

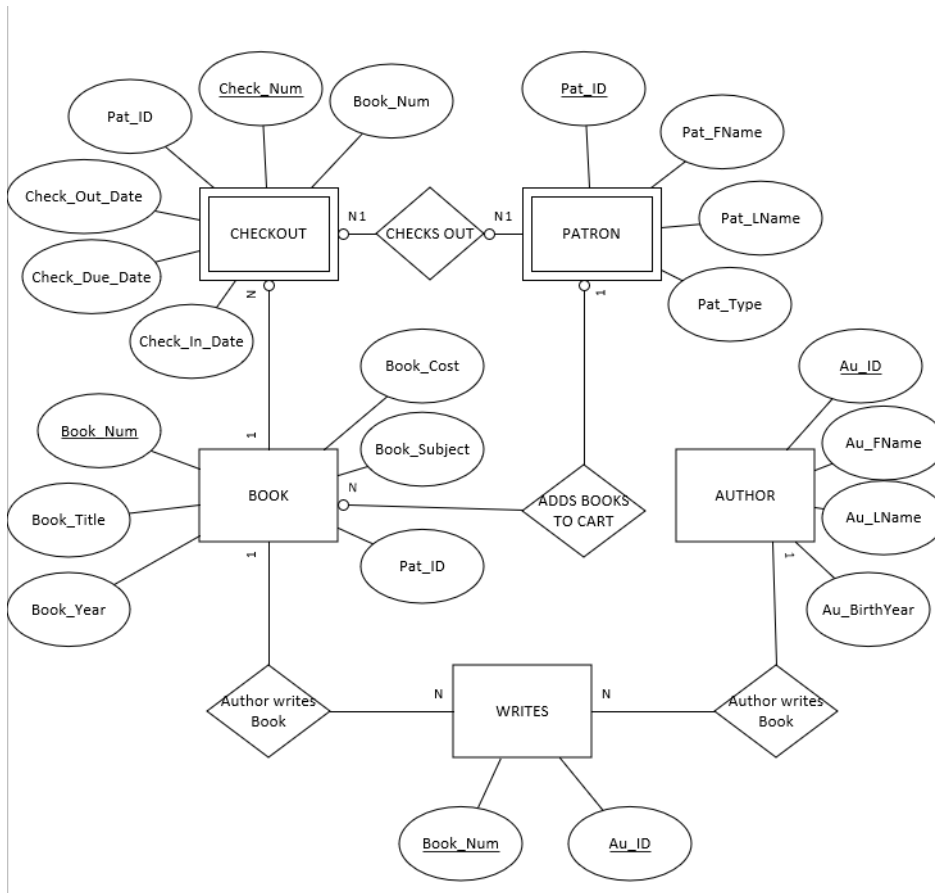
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CIS 310-01

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Assignment 10

1.)



2.)

#102.) Write a query to display the patron ID, last name, number of times that patron has ever checked out a book, and the number of different books the patron has ever checked out. For example, if a given patron has checked out the same book twice, that would count as two checkouts but only one book. Limit the results to only patrons who have made at least three checkouts. Sort the results in descending order by number of books, then in descending order by number of checkouts, and then in ascending order by patron.

```

SELECT Distinct PATRON.PAT_ID, PATRON.PAT_LNAME =CHECKOUT.PAT_ID, Count(CHECK_OUT_DATE)
as NUM_CHECKOUTS, Count(Distinct BOOK_NUM) as NUM_DIFFERENT_BOOKS

FROM PATRON

LEFT JOIN CHECKOUT on PATRON.PAT_ID=CHECKOUT.PAT_ID

GROUP BY PATRON.PAT_ID, PATRON.PAT_LNAME

HAVING Count(BOOK_NUM)>0 and Count(CHECK_OUT_DATE)=3

ORDER BY NUM_DIFFERENT_BOOKS DESC, NUM_CHECKOUTS DESC, PATRON.PAT_ID;

```

	PAT_ID	PAT_LNAME	NUM_CHECKOUTS	NUM_DIFFERENT_BOOKS
1	1161	KOCH	3	3
2	1165	BALDWIN	3	3
3	1181	HORNE	3	3
4	1185	YANG	3	3
5	1210	COOLEY	3	3
6	1229	BURKE	3	3
7	1160	CARTER	3	2
8	1171	MARSH	3	2
9	1172	MILES	3	2
10	1207	RAMOS	3	2
11	1209	MATHIS	3	2
12	1183	HUGHES	3	1

