

Amrita School of Engineering, Amritapuri Campus.
19CSE101: Computer Systems Essentials
LAB SHEET 4 -RDBMS

- Create the table *VaccinationDetails* with attributes VID, Parent_Name, Child_Name, C_Age_Months, Vacc_Name, Amount, FirstORBooster.
Hint: Refer the CSV file given and decide the data type required for each attribute.

```

1  /*1*/
2  create table VaccinationDetails(VID int primary key,
3                                  Parent_Name varchar(20),
4                                  Child_Name varchar(20),
5                                  C_Age_Months int,
6                                  Vacc_Name varchar(20),
7                                  Amount int,
8                                  FirstORBooster varchar(10));
9
10 select *
11 from VaccinationDetails;
12

```

Data Output Explain Messages Notifications

	vid [PK] integer	parent_name character varying (20)	child_name character varying (20)	c_age_months integer	vacc_name character varying (20)	amount integer	firstorbooster character varying (10)

- Import data to the table *VaccinationDetails* from the csv file given.

```

13 /*2*/
14 copy VaccinationDetails
15 from 'D:\19CSE101\lab\lab 4\vaccination1.csv'
16 csv header;
17
18 select *
19 from VaccinationDetails;
20

```

Data Output Explain Messages Notifications

	vid [PK] integer	parent_name character varying (20)	child_name character varying (20)	c_age_months integer	vacc_name character varying (20)	amount integer	firstorbooster character varying (10)
1	1	Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER
2	2	Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER
3	3	Achuthan C V	Ajith A	10	Hib 1	150	First
4	4	Chandran K	Malavika C	6	Rotavirus 1	1200	First
5	5	Bhaskaran H	Ajith A	6	PCV 1	2500	First
6	6	Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER
7	7	Bhaskaran H	Ajith A	6	OPV 1	230	FIRST
8	8	Damodaran P	Neethu D	10	Hib 1	150	First
9	9	Damodaran P	Neethu D	6	Rotavirus 1	1200	First
10	10	Elencherian	Divya	7	PCV 1	2500	First
11	11	Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER
12	12	Elencherian	Divya	7	OPV 1	230	FIRST

3. Retrieve the following information

a) Name of the parent and age of the child (in months) from the relation.

```
22  /*3.a*/
23  select Parent_Name, c_age_months
24  from VaccinationDetails;
25
```

Data Output Explain Messages Notifications

	parent_name character varying (20)	c_age_months integer
1	Achuthan C V	6
2	Chandran K	6
3	Achuthan C V	10
4	Chandran K	6
5	Bhaskaran H	6
6	Damodaran P	14
7	Bhaskaran H	6
8	Damodaran P	10
9	Damodaran P	6
10	Elencherian	7
11	Fransis	15
12	Elencherian	7

b) The maximum age of the child who received a first dose of Rotavirus 3.

```
27  /*3.b*/
28  select max(c_age_months)
29  from VaccinationDetails
30  where Vacc_Name='Rotavirus 3' and FirstORBooster='First';
31
```

Data Output Explain Messages Notifications

	max integer
1	[null]

- c) The total number of unique vaccine names available in the relation.

```
33  /*3.c*/  
34  select count(distinct vacc_name)  
35  from VaccinationDetails;  
36
```

Data Output Explain Messages Notifications

	count bigint	
1	6	

- d) The total amount of money spent on vaccine by the parent DAMODARAN P.

```
38  /*3.d*/  
39  select sum(amount)  
40  from VaccinationDetails  
41  where Parent_Name='Damodaran P';  
42
```

Data Output Explain Messages Notifications

	sum bigint	
1	2550	

- e) The total number of booster dose vaccines given to Ajith A.

```
44  /*3.e*/  
45  select count(*)  
46  from VaccinationDetails  
47  where Child_Name = 'Ajith A' and FirstORBooster='BOOSTER';  
48
```

