Amrita School of Engineering, Amritapuri Campus.
19CSE101: Computer Systems Essentials

LAB SHEET 3-RDBMS

PostgreSql – Query familiarization

(Update and Delete)

1. Consider the following schema and write the queries for the following.
   Events(Event_id, Event_name, Event_type,Allowed_Participants, Venue)
   Registration (Chess_no, Event_id, Stud_dept, Score)
   a. Create tables Events and Registration. Refer to the tables below and determine the appropriate data types for the attributes.

```
1  /*1.a*/
2  create table Events(Event_id int primary key,
3                      Event_name varchar(20),
4                      Event_type varchar(10),
5                      Allowed_participants int,
6                      Venue varchar(10));
```

Data Output | Explain | Messages | Notifications

```
CREATE TABLE

Query returned successfully in 151 msec.
```

```
7  Select * from events;
```

Data Output | Explain | Messages | Notifications

event_id [PK] integer	event_name character varying (20)	event_type character varying (10)	allowed_participants integer	venue character varying (10)

```
7  create table Registration(Chess_no varchar(5) primary key,
8                            Event_id int,
9                            Student_dept varchar(3),
10                           score int);
11
12
```

Data Output | Explain | Messages | Notifications

```
CREATE TABLE

Query returned successfully in 255 msec.
```

```
11  select * from Registration;
```

Data Output | Explain | Messages | Notifications

chess_no [PK] character varying (5)	event_id integer	student_dept character varying (3)	score integer

b. Insert the following tuples into the relation Events.

Event_id	Event_name	Event_type	Allowed_Participants	Venue
1	Group Song	Group	10	Stage1
2	Group dance	Group	10	Stage2
3	Elocution	Individual	25	Stage1
4	Classical Dance	Individual	20	Stage3
5	Mime	Group	10	Stage2
6	Fancy Dress	Individual	50	Stage1

```
12  insert into Events
13  values (1,'Group Song','Group',10,'Stage1'),
14         (2,'Group dance','Group',10,'Stage2'),
15         (3,'Elocution','Individual',25,'Stage1'),
16         (4,'Classical Dance','Individual',20,'Stage3'),
17         (5,'Mine','Group',10,'Stage2'),
18         (6,'Fancy Dress','Individual',50,'Stage1');
```

Data Output | Explain | Messages | Notifications

```
INSERT 0 6

Query returned successfully in 281 msec.
```

```
19  select * from events;
```

Data Output | Explain | Messages | Notifications

	event_id [PK] integer	event_name character varying (20)	event_type character varying (10)	allowed_participants integer	venue character varying (10)
1	1	Group Song	Group	10	Stage1
2	2	Group dance	Group	10	Stage2
3	3	Elocution	Individual	25	Stage1
4	4	Classical Dance	Individual	20	Stage3
5	5	Mine	Group	10	Stage2
6	6	Fancy Dress	Individual	50	Stage1

c. Insert the following tuples into the relation Registration.

Chess_no	Event_id	Student_dept	Score
GS1	1	CSE	10
GS2	1	ECE	8
GS3	1	CSE	7
GD1	2	EEE	9
GD2	2	CSE	8
E1	3	ME	10
E2	3	EEE	8
CD1	4	CSE	10
CD2	4	EEE	8
CD3	4	CSE	8
M1	5	CSE	9
M2	5	ME	7
M3	5	ECE	8
FD1	6	ME	9
FD2	6	CSE	8
FD3	6	EEE	7
FD4	6	CSE	8

```
20  insert into Registration
21  values ('GS1',1,'CSE',10),('GS2',1,'ECE',8),('GS3',1,'CSE',7),
22         ('GD1',2,'EEE',9),('GD2',2,'CSE',8),
23         ('E1',3,'ME',10),('E2',3,'EEE',8),
24         ('CD1',4,'CSE',10),('CD2',4,'EEE',8),('CD3',4,'CSE',8),
25         ('M1',5,'CSE',9),('M2',5,'ME',7),('M3',5,'ECE',8),
26         ('FD1',6,'ME',9),('FD2',6,'CSE',8),('FD3',6,'EEE',7),('FD4',6,'CSE',8);
```

