Ahmad Al Saadi
01/26/2020
CIS 4338-01

Exone-02_Alsaadi_A

Task 1

Welcome Page | aalsaadi | exone-02_012420.sql | VIEW1

Columns | Data | Grants | Dependencies | Details | Triggers | SQL | Errors

Actions...

```
1
2   CREATE OR REPLACE FORCE EDITIONABLE VIEW "AALSAADI"."VIEW1" ("TABLE_NAME") AS
3   SELECT table_name
4
5 FROM all_tables where table_name like '%_01'
6 and owner = 'aalsaadi' order by table_name;
```

i) Ahmad Al Saadi, 01-26-2020

Schema: AALSAADI

Name: VIEW2

SQL Query | Properties | Comment | DDL

SQL Query:

Revert

```
SELECT table_name,column_name,data_type

FROM user_tab_columns
WHERE table_name like '%_01' order by table_name
```

ii) Ahmad Al Saadi, 01-26-2020

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Task 2

```
--Ahmad Al Saadi
select * from employee_01; -- For Task 2 screenshot deliverable
```

Script Output | Query Result | Query Result 1

SQL | All Rows Fetched: 6 in 0.045 seconds

	EMPLOYEE_EMAIL	EMPLOYEE_NAME	SUPERVISOR
1	jpsmith03@blueboyjobs.com	Joshua Smith	Francisco Pena
2	skgomez@blueboyjobs.com	Susana Gomez	(null)
3	lnissa01@blueboyjobs.com	Lucy Issa	skgomez@blueboyjobs.com
4	jgconnelly@blueboyjobs.com	James G. Connelly	(null)
5	fwpena2@blueboyjobs.com	Franciso W. Pena	Oscar Wellington, III
6	gkurdim@gbl.com	George Kurdim	Rebecca Stalling

ii) Ahmad Al Saadi, 01-26-2020

Task 3

```
/*Ahmad Al Saadi*/
select * from job_01; -- For Task 3 screenshot deliverable
```

Script Output | Query Result | Query Result 1 | Query Result 2

SQL | All Rows Fetched: 5 in 0.043 seconds

	JOB_DESC	JOB_CUSTOMER	JOB_DATE	JOB_STATUS	JOB_STATUS_CHANGE_DATE
1	Replace carpet in Room 302 of George B...	UH Sugarland	26-JAN-20	Pending	26-JAN-20
2	Disable electrical outlets in floor of...	(null)	19-JAN-20	In Progress	19-JAN-20
3	Repair wallpaper damage on interior wa...	(null)	19-JAN-20	Pending	19-JAN-20
4	Replace wall switch at entrance door i...	(null)	20-JAN-20	In Progress	20-JAN-20
5	Cover disabled electrical outlets in f...	(null)	20-JAN-20	In Progress	20-JAN-20

iii) Ahmad Al Saadi, 01-26-2020

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Task 4

```
/*Ahmad Al Saadi*/
select * from tool_01; -- For Task 4 screenshot deliverable
```

Script Output × | Query Result × | Query Result 1 × | Query Result 2 × | Query Result 3 ×

SQL | All Rows Fetched: 13 in 0.049 seconds

	TOOL_NO	TOOL_DESC	TOOL_ID_FROM_MFG	TOOL_MFG
1	1	16 oz. Fiberglass Claw Hammer	N-G16CHD-HN	Husky
2	1	10 oz. Ash Handle Ripping Hammer	N-A10SHD	HDX
3	1	21 oz. Milled Face Steel Framing Hammer	HH21SCM	HART
4	1	VDV Scout Pro 2 Tester Kit	VDV501-823R	Klein Tools
5	1	5 in. Light-Weight Flush Wire Cutter	D2755	Klein Tools
6	2	16 oz. Fiberglass Claw Hammer	N-G16CHD-HN	Husky
7	3	16 oz. Fiberglass Claw Hammer	N-G16CHD-HN	Husky
8	4	16 oz. Fiberglass Claw Hammer	N-G16CHD-HN	Husky
9	1	2.4 in. Compact Folding Lock-Back Utility Knife	97550	Husky
10	2	2.4 in. Compact Folding Lock-Back Utility Knife	97550	Husky
11	3	2.4 in. Compact Folding Lock-Back Utility Knife	97550	Husky
12	1	#2 x 4 in. Insulated Square-Recess Tip Screwdriver	662-4-INS	Klein Tools
13	2	#2 x 4 in. Insulated Square-Recess Tip Screwdriver	662-4-INS	Klein Tools