Data Output Explain Messages Notifications

	count bigint	
1	1	

- f) The average amount of money received by the booster doses of Rotavirus 3.

```
50  /*3.f*/
51  select avg(amount)
52  from VaccinationDetails
53  where Vacc_Name='Rotavirus 3' and FirstORBooster='BOOSTER';
54
```

Data Output Explain Messages Notifications

	avg numeric	
1	1200.0000000000000000	

- g) The total number of children received a vaccine above the age of 7 months.

```
56  /*3.g*/
57  select count(*)
58  from VaccinationDetails
59  where c_age_months>7;
60
```

Data Output Explain Messages N

	count bigint	
1	4	

- h) Display the names of different types of vaccines given to the children.

```
62  /*3.h*/
63  select distinct Vacc_name
64  from VaccinationDetails;
65
```

Data Output Explain Messages Notifica

	vacc_name character varying (20)	
1	Rotavirus 1	
2	Hep - B2	
3	Hib 1	
4	Rotavirus 3	
5	OPV 1	
6	PCV 1	

- i) Display the child's name, age and the vaccine given to them in the ascending order of the age.

```
67  /*3.i*/
68  select Child_Name, c_age_months, Vacc_name
69  from VaccinationDetails
70  order by c_age_months;
```

Data Output Explain Messages Notifications

	child_name character varying (20)	c_age_months integer	vacc_name character varying (20)
1	Ajith A	6	Hep - B2
2	Malavika C	6	Hep - B2
3	Malavika C	6	Rotavirus 1
4	Ajith A	6	PCV 1
5	Ajith A	6	OPV 1
6	Neethu D	6	Rotavirus 1
7	Divya	7	OPV 1
8	Divya	7	PCV 1
9	Neethu D	10	Hib 1
10	Ajith A	10	Hib 1
11	Neethu D	14	Rotavirus 3
12	Freddy	15	Rotavirus 3

- j) Find the different types of vaccines given to the children of age 6 months.

```
73  /*3.j*/
74  select Distinct Vacc_name
75  from VaccinationDetails
76  where c_age_months=6;
```





Data Output Explain Messages Noti

	vacc_name character varying (20)
1	Hep - B2
2	OPV 1
3	PCV 1
4	Rotavirus 1

- k) Display in increasing order, the different types of vaccines given to Ajith A son of Achuthan C V at his different age.

```
79  /*3.k*/
80  select c_age_months,vacc_name,firstorbooster
81  from VaccinationDetails
82  where child_name='Ajith A' and Parent_name='Achuthan C V';
83
```




Data Output Explain Messages Notifications

	 c_age_months integer	 vacc_name character varying (20)	 firstorbooster character varying (10)	
1	6	Hep - B2	BOOSTER	
2	10	Hib 1	First	

- l) Display the different types of vaccines and amount in decreasing order of their amount.

```
85  /*3.l*/
86  select distinct vacc_name,amount
87  from VaccinationDetails
88  order by amount desc;
89
```

Data Output Explain Messages Notifications

	 vacc_name character varying (20)	 amount integer	
1	Hep - B2	5000	
2	PCV 1	2500	
3	Rotavirus 3	1200	
4	Rotavirus 1	1200	
5	OPV 1	230	
6	Hib 1	150	

m) Find the vaccines given to the child named Neethu D for the first time.

```

91  /*3.m*/|
92  select vacc_name
93  from VaccinationDetails
94  where child_name='Neethu D' and firstorbooster='First';
95

```

Data Output Explain Messages Notifications

	vacc_name
	character varying (20)
1	Hib 1
2	Rotavirus 1

4. Insert the following tuples into the relation VaccinationDetails

VID	Parent_Name	Child_Name	C_Age_Months	Vacc_Name	Amount	FirstORBooster
13	Francis	Feby	3	Rotavirus 1	1000	First
14	Damodaran P	Neethu D	2	OPV 1	500	
15	Francis	Freddy	18	DPT	1500	Booster

```

97  /*4*/
98  insert into VaccinationDetails
99  values (13, 'Francis', 'Feby', 3, 'Rotavirus 1', 1000, 'First'),
100         (14, 'Damodaran P', 'Neethu D', 2, 'OPV 1', 500, NULL),
101         (15, 'Francis', 'Freddy', 18, 'DPT', 1500, 'BOOSTER');
102
103  select *
104  from VaccinationDetails;

