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Roll No. – 101915001

Batch – 3ENC1

Create tables

1. Create table dept which has the following attributes (department table)

(@deptno, dname)

Where deptno is primary key, dname in (Acc, comp, elect)

```
create table dept(  
deptno int,  
dname varchar(15),  
constraint deptKey primary key(deptno),  
constraint checkDept check(dname='Acc' or dname='comp' or dname='elect' )  
);
```

2. Create table emp which has the following attributes (employee table)

(@empno, ename, Designation, sal, deptno)

Where empno is primary key, ename is unique, designation (Prof, AP, and Lect), sal is not NULL, and deptno is foreign key

```
create table emp(  
empno int,  
ename varchar(15),  
designation varchar(15),  
sal number not null,  
deptno int,  
constraint empKey primary key(empno),  
constraint fkeyDept foreign key (deptno) references dept(deptno),  
constraint checkDesig check(designation='Prof' or designation='AP' or designation='Lect'),  
constraint uniqueEname unique(ename)  
);
```

3. Create table S which has the following attributes (Salesperson table)

(@sno, sname, city)

Where sno is primary key

```
create table S(  
sno int primary key,  
sname varchar(15),  
city varchar(15)  
);
```

4. Create table P which has the following attributes (Part table)

(@pno, pname, color)

Where pno is primary key

```
create table P(  
pno int primary key,  
pname varchar(15),  
color varchar(15)  
);
```

5. Create table J which has the following attributes (Project table)

(@jno, jname, city)

Where jno is primary key

```
create table J(  
jno int primary key,  
jname varchar(15),  
city varchar(15)  
);
```

6. Create table SPJ which has the following attributes

(@ (sno, pno, jno), qty)

Where combination of (sno, pno, jno) is primary key, also sno, pno, jno are foreign keys

```
create table SPJ(  
qty int,  
sno int,  
pno int,  
jno int,  
constraint sKey foreign key(sno) references S(sno),  
constraint pKey foreign key(pno) references P(pno),  
constraint jKey foreign key(jno) references J(jno)  
);
```

2. Insert appropriate records in above tables.

Live SQL

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SQL Worksheet

ClearFindActionsSaveRun

51

constraint jKey foreign key(jno) references J(jno)

52

);

53

--

54

--

55

--

56

insert into dept values

57

(1,'Acc');

58

insert into dept values

59

(2,'comp');

60

insert into dept values

61

(3,'elect');

62

select*from dept;

63

64

insert into emp values

65

(100,'Tim','Lect',200000,2);

66

insert into emp values

67

(110,'Sam','AP',150000,1);

68

insert into emp values

69

(132,'Danny','AP',125000,1);

70

insert into emp values

71

(111,'Biggie','Lect',200000,2);

72

insert into emp values

73

(155,'Josh','Prof',250000,3);

74

select*from emp;

75

1 row(s) inserted.

DEPTNO	DNAME
1	Acc
2	comp
3	elect

Download CSV

3 rows selected.

SQL Worksheet

ClearFindActionsSaveRun

```
56 insert into dept values
57 (1,'Acc');
58 insert into dept values
59 (2,'comp');
60 insert into dept values
61 (3,'elect');
62 select*from dept;
63
64 insert into emp values
65 (100,'Tim','Lect',200000,2);
66 insert into emp values
67 (110,'Sam','AP',150000,1);
68 insert into emp values
69 (132,'Danny','AP',125000,1);
70 insert into emp values
71 (111,'Biggie','Lect',200000,2);
72 insert into emp values
73 (155,'Josh','Prof',250000,3);
74 select*from emp;
75
76 insert into S values
77 (1,'Raj','Patiala');
78 insert into S values
79 (2,'Sasha','Delhi');
80 insert into S values
```

EMPNO	ENAME	DESIGNATION	SAL	DEPTNO
100	Tim	Lect	200000	2
110	Sam	AP	150000	1
132	Danny	AP	125000	1
111	Biggie	Lect	200000	2
155	Josh	Prof	250000	3

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5 rows selected.

