	2010
7	Book6	Scholastic	2020
8	Book7	McGraw-Hill	1975
9	Book8	Allen & Unwin	1985
10	Book9	Scholastic	2014
11	Book1	McGraw-Hill	1980
12	Book2	Allen &Unwin	1990
13	Book3	Scholastic	1995

```
129 •   INSERT INTO borrows VALUES
130         (1,1,"2024-04-27"),
131         (1,4,"2024-04-29"),
132         (1,5,"2024-04-25");
133
134 •   select*from borrows;
135
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

DocId	StId	Date
1	1	2024-04-27
2	1	2024-04-26
6	1	2024-04-22
2	2	2024-04-26
2	2	2024-04-27
7	2	2024-04-21
3	3	2024-04-25
3	3	2024-04-28
8	3	2024-04-20
1	4	2024-04-29
3	4	2024-04-29
4	4	2024-04-24
4	4	2024-05-07
1	5	2024-04-25

```
151 •   select*from authors;
152 •   Update authors set aname="LuckyStar" where aname="Author1";
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

AName	Address
Author1	9399 Old Davis Road, Davis, CA 95616, USA
Author2	123 Phoebe Street, New York
Author3	301 C Street, Davis, CA, 95616, USA
Author4	216 Toul Kok Phnom Penh
Author5	987 Pemberley Street, England
Author6	321 West Egg Street, New York
NULL	NULL

```
151 •   select*from authors;
152 •   Update authors set aname="LuckyStar" where aname="Author1";
153 •   select*from has_written;
154
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

DocId	AName
1	Author1
6	Author1
1	Author1
6	Author1
7	Author1
2	Author2
4	Author2
8	Author2
2	Author3
3	Author3
9	Author3
4	Author4
9	Author4
1	Author5

has_written 20 ×   ⓘ Read Onl

Output

Action Output

#	Time	Action	Message
❌ 78	20:54:29	Update authors set aname="LuckyStar" where aname="Author1"	Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint

```
155        -- exercise 6
156 •      delete from books where docId=10;
157 •      select*from books;
158
159        -- exercise 7
160 •      select*from borrows;
```

	DocId	Title	Publisher	Year
▶	1	book1	NULL	NULL
	2	Kid book	McGraw-Hill	1990
	3	Book2	Allen & Unwin	1990
	4	Book3	Scholastic	1995
	5	Book4	McGraw-Hill	2000
	6	Book5	Allen & Unwin	2010
	7	Book6	Scholastic	2020
	8	Book7	McGraw-Hill	1975
	9	Book8	Allen & Unwin	1985
	11	Book1	McGraw-Hill	1980
	12	Book2	Allen &Unwin	1990
	13	Book3	Scholastic	1995
	14	Book4	McGraw-Hill	2000
	15	Book5	Allen &Unwin	2010

books 21 ×

Output

Action Output ▾

	#	Time	Action	Message
✓	80	20:54:53	delete from books where docId=10	1 row(s) affected
✓	81	20:54:54	select*from books LIMIT 0, 1000	19 row(s) returned

```
169 •      delete from books where docid=1; -- no you cant
170
171        -- exercise 8
172        -- 8a
173 •      select year,title from books;
174        -- 8b
```

	year	title
▶	NULL	book1
	1990	Kid book
	1990	Book2
	1995	Book3
	2000	Book4
	2010	Book5
	2020	Book6
	1975	Book7
	1985	Book8
	1980	Book1
	1990	Book2
	1995	Book3
	2000	Book4

```
175 •      select *from students where major="Computer Science";
176        -- 8c
```

	StId	StName	Major	Age
▶	1	Smith	Computer Science	30
	4	Dara	Computer Science	20
	7	Sok	Computer Science	31
	104	Jerry	Computer Science	NULL
	105	Smith	Computer Science	30
	106	Smith	Computer Science	30
	107	Smith	Computer Science	30
	108	Jerry	Computer Science	NULL
*	NULL	NULL	NULL	NULL

```
176        -- 8c
177 ●      select * from students natural join borrows;
178        -- 8d
```

StId	StName	Major	Age	DocId	Date
1	Smith	Computer Science	30	1	2024-04-27
1	Smith	Computer Science	30	2	2024-04-26
1	Smith	Computer Science	30	2	2024-05-26
1	Smith	Computer Science	30	6	2024-04-22
2	Tom	English Literature	32	2	2024-0...
2	Tom	English Literature	32	2	2024-04-27
2	Tom	English Literature	32	7	2024-04-21
3	Jerry	Mathematics	31	3	2024-04-25
3	Jerry	Mathematics	31	3	2024-04-28
3	Jerry	Mathematics	31	8	2024-04-20
4	Dara	Computer Science	20	1	2024-04-29
4	Dara	Computer Science	20	3	2024-04-29
4	Dara	Computer Science	20	4	2024-04-24
4	Dara	Computer Science	20	4	2024-05-07

```
178        -- 8d
179 ●      select * from books where Publisher="McGraw-Hill" and Year < 1990;
180        -- 8e
```

DocId	Title	Publisher	Year
8	Book7	McGraw-Hill	1975
11	Book1	McGraw-Hill	1980
17	Book7	McGraw-Hill	1975
NULL	NULL	NULL	NULL

```
180        -- 8e
181 ●      select aName as name from authors where Address like "%Davis%";
182
```

name
Author1
Author3