iv)Ahmad Al Saadi, 01-26-2020

Task 5

The tool_no field is used to specify the instance of a tool entry. The same tool may entered multiple times into the tool_01 table, so the field helps differentiate them.

The tool_no field cannot be the primary key for the tool_01 table, because the same tool entry instance may and indeed in our case exist for multiple different tools.

Task 6

```
/*Ahmad Al Saadi.*/
select * from loan_01; -- For Task 6 screenshot deliverable
```

t Output × | Query Result × | Query Result 1 × | Query Result 2 × | Query Result 3 × | Query Result 4 ×

SQL | All Rows Fetched: 3 in 0.064 seconds

TOOL_NO	TOOL_DESC	EMPLOYEE_EMAIL	JOB_DESC	TOOL_OUT_DATE	DUE_DATE	LOAN_ACTIVE	LOAN_STATUS_CHANGE_DATE
1	5 i...	skqomez...	Disable elec...	19-JAN-20	20-JAN-20	Inactive	20-JAN-20
1	#2 ...	skqomez...	Cover disabl...	20-JAN-20	22-JAN-20	Yes	22-JAN-20
1	2.4...	jpsmith...	Replace carp...	28-JAN-20	29-JAN-20	Active	29-JAN-20

v)Ahmad Al Saadi, 01-26-2020

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Task 7

```
/* Best Contractor Services is going to have a job involving commerical office door
installations.*/
insert into job_01 values('commerical office door installations', 'Best Contractor Services',
'06-Jan-2020', 'In Progress', '10-Jan-2020');

/* Noah Contractor Services is going to have a job involving fastening drywall boards to
metal framings.*/
insert into job_01 values('Fasten drywall boards to metal framings', Noah Contractor Services,
'13-Jan-2020', 'In Progress', '16-Jan-2020');

/*The hammer by Dewalt is popular and is expected to be used for commeircal
office door installations by Best Contractor Services and fasten drywall boards to
metal framings by Noah Contractor Services two different clients in Houston. */
insert into tool_01
values(1, '22 oz. Steel Checkered Face Hammer', 'rdb-5541', 'Dewalt');

/*The screw driver by Hilti is also popular and may be used by
for job involving fatening drywall boards to metal framings by Noah Contractor
Services. */
insert into tool_01
values(1, 'SD 4500 Drywall Screw Driver', 'gsh-5541', 'Hilti');
```

ii) Data scenarios explaining jobs to be done and tools to be used

Worksheet | Query Builder

```
--Ahmad Al Saadi
select * from job_01; --See result 6 and 7
```

Query Result

SQL | All Rows Fetched: 7 in 0.086 seconds

	JOB_DESC	JOB_CUSTOMER	JOB_DATE	JOB_STATUS	JOB_STATUS_CHANGE_DATE
1	Replace carpet in Room 302 of George B...	UH Sugarland	26-JAN-20	Pending	26-JAN-20
2	Disable electrical outlets in floor of...	(null)	19-JAN-20	In Progress	19-JAN-20
3	Repair wallpaper damage on interior wa...	(null)	19-JAN-20	Pending	19-JAN-20
4	Replace wall switch at entrance door i...	(null)	20-JAN-20	In Progress	20-JAN-20
5	Cover disabled electrical outlets in f...	(null)	20-JAN-20	In Progress	20-JAN-20
6	commerical office door installations	Best Cont...	06-JAN-20	In Progress	10-JAN-20
7	Fasten drywall boards to metal framings	Noah Cont...	13-JAN-20	In Progress	16-JAN-20

iii) We verify that our jobs have been inserted correctly

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```
insert into loan_01
values(1, '22 oz. Steel Checkered Face Hammer', 'george@bcs.com', 'commerical office door insta
'06-Jan-2020', '10-Jan-2020', 'Active', '10-Jan-2020');