#103.) Write a query to display the average number of days a book is kept during a check-out (Figure P7.103).

```

SELECT Avg(cast(DATEDIFF(DAY,CHECK_OUT_DATE, CHECK_IN_DATE) as numeric)) as
average_days_kept

FROM CHECKOUT

WHERE CHECK_IN_DATE is not null;

```

	AVERAGE_DAYS_KEPT
1	4.44

#104.) Write a query to display the patron ID and the average number of days that patron keeps books during a checkout. Limit the results to only patrons who have at least three checkouts. Sort the results in descending order by the average days the book is kept.

```

SELECT PAT_ID, Round(Avg(CHECK_IN_DATE - CHECK_OUT_DATE), 2) AS "Average Days Kept"
FROM CHECKOUT
GROUP BY PAT_ID
HAVING Count(CHECK_NUM) > 2
ORDER BY Round(Avg(CHECK_IN_DATE - CHECK_OUT_DATE), 2) DESC;

```

	PAT_ID	AVERAGE_DAYS_KEPT
1	1160	7
2	1185	6.67
3	1165	5.67
4	1207	5.5
5	1209	5.33
6	1172	4.5
7	1183	4.33
8	1181	3.67
9	1171	3.67
10	1161	3.33
11	1210	2.33
12	1229	2

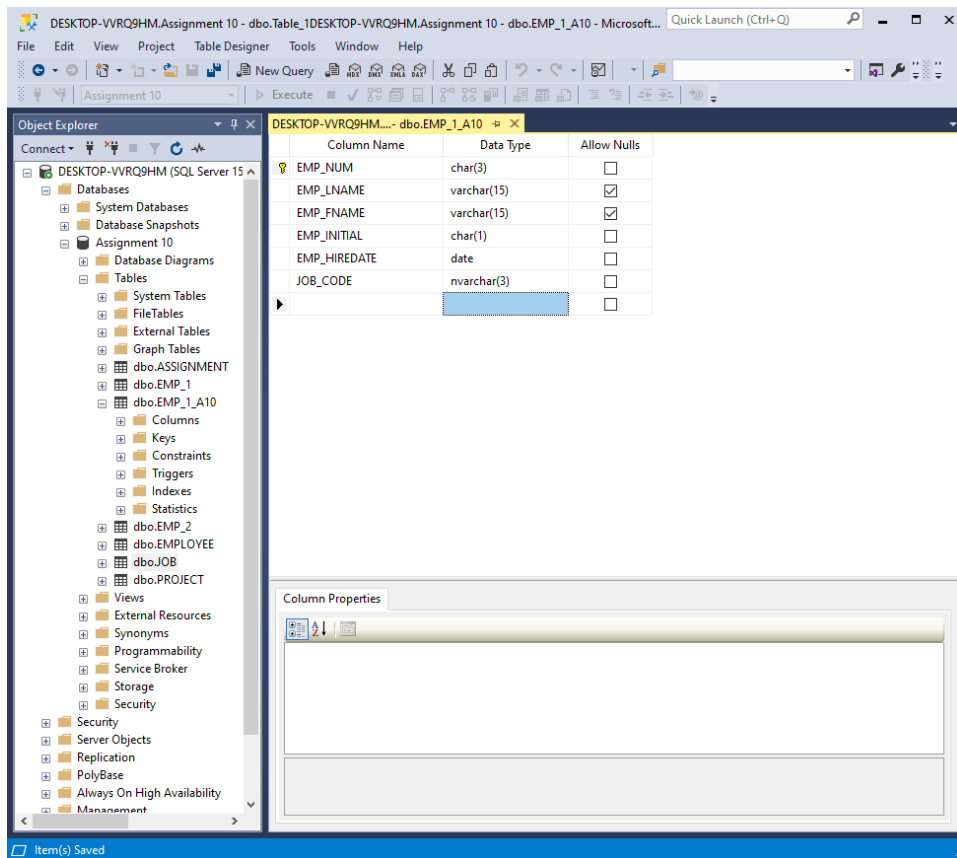
#105.) Write a query to display the book number, title, and cost of books that have the lowest cost of any books in the system. Sort the results by book number.

```
SELECT BOOK_NUM, BOOK_TITLE, FLOOR(BOOK_COST)
FROM BOOKSTORE
[ORDER BY BOOK_NUM [ASC] ];
```

	BOOK_NUM	BOOK_TITLE	BOOK_COST
1	5239	J++ in Mobile Apps	49.95
2	5241	JAVA First Steps	49.95
3	5248	What You Always Wanted to Know About Database, B...	49.95
4	5254	Coding Style for Maintenance	49.95

3)

a)



b)