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SQL Worksheet

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```
66 insert into emp values
67 (110,'Sam','AP',150000,1);
68 insert into emp values
69 (132,'Danny','AP',125000,1);
70 insert into emp values
71 (111,'Biggie','Lect',200000,2);
72 insert into emp values
73 (155,'Josh','Prof',250000,3);
74 select*from emp;
75
76 insert into S values
77 (1,'Raj','Patiala');
78 insert into S values
79 (2,'Sasha','Delhi');
80 insert into S values
81 (3,'Eric','Hyderabad');
82 select*from S;
83
84 insert into P values
85 (4,'Ethan','Chandigarh');
86 insert into P values
87 (5,'Harry','Kanpur');
88 insert into P values
89 (6,'Kenny','Chennai');
90 select*from P;
```

SNO	SNAME	CITY
1	Raj	Patiala
2	Sasha	Delhi
3	Eric	Hyderabad

Download CSV
3 rows selected.



SQL Worksheet



Actions ▾



```
76 insert into S values
77 (1,'Raj','Patiala');
78 insert into S values
79 (2,'Sasha','Delhi');
80 insert into S values
81 (3,'Eric','Hyderabad');
82 select*from S;
83
84 insert into P values
85 (4,'Ethan','Chandigarh');
86 insert into P values
87 (5,'Harry','Kanpur');
88 insert into P values
89 (6,'Kenny','Chennai');
90 select*from P;
91
92 insert into J values
93 (7,'Sandra','Rajpura');
94 insert into J values
95 (8,'Alex','Bangalore');
96 insert into J values
97 (9,'Boppie','Dispur');
98 select*from J;
99
100 insert into SPJ values
```

PNO	PNAME	COLOR
4	Ethan	Chandigarh
5	Harry	Kanpur
6	Kenny	Chennai

[Download CSV](#)

3 rows selected.

SQL Worksheet

ClearFindActionsSaveRun

86 insert into P values
87 (5,'Harry','Kanpur');
88 insert into P values
89 (6,'Kenny','Chennai');
90 select*from P;
91
92 insert into J values
93 (7,'Sandra','Rajpura');
94 insert into J values
95 (8,'Alex','Bangalore');
96 insert into J values
97 (9,'Boppie','Dispur');
98 select*from J;
99
100 insert into SPJ values
101 (4500,3,4,8);
102 insert into SPJ values
103 (3250,1,5,7);
104 insert into SPJ values
105 (2300,2,6,9);
106 select*from SPJ;
107 --
108 --
109 --
110 desc dept;

JNO	JNAME	CITY
7	Sandra	Rajpura
8	Alex	Bangalore
9	Boppie	Dispur

Download CSV
3 rows selected.

SQL Worksheet

ClearFindActionsSaveRun

91
92 insert into J values
93 (7,'Sandra','Rajpura');
94 insert into J values
95 (8,'Alex','Bangalore');
96 insert into J values
97 (9,'Boppie','Dispur');
98 select*from J;
99
100 insert into SPJ values
101 (4500,3,4,8);
102 insert into SPJ values
103 (3250,1,5,7);
104 insert into SPJ values
105 (2300,2,6,9);
106 select*from SPJ;
107 --
108 --
109 --
110 desc dept;
111 desc emp;
112 desc S;
113 desc P;
114 desc J;
115 desc SPJ;

1 row(s) inserted.

QTY	SNO	PNO	JNO
4500	3	4	8
3250	1	5	7
2300	2	6	9

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3 rows selected.

3.Manipulatiuons

Q1) Check the structure of tables.

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SQL Worksheet

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108 --
109 --
110 desc dept;
111 desc emp;
112 desc S;
113 desc P;
114 desc J;
115 desc SPJ;
116 --
117 --
118 --
119 select * from users; -- constraints

TABLE DEPT

Column	Null?	Type
DEPTNO	NOT NULL	NUMBER
DNAME	-	VARCHAR2(15)

Download CSV
2 rows selected.

TABLE EMP

Column	Null?	Type
EMPNO	NOT NULL	NUMBER
ENAME	-	VARCHAR2(15)
DESIGNATION	-	VARCHAR2(15)
SAL	NOT NULL	NUMBER
DEPTNO	-	NUMBER

Download CSV
5 rows selected.

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SQL Worksheet

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TABLE S

Column	Null?	Type
SNO	NOT NULL	NUMBER
SNAME	-	VARCHAR2(15)
CITY	-	VARCHAR2(15)

Download CSV
3 rows selected.

TABLE P





Column	Null?	Type
PNO	NOT NULL	NUMBER
PNAME	-	VARCHAR2(15)
COLOR	-	VARCHAR2(15)

Download CSV
3 rows selected.

TABLE J

Column	Null?	Type
JNO	NOT NULL	NUMBER
JNAME	-	VARCHAR2(15)
CITY	-	VARCHAR2(15)

Download CSV
3 rows selected.

SQL Worksheet  Clear  Find **Actions**  Save **Run** 