/*Noah from Noah Contractor services wants to use the same hammer that
was previously checked out by George. He proceeds his reservation, and the data entry
clerk sets the change date for the reservation status based on anticipated return of tool
by George from BCS, which is January 10. */
insert into reserve_01 values('noah@ncs.com', '22 oz. Steel Checkered Face Hammer',
'Fasten drywall boards to metal framings', 'Yes', '10-Jan-2020');

/* On January 10 2020, George returns the Dewalt Hammer. This means George's loan must
be updated to inactive. This is done by referencing his email and job description. */
update loan_01
set loan_active ='Inactive', loan_status_change_date = '10-Jan-2020'
where employee_email = 'george@bcs.com' and job_desc = 'commerical office door installations';
```

iv) Data scenario for hammer loan to employee George, reservation for same hammer by different employee, and updating loan status when first employee returns the hammer.

```
--Ahmad Al Saadi
select * from reserve_01
where job_desc = 'Fasten drywall boards to metal framings'
and employee_email = 'noah@ncs.com';
```

y Result | Query Result 1 | Query Result 2 | Query Result 3 | Query Result 4 | Query Result 5 | Query Result 6

SQL | All Rows Fetched: 1 in 0.051 seconds

EMPLOYEE_EM...	TOOL_DESC	JOB_DESC	RESERVE_ACTIVE	RESERVE_STATUS_CHANGE_DATE
noah@...	22 oz. Steel Checkered Face Hammer	Fasten dr...	Yes	10-JAN-20

v) After inserting into reserve_01 table, we verify the reservation went through

```
--Ahmad Al Saadi
select * from loan_01
where loan_active = 'Inactive'
and job_desc = 'commerical office door installations'
and tool_desc = '22 oz. Steel Checkered Face Hammer';
```

Result | Query Result 1 | Query Result 2 | Query Result 3 | Query Result 4 | Query Result 5 | Query Result 6

SQL | All Rows Fetched: 1 in 0.048 seconds

TOOL_NO	TOOL_DESC	EMPLOYEE_EMAIL	JOB_DESC	TOOL_OUT_DATE	DUE_DATE	LOAN_ACTIVE	LOAN_STATUS_CHANGE_DATE
1	22 oz. S...	george@bcs.com	commeric...	06-JAN-20	10-JAN-20	Inactive	10-JAN-20

vi) We verify that our update script worked properly as loan is "Inactive"

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```
/* Noah from NCS is informed his hammer is now available. Instead of picking it up on January
10, Noah decides to wait until January 13. This creates an active hold in the system. */
insert into hold_01 values(1, '22 oz. Steel Checkered Face Hammer', 'noah@ncs.com', 'Fasten
drywall boards to metal framings',
'10-Jan-2020', '13-Jan-2020', 'Active', '13-Jan-2020');

/* Because the dewalt hammer is physically back in the library, we must cancel any reservation
associated with it. In this case, we cancel the reservation made previously by Noah
from NCS. */
update reserve_01
set reserve_active = 'No', reserve_status_change_date = '10-Jan-2020'
where employee_email = 'noah@ncs.com' and job_desc = 'Fasten drywall boards to metal framings';
```

vii) Data Scenario for returning tool that has a reservation on it, creating a hold until the next requested user picks it up, and cancelling the reservation as a hold is in effect.

```
--Ahmad Al Saadi
select * from hold_01
where job_desc = 'Fasten drywall boards to metal framings'
and tool_desc = '22 oz. Steel Checkered Face Hammer';
```

Query Result 1 | Query Result 2 | Query Result 3 | Query Result 4 | Query Result 5 | Query Result 6