Data Output | Explain | Messages | Notifications

```
INSERT 0 17

Query returned successfully in 114 msec.
```

```
27  select * from Registration;
```

Data Output | Explain | Messages | Notifications

	chess_no [PK] character varying (5)	event_id integer	student_dept character varying (3)	score integer
1	GS1	1	CSE	10
2	GS2	1	ECE	8
3	GS3	1	CSE	7
4	GD1	2	EEE	9
5	GD2	2	CSE	8
6	E1	3	ME	10
7	E2	3	EEE	8
8	CD1	4	CSE	10
9	CD2	4	EEE	8
10	CD3	4	CSE	8
11	M1	5	CSE	9
12	M2	5	ME	7
13	M3	5	ECE	8
14	FD1	6	ME	9
15	FD2	6	CSE	8
16	FD3	6	EEE	7
17	FD4	6	CSE	8

d. Retrieve the following information:

i. Sum of Score obtained by the students in CSE department.

```
28  select sum(score)
29  from Registration
30  where Student_dept='CSE';
```

Data Output | Explain | Messages | Notif

	sum bigint
1	68

ii. Average score obtained by the students of CSE department for the event with event id 6.

```
32  select avg(score)
33  from Registration
34  where Student_dept='CSE' and Event_id=6;
```

Data Output | Explain | Messages | Notifications

	avg numeric
1	8.0000000000000000

iii. Number of teams participated for the event with id 5.

```
36  select count(*)
37  from Registration
38  where Event_id=5;
```

Data Output | Explain | Messa

	count bigint
1	3

iv. Maximum score obtained by students in CSE department.

```
40  select max(score)
41  from Registration
42  where Student_dept='CSE';
```

Data Output | Explain | Messages | N

	max integer
1	10

v. List all details of individual events held at stage1.

```
44  select * from events
45  where event_type='Individual' and venue='Stage1';
```

Data Output | Explain | Messages | Notifications

	event_id [PK] integer	event_name character varying (20)	event_type character varying (10)	allowed_participants integer	venue character varying (10)
1	3	Elocution	Individual	25	Stage1
2	6	Fancy Dress	Individual	50	Stage1

e. Update the following data in the corresponding table.

i. Reduce the number of participants for Fancy dress as 30.

```
46  update Events
47  set Allowed_Participants=30
48  where Event_name='Fancy Dress';
```

Data Output | Explain | Messages | Notifications

```
UPDATE 1

Query returned successfully in 189 msec.
```

```
50  Select * from events;
```

Data Output | Explain | Messages | Notifications

	event_id [PK] integer	event_name character varying (20)	event_type character varying (10)	allowed_participants integer	venue character varying (10)
1	1	Group Song	Group	10	Stage1
2	2	Group dance	Group	10	Stage2
3	3	Elocution	Individual	25	Stage1
4	4	Classical Dance	Individual	20	Stage3
5	5	Mine	Group	10	Stage2
6	6	Fancy Dress	Individual	30	Stage1

ii. Change the venue of classical dance to stage1

```
50  Update Events
51  set Venue='Stage1'
52  where Event_name='Classical Dance';
```

Data Output | Explain | Messages | Notifications

```
UPDATE 1

Query returned successfully in 128 msec.
```

```
53  select * from events;
```

Data Output | Explain | Messages | Notifications

	event_id [PK] integer	event_name character varying (20)	event_type character varying (10)	allowed_participants integer	venue character varying (10)
1	1	Group Song	Group	10	Stage1
2	2	Group dance	Group	10	Stage2
3	3	Elocution	Individual	25	Stage1
4	5	Mine	Group	10	Stage2
5	6	Fancy Dress	Individual	30	Stage1
6	4	Classical Dance	Individual	20	Stage1

iii. Change the score of Chess no GS3 for event id 1 to 5

```
54  update Registration
55  set score=5
56  where Chess_no='GS3' and event_id=1;
```

Data Output | Explain | Messages | Notifications

```
UPDATE 1

Query returned successfully in 129 msec.
```

```
57  select * from registration;
```