```
108 --
109 --
110 desc dept;
111 desc emp;
112 desc S;
113 desc P;
114 desc J;
115 desc SPJ;
116 --
117 --
118 --
119 select*from user_constraints
```

Column	Null?	Type
JNO	NOT NULL	NUMBER
JNAME	-	VARCHAR2(15)
CITY	-	VARCHAR2(15)

[Download CSV](#)
3 rows selected.





TABLE SPJ





Column	Null?	Type
QTY	-	NUMBER
SNO	-	NUMBER
PNO	-	NUMBER
JNO	-	NUMBER

[Download CSV](#)
4 rows selected.

Q2) Check the constraint name for applied constraints?

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SQL Worksheet  Clear  Find **Actions**  Save **Run** 

```
119 -- select*from user_constraints //equivalent to all the single instructions does the same thing anyways
120 select*from user_constraints
121 where table_name = 'dept';
122 select*from user_cons_columns
123 where table_name = 'emp';
124 select*from user_cons_columns
125 where table_name = 'S';
126 select*from user_cons_columns
127 where table_name = 'P';
128 select*from user_cons_columns
129 where table_name = 'J';
130 select*from user_cons_columns
131 where table_name = 'SPJ';
```

OWNER	CONSTRAINT_NAME	TABLE_NAME	COLUMN_NAME	POSITION
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	CHECKDEPT	DEPT	DNAME	-
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	DEPTKEY	DEPT	DEPTNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	SYS_C0065383848	EMP	SAL	-
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	CHECKDESIG	EMP	DESIGNATION	-
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	EMPKEY	EMP	EMPNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	UNIQUEENAME	EMP	ENAME	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	FKEYDEPT	EMP	DEPTNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	SYS_C0065383853	S	SNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	SYS_C0065383854	P	PNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	SYS_C0065383858	J	JNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	SKEY	SPJ	SNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	PKEY	SPJ	PNO	1
SQL_ZIKMAHXNXRDTUARFIHEFZLOVN	JKEY	SPJ	JNO	1

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Q3) Drop the unique constraint on ENAME

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SQL Worksheet

ClearFind

Actions

Save

Run

126

select*from user_cons_columns

127

where table_name = 'P';

128

select*from user_cons_columns

129

where table_name = 'J';

130

select*from user_cons_columns

131

where table_name = 'SPJ';

132

--

133

--

134

--

135

alter table emp

136

drop constraint empKey;

137

138

alter table emp

139

drop constraint fkeyDept;

140

141

alter table emp

142

add constraint fkeyDept foreign key(deptno) references dept(deptno);

143

144

alter table emp

145

modify ename int;

146

147

desc emp;

148

149

alter table dept

Table altered.

Q4) Drop the Foreign Key constraint on DEPTNO

Live SQL

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SQL Worksheet

ClearFind

Actions

Save

Run

126

select*from user_cons_columns

127

where table_name = 'P';

128

select*from user_cons_columns

129

where table_name = 'J';

130

select*from user_cons_columns

131

where table_name = 'SPJ';

132

--

133

--

134

--

135

alter table emp

136

drop constraint empKey;

137

138

alter table emp

139

drop constraint fkeyDept;

140

141

alter table emp

142

add constraint fkeyDept foreign key(deptno) references dept(deptno);

143

144

alter table emp

145

modify ename int;

146

147

desc emp;

148

149

alter table dept

Table altered.

Q5) Add Foreign Key constraint on DEPTNO

≡

Live SQL

Feedback

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SQL Worksheet

Clear

Find

Actions

Save

Run

126

select*from user_cons_columns

127

where table_name = 'P';

128

select*from user_cons_columns

129

where table_name = 'J';

130

select*from user_cons_columns

131

where table_name = 'SPJ';

132

--

133

--

134

--

135

alter table emp

136

drop constraint empKey;

137

138

alter table emp

139

drop constraint fkeyDept;

140

141

alter table emp

142

add constraint fkeyDept foreign key(deptno) references dept(deptno);

143

144

alter table emp

145

modify ename int;

146

147

desc emp;

148

149

alter table dept

Table altered.

Q6) Change Data type of ENAME

≡

Live SQL

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SQL Worksheet

Clear

Find

Actions

Save

Run

126

select*from user_cons_columns

127

where table_name = 'P';

128

select*from user_cons_columns

129

where table_name = 'J';

130

select*from user_cons_columns

131

where table_name = 'SPJ';

132

--

133

--

134

--

135

alter table emp

136

drop constraint empKey;

137

138

alter table emp

139

drop constraint fkeyDept;

140

141

alter table emp

142

add constraint fkeyDept foreign key(deptno) references dept(deptno);

143

144

alter table emp

145

modify ename int;

146

147





desc emp;

148

149

alter table dept

Table altered.

SQL Worksheet  Clear  Find **Actions**  Save **Run** 