All Rows Fetched: 1 in 0.05 seconds

TOOL_NO	TOOL_DESC	EMPLOYEE_EMAIL	JOB_DESC	HOLD_DATE	EXPIRE_DATE	HOLD_ACTIVE	HOLD_STATUS_CHANGE_DATE
1	22 oz. S...	noah@ncs.com	Fasten d...	10-JAN-20	13-JAN-20	Active	13-JAN-20

viii)Confirmation that hold query executed correctly

Task 8

```
--Ahmad AL Saadi
select employee_name, tool_desc from employee_01 e
join loan_01 lo on e.employee_email = lo.employee_email
where tool_out_date between '01 JAN 2018' and sysdate;
```

All Rows Fetched: 3 in 0.051 seconds

EMPLOYEE_NAME	TOOL_DESC
Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
Susana Gomez	5 in. Light-Weight Flush Wire Cutter

ix) employee join loan

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```
--Ahmad Al Saadi
select employee_name, tool_desc from loan_01 lo
join employee_01 e on lo.employee_email = e.employee_email
where tool_out_date between '01 JAN 2018' and sysdate;
```

ry Result

SQL | All Rows Fetched: 3 in 0.051 seconds

EMPLOYEE_NAME	TOOL_DESC
Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
Susana Gomez	5 in. Light-Weight Flush Wire Cutter

x) loan join employee

We see that employee join loan returns same results as loan join employee, therefore A join B returns same result set as B join A.

Task 9

"Inner Join" will return the same as "Join" that we saw in Task 8. We examine different Outer Joins, comparing side by side the left join possibilities, the right join possibilities.

```
--Ahmad AL Saadi
select employee_name, tool_desc from employee_01 e
left join loan_01 lo on e.employee_email = lo.employee_email;
--
```

Query Result

SQL | All Rows Fetched: 7 in 0.051 seconds

	EMPLOYEE_NAME	TOOL_DESC
1	Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
2	Susana Gomez	5 in. Light-Weight Flush Wire Cutter
3	Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
4	George Kurdim	(null)
5	Franciso W. Pena	(null)
6	Lucy Issa	(null)
7	James G. Connelly	(null)

xi) Employee Left Join Loan

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```
--Ahmad Al Saadi
select employee_name, tool_desc from loan_01 lo
left join employee_01 e on lo.employee_email = e.employee_email;
```

Query Result

SQL | All Rows Fetched: 4 in 0.051 seconds

	EMPLOYEE_NAME	TOOL_DESC
1	Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
2	Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
3	Susana Gomez	5 in. Light-Weight Flush Wire Cutter
4	(null)	22 oz. Steel Checkered Face Hammer

xii) Loan Left Join Employee

We see that Employee Left Join Loan gives us all employees with equivalent email in both tables, even if they did not use any tools. Loan Left Join Employee, on the other hand, gives us all tools checked out even If there is yet an employee associated with it.

```
--Ahmad AL Saadi
select employee_name, tool_desc from employee_01 e
right join loan_01 lo on e.employee_email = lo.employee_email;
--
```

Query Result

SQL | All Rows Fetched: 4 in 0.05 seconds

	EMPLOYEE_NAME	TOOL_DESC
1	Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
2	Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
3	Susana Gomez	5 in. Light-Weight Flush Wire Cutter
4	(null)	22 oz. Steel Checkered Face Hammer

xiii) Employee Right Join Loan

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```
--Ahmad Al Saadi
select employee_name, tool_desc from loan_01 lo
right join employee_01 e on lo.employee_email = e.employee_email;
```

Query Result

SQL | All Rows Fetched: 7 in 0.05 seconds

	EMPLOYEE_NAME	TOOL_DESC
1	Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
2	Susana Gomez	5 in. Light-Weight Flush Wire Cutter
3	Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
4	George Kurdim	(null)
5	Franciso W. Pena	(null)
6	Lucy Issa	(null)
7	James G. Connelly	(null)

xiv) Loan Right Join Employee

We see that Employee Right Join Loan gives us all tools checked out even if there is yet an associated employee. We also see that Loan Right Join Employee gives us all employees even if there has not been any tool loaned out to them. If we compare this with our Left Join result sets, we can conclude the following:

- A Left Join B = B Right Join A