Results		Messages				
	EMP_NUM	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_HIREDATE	JOB_CODE
1	101	News	John	G	2000-11-08	502
2	102	Senior	David	H	1989-07-12	501
3	103	Arbough	June	E	1996-12-01	500
4	104	Ramoras	Anne	K	1987-11-15	501
5	105	Johnson	Alice	K	1993-02-01	502
6	106	Smithfield	William		2004-06-22	500
7	107	Alonzo	Maria	D	1993-10-10	500
8	108	Washington	Ralph	B	1991-08-22	501
9	109	Smith	Larry	W	1997-07-18	501

c)

	EMP_NUM	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_HIREDATE	JOB_CODE
1	101	News	John	G	2000-11-08	502
2	102	Senior	David	H	1989-07-12	501
3	103	Arbough	June	E	1996-12-01	500
4	104	Ramoras	Anne	K	1987-11-15	501
5	105	Johnson	Alice	K	1993-02-01	502
6	106	Smithfield	William		2004-06-22	500
7	107	Alonzo	Maria	D	1993-10-10	501
8	108	Washington	Ralph	B	1991-08-22	501
9	109	Smith	Larry	W	1997-07-18	501

d)

```

UPDATE EMP_3
SET JOB_CODE='501'
WHERE EMP_NUM='107';

```

100 %

Messages

(1 row affected)

Completion time: 2020-11-29T13:57:43.7621995-05:00

e)

```

DELETE FROM EMP_3
WHERE EMP_LNAME = 'Smithfield'
AND EMP_FNAME = 'William'
AND EMP_HIREDATE = '2004-06-22'
AND JOB_CODE = '500';

```

100 %

Messages

(1 row affected)

Completion time: 2020-11-29T14:06:39.8148316-05:00

	EMP_NUM	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_HIREDATE	JOB_CODE
1	101	News	John	G	2000-11-08	502
2	102	Senior	David	H	1989-07-12	501
3	103	Arbough	June	E	1996-12-01	500
4	104	Ramoras	Anne	K	1987-11-15	501
5	105	Johnson	Alice	K	1993-02-01	502
6	107	Alonzo	Maria	D	1993-10-10	501
7	108	Washington	Ralph	B	1991-08-22	501
8	109	Smith	Larry	W	1997-07-18	501

f)

```
SELECT * INTO EMP_4
FROM EMP_3;
```

	EMP_NUM	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_HIREDATE	JOB_CODE
1	101	News	John	G	2000-11-08	502
2	102	Senior	David	H	1989-07-12	501
3	103	Arbough	June	E	1996-12-01	500
4	104	Ramoras	Anne	K	1987-11-15	501
5	105	Johnson	Alice	K	1993-02-01	502
6	107	Alonzo	Maria	D	1993-10-10	501
7	108	Washington	Ralph	B	1991-08-22	501
8	109	Smith	Larry	W	1997-07-18	501

g)

```
ALTER TABLE EMP_4
ADD EMP_PCT DECIMAL(4,2);

ALTER TABLE EMP_4
ADD PROJ_NUM CHAR(3);
```

	EMP_NUM	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_HIREDATE	JOB_CODE	EMP_PCT	PROJ_NUM
1	101	News	John	G	2000-11-08	502	NULL	NULL
2	102	Senior	David	H	1989-07-12	501	NULL	NULL
3	103	Arbough	June	E	1996-12-01	500	NULL	NULL
4	104	Ramoras	Anne	K	1987-11-15	501	NULL	NULL
5	105	Johnson	Alice	K	1993-02-01	502	NULL	NULL
6	107	Alonzo	Maria	D	1993-10-10	501	NULL	NULL
7	108	Washington	Ralph	B	1991-08-22	501	NULL	NULL
8	109	Smith	Larry	W	1997-07-18	501	NULL	NULL

h)

```
UPDATE EMP_4  
SET EMP_PCT=3.85  
WHERE EMP_NUM='103';
```

	EMP_NUM	EMP_LNAME	EMP_FNAME	EMP_INITIAL	EMP_HIREDATE	JOB_CODE	EMP_PCT	PROJ_NUM
1	101	News	John	G	2000-11-08	502	NULL	NULL
2	102	Senior	David	H	1989-07-12	501	NULL	NULL
3	103	Arbough	June	E	1996-12-01	500	3.85	NULL
4	104	Ramoras	Anne	K	1987-11-15	501	NULL	NULL
5	105	Johnson	Alice	K	1993-02-01	502	NULL	NULL
6	107	Alonzo	Maria	D	1993-10-10	501	NULL	NULL
7	108	Washington	Ralph	B	1991-08-22	501	NULL	NULL
8	109	Smith	Larry	W	1997-07-18	501	NULL	NULL