```
142 add constraint fkeyDept foreign key(deptno) references dept(deptno);
143
144 truncate table emp
145 alter table emp
146 modify ename int;
147
148 desc emp;
149
150 alter table dept
151 modify dname varchar(40);
152
153 desc dept;
154
155 alter table emp
156 add comm int;
157
158 alter table J
```





TABLE EMP





Column	Null?	Type
EMPNO	-	NUMBER
ENAME	-	NUMBER
DESIGNATION	-	VARCHAR2(15)
SAL	NOT NULL	NUMBER
DEPTNO	-	NUMBER

[Download CSV](#)
5 rows selected.

Q7) Change width of DNAME

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SQL Worksheet  Clear  Find **Actions**  Save **Run** 


```
136 drop constraint empKey;
137
138 alter table emp
139 drop constraint fkeyDept;
140
141 alter table emp
142 add constraint fkeyDept foreign key(deptno) references dept(deptno);
143
144 alter table emp
145 modify ename int;
146
147 desc emp;
148
149 alter table dept
150 modify dname varchar(40);
151
152 desc dept;
153
154 alter table emp
155 add comm int;
156
157 alter table J
158 drop column city;
159
```


Table altered.

SQL Worksheet

 Clear  Find

Actions 

Save 

Run 



```
136 drop constraint empKey;
137
138 alter table emp
139 drop constraint fkeyDept;
140
141 alter table emp
142 add constraint fkeyDept foreign key(deptno) references dept(deptno);
143
144 alter table emp
145 modify ename int;
146
147 desc emp;
148
149 alter table dept
150 modify dname varchar(40);
151
152 desc dept;
153
154 alter table emp
155 add comm int;
156
157 alter table J
158 drop column city;
159
```





TABLE DEPT

Column	Null?	Type
DEPTNO	NOT NULL	NUMBER
DNAME	-	VARCHAR2(40)



[Download CSV](#)
2 rows selected.


Q8) Add COMM column in EMP table


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 Clear  Find

Actions 

Save 

Run 

```
148 desc emp;
149
150 alter table dept
151 modify dname varchar(40);
152
153 desc dept;
154
155 alter table emp
156 add comm int;
157
158 alter table J
159 drop column city;
160
161 create table dupEMP as
162 select*from emp;
163
164 drop table dupEMP;
```

TABLE EMP

Column	Null?	Type
EMPNO	-	NUMBER
ENAME	-	NUMBER
DESIGNATION	-	VARCHAR2(15)
SAL	NOT NULL	NUMBER
DEPTNO	-	NUMBER
COMM	-	NUMBER

[Download CSV](#)
6 rows selected.

Q9) Drop CITY column from J table

≡

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SQL Worksheet

Clear

Find

Actions

Save

Run

```
142 add constraint fkeyDept foreign key(deptno) references dept(deptno);
143
144 truncate table emp
145 alter table emp
146 modify ename int;
147
148 desc emp;
149
150 alter table dept
151 modify dname varchar(40);
152
153 desc dept;
154
155 alter table emp
156 add comm int;
157
158 alter table J
159 drop column city;
160
161 create table dupEMP as
162 select*from emp;
163
164 drop table dupEMP;
165
166 desc dupEMP;
167
168 create table dupDEPT(dno,dame) as
169 select*from DEPT;
```

TABLE J

Column	Null?	Type
JNO	NOT NULL	NUMBER
JNAME	-	VARCHAR2(15)

Download CSV

2 rows selected.

Q10) Create duplicate copy of EMP table

≡

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SQL Worksheet

Clear

Find

Actions

Save

Run