```
--Ahmad AL Saadi
select employee_name, tool_desc from employee_01 e
full join loan_01 lo on e.employee_email = lo.employee_email;
--
```

Query Result

SQL | All Rows Fetched: 8 in 0.052 seconds

	EMPLOYEE_NAME	TOOL_DESC
1	Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
2	Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
3	Susana Gomez	5 in. Light-Weight Flush Wire Cutter
4	Lucy Issa	(null)
5	James G. Connelly	(null)
6	Franciso W. Pena	(null)
7	George Kurdim	(null)
8	(null)	22 oz. Steel Checkered Face Hammer

xv) Employee Full Join Loan

Ahmad Al Saadi
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```
--Ahmad Al Saadi
select employee_name, tool_desc from loan_01 lo
full join employee_01 e on lo.employee_email = e.employee_email;
```

Query Result

SQL | All Rows Fetched: 8 in 0.051 seconds

	EMPLOYEE_NAME	TOOL_DESC
1	Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
2	Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
3	Susana Gomez	5 in. Light-Weight Flush Wire Cutter
4	Lucy Issa	(null)
5	James G. Connelly	(null)
6	Franciso W. Pena	(null)
7	George Kurdim	(null)
8	(null)	22 oz. Steel Checkered Face Hammer

xvi) Loan Full Join Employee

We first note that Full Join result set is the same regardless of table order. We also see that full joins gives us a union of both tables for the specified ON condition, allowing nulls for each of the columns selected.

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Task 10

```
--Ahmad Al Saadi
select employee_name, tool_desc from employee_01
cross join loan_01;
```

Query Result

SQL | All Rows Fetched: 24 in 0.052 seconds

	EMPLOYEE_NAME	TOOL_DESC
1	Joshua Smith	2.4 in. Compact Folding Lock-Back Utility Knife
2	Susana Gomez	2.4 in. Compact Folding Lock-Back Utility Knife
3	Lucy Issa	2.4 in. Compact Folding Lock-Back Utility Knife
4	James G. Connelly	2.4 in. Compact Folding Lock-Back Utility Knife
5	Franciso W. Pena	2.4 in. Compact Folding Lock-Back Utility Knife
6	George Kurdim	2.4 in. Compact Folding Lock-Back Utility Knife
7	Joshua Smith	5 in. Light-Weight Flush Wire Cutter
8	Susana Gomez	5 in. Light-Weight Flush Wire Cutter
9	Lucy Issa	5 in. Light-Weight Flush Wire Cutter
10	James G. Connelly	5 in. Light-Weight Flush Wire Cutter
11	Franciso W. Pena	5 in. Light-Weight Flush Wire Cutter
12	George Kurdim	5 in. Light-Weight Flush Wire Cutter
13	Joshua Smith	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
14	Susana Gomez	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
15	Lucy Issa	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
16	James G. Connelly	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
17	Franciso W. Pena	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
18	George Kurdim	#2 x 4 in. Insulated Square-Recess Tip Screwdriver
19	Joshua Smith	22 oz. Steel Checkered Face Hammer
20	Susana Gomez	22 oz. Steel Checkered Face Hammer
21	Lucy Issa	22 oz. Steel Checkered Face Hammer
22	James G. Connelly	22 oz. Steel Checkered Face Hammer
23	Franciso W. Pena	22 oz. Steel Checkered Face Hammer
24	George Kurdim	22 oz. Steel Checkered Face Hammer

xvii) Employee Cross Join Loan

We see that the cross join produces every possible combination between the selected columns, independent of relationships and conditions. We get the same output regardless of table order for the Cross Join.

The full join on the other hand, requires that at least one common record between the tables to warrant an outputted row.