Data Output | Explain | Messages | Notifications

	chess_no [PK] character varying (5)	event_id integer	student_dept character varying (3)	score integer
1	GS1	1	CSE	10
2	GS2	1	ECE	8
3	GD1	2	EEE	9
4	GD2	2	CSE	8
5	E1	3	ME	10
6	E2	3	EEE	8
7	CD1	4	CSE	10
8	CD2	4	EEE	8
9	CD3	4	CSE	8
10	M1	5	CSE	9
11	M2	5	ME	7
12	M3	5	ECE	8
13	FD1	6	ME	9
14	FD2	6	CSE	8
15	FD3	6	EEE	7
16	FD4	6	CSE	8
17	GS3	1	CSE	5

iv. Change the score of all participants of CSE department for event with id 6 to 9.

```
58  update Registration
59  set score=9
60  where event_id=6 and student_dept='CSE';
```

Data Output | Explain | Messages | Notifications

```
UPDATE 2

Query returned successfully in 130 msec.
```

```
61  select * from registration;
```

Data Output | Explain | Messages | Notifications

	chess_no [PK] character varying (5)	event_id integer	student_dept character varying (3)	score integer
1	GS1	1	CSE	10
2	GS2	1	ECE	8
3	GD1	2	EEE	9
4	GD2	2	CSE	8
5	E1	3	ME	10
6	E2	3	EEE	8
7	CD1	4	CSE	10
8	CD2	4	EEE	8
9	CD3	4	CSE	8
10	M1	5	CSE	9
11	M2	5	ME	7
12	M3	5	ECE	8
13	FD1	6	ME	9
14	FD3	6	EEE	7
15	GS3	1	CSE	5
16	FD2	6	CSE	9
17	FD4	6	CSE	9

v. Change the venue of all group events at stage 2 to stage 3.

```
62  update events
63  set venue='Stage3'
64  where venue='Stage2';
```

Data Output | Explain | Messages | Notifications

```
UPDATE 2

Query returned successfully in 138 msec.
```

```
65  select * from events;
```

Data Output | Explain | Messages | Notifications

	event_id [PK] integer	event_name character varying (20)	event_type character varying (10)	allowed_participants integer	venue character varying (10)
1	1	Group Song	Group	10	Stage1
2	3	Elocution	Individual	25	Stage1
3	6	Fancy Dress	Individual	30	Stage1
4	4	Classical Dance	Individual	20	Stage1
5	2	Group dance	Group	10	Stage3
6	5	Mine	Group	10	Stage3

f. Delete the individual event at stage 1 whose number of participants allowed is less than 26.

```
67  delete from events
68  where allowed_participants<26 and venue='Stage1' and event_type='Individual';
69  select * from events;
```

Data Output | Explain | Messages | Notifications

	event_id [PK] integer	event_name character varying (20)	event_type character varying (10)	allowed_participants integer	venue character varying (10)
1	1	Group Song	Group	10	Stage1
2	6	Fancy Dress	Individual	30	Stage1
3	2	Group dance	Group	10	Stage3
4	5	Mine	Group	10	Stage3

g. Export the data in the relations *Events* and *Registration* to events.csv and registration.csv respectively.

```
70  copy events to 'D:\19CSE101\lab\lab 3\events.csv' csv header;
71  copy registration to 'D:\19CSE101\lab\lab 3\registration.csv' csv header;
```

Data Output | Explain | Messages | Notifications

```
COPY 17

Query returned successfully in 246 msec.
```

	A	B	C	D	E
1	event_id	event_name	event_type	allowed_participants	venue
2	1	Group Song	Group	10	Stage1
3	6	Fancy Dress	Individual	30	Stage1
4	2	Group dance	Group	10	Stage3
5	5	Mine	Group	10	Stage3
6					

	A	B	C	D	E
1	chess_no	event_id	student_dept	score	
2	GS1	1	CSE	10	
3	GS2	1	ECE	8	
4	GD1	2	EEE	9	
5	GD2	2	CSE	8	
6	E1	3	ME	10	
7	E2	3	EEE	8	
8	CD1	4	CSE	10	
9	CD2	4	EEE	8	
10	CD3	4	CSE	8	
11	M1	5	CSE	9	
12	M2	5	ME	7	
13	M3	5	ECE	8	
14	FD1	6	ME	9	
15	FD3	6	EEE	7	
16	GS3	1	CSE	5	
17	FD2	6	CSE	9	
18	FD4	6	CSE	9	
19					

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