```
151 modify dname varchar(40);
152
153 desc dept;
154
155 alter table emp
156 add comm int;
157
158 alter table J
159 drop column city;
160
161 create table dupEmp as
162 select*from emp;
163
164 desc dupEmp;
165
166 create table dupDept(dno,dame) as
167 select*from dept;
168
169 desc dupDept;
170
171 update emp
172 set ename='Paul',designation='Lect'
```

TABLE DUPEMP

Column	Null?	Type
EMPNO	-	NUMBER
ENAME	-	NUMBER
DESIGNATION	-	VARCHAR2(15)
SAL	NOT NULL	NUMBER
DEPTNO	-	NUMBER
COMM	-	NUMBER

Download CSV

6 rows selected.

Q11) Copy structure of DEPT table in another table with different column names

≡

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SQL Worksheet

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```
151 modify dname varchar(40);
152
153 desc dept;
154
155 alter table emp
156 add comm int;
157
158 alter table J
159 drop column city;
160
161 create table dupEmp as
162 select*from emp;
163
164 desc dupEmp;
165
166 create table dupDept(dno,dame) as
167 select*from dept;
168
169 desc dupDept;
170
171 update emp
172 set ename='Paul',designation='Lect'
```

Table created.

TABLE DUPDEPT

Column	Null?	Type
DNO	-	NUMBER
DAME	-	VARCHAR2(40)

Download CSV

2 rows selected.

Q12) Change the name and job of the employee whose EMPNO =100

≡

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SQL Worksheet

ClearFindActionsSaveRun

```
162 select*from emp;
163
164 desc dupEmp;
165
166 create table dupDept(dno,dame) as
167 select*from dept;
168
169 desc dupDept;
170
171 update emp
172 set ename='Rajul',designation='AP'
173 where empno=100;
174 select*from emp;
175
176 alter table emp
177 drop constraint fkeyDept;
178
179 alter table emp
180 add constraint fkeyDept foreign key(deptno) references dept(deptno) on delete set null;
181
182 delete from dept
183 where dname='comp';
```

1 row(s) updated.

EMPNO	ENAME	DESIGNATION	SAL	DEPTNO
100	Rajul	AP	200000	2
110	Sam	AP	150000	1
132	Danny	AP	125000	1
111	Biggie	Lect	200000	2
155	Josh	Prof	250000	3

Download CSV

5 rows selected.

Q13) Delete the record of employee who belong to computer department

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SQL Worksheet

ClearFindActionsSaveRun

168
169 desc dupDept;
170
171 update emp
172 set ename='Rajul',designation='AP'
173 where empno=100;
174 select*from emp;
175
176 alter table emp
177 drop constraint fkeyDept;
178
179 alter table emp
180 add constraint fkeyDept foreign key(deptno) references dept(deptno) on delete set null;
181
182 delete from dept
183 where dname='comp';
184
185 select*from dept;
186
187 drop table dept cascade constraints;
188 drop table dupEmp;
189

DEPTNO	DNAME
1	Acc
3	elect

Download CSV
2 rows selected.

Q14) Drop DEPT Table

Live SQL

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SQL Worksheet

ClearFindActionsSaveRun

168
169 desc dupDept;
170
171 update emp
172 set ename='Rajul',designation='AP'
173 where empno=100;
174 select*from emp;
175
176 alter table emp
177 drop constraint fkeyDept;
178
179 alter table emp
180 add constraint fkeyDept foreign key(deptno) references dept(deptno) on delete set null;
181
182 delete from dept
183 where dname='comp';
184
185 select*from dept;
186
187 drop table dept cascade constraints;
188 drop table dupEmp;
189

Table dropped.

Q15) Drop duplicate table of EMP table

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SQL Worksheet

Clear

Find

Actions

Save

Run

168

169

170

171

172

173

174

175

176

177

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desc dupDept;

update emp

set ename='Rajul',designation='AP'

where empno=100;

select*from emp;

alter table emp

drop constraint fkeyDept;

alter table emp

add constraint fkeyDept foreign key(deptno) references dept(deptno) on delete set null;

delete from dept

where dname='comp';

select*from dept;

drop table dept cascade constraints;

drop table dupEmp;

Table dropped.