```

Data Output Explain Messages Notifications

	vid	parent_name	child_name	c_age_months	vacc_name	amount	firstorbooster
	[PK] integer	character varying (20)	character varying (20)	integer	character varying (20)	integer	character varying (10)
1	1	Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER
2	2	Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER
3	3	Achuthan C V	Ajith A	10	Hib 1	150	First
4	4	Chandran K	Malavika C	6	Rotavirus 1	1200	First
5	5	Bhaskaran H	Ajith A	6	PCV 1	2500	First
6	6	Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER
7	7	Bhaskaran H	Ajith A	6	OPV 1	230	FIRST
8	8	Damodaran P	Neethu D	10	Hib 1	150	First
9	9	Damodaran P	Neethu D	6	Rotavirus 1	1200	First
10	10	Elencherian	Divya	7	PCV 1	2500	First
11	11	Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER
12	12	Elencherian	Divya	7	OPV 1	230	FIRST
13	13	Francis	Feby	3	Rotavirus 1	1000	First
14	14	Damodaran P	Neethu D	2	OPV 1	500	[null]
15	15	Francis	Freddy	18	DPT	1500	BOOSTER









5. Update the following data

a) Modify the dosage of vaccine 'Hib 1' to Booster.

```

107  /*5.a*/
108  update VaccinationDetails
109  set firstorbooster='BOOSTER'
110  where vacc_name='Hib 1';
111
112  select *
113  from VaccinationDetails;
114

```








Data Output		Explain	Messages	Notifications			
 vid [PK] integer 	parent_name character varying (20) 	child_name character varying (20) 	c_age_months integer 	vacc_name character varying (20) 	amount integer 	firstorbooster character varying (10) 	
1	1 Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER	
2	2 Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER	
3	4 Chandran K	Malavika C	6	Rotavirus 1	1200	First	
4	5 Bhaskaran H	Ajith A	6	PCV 1	2500	First	
5	6 Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER	
6	7 Bhaskaran H	Ajith A	6	OPV 1	230	FIRST	
7	9 Damodaran P	Neethu D	6	Rotavirus 1	1200	First	
8	10 Elencherian	Divya	7	PCV 1	2500	First	
9	11 Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER	
10	12 Elencherian	Divya	7	OPV 1	230	FIRST	
11	13 Francis	Feby	3	Rotavirus 1	1000	First	
12	14 Damodaran P	Neethu D	2	OPV 1	500	[null]	
13	15 Francis	Freddy	18	DPT	1500	BOOSTER	
14	3 Achuthan C V	Ajith A	10	Hib 1	150	BOOSTER	
15	8 Damodaran P	Neethu D	10	Hib 1	150	BOOSTER	

b) Enter the details of Neethu D who took vaccine OPV 1 as the First dosage.

```

116  /*5.b*/
117  update VaccinationDetails
118  set firstorbooster='First'
119  where child_name='Neethu D' and vacc_name='OPV 1';
120
121  select *
122  from VaccinationDetails;

```









Data Output		Explain	Messages	Notifications			
	 vid [PK] integer	 parent_name character varying (20)	 child_name character varying (20)	 c_age_months integer	 vacc_name character varying (20)	 amount integer	 firstorbooster character varying (10)
1		1 Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER
2		2 Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER
3		4 Chandran K	Malavika C	6	Rotavirus 1	1200	First
4		5 Bhaskaran H	Ajith A	6	PCV 1	2500	First
5		6 Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER
6		7 Bhaskaran H	Ajith A	6	OPV 1	230	FIRST
7		9 Damodaran P	Neethu D	6	Rotavirus 1	1200	First
8		10 Elencherian	Divya	7	PCV 1	2500	First
9		11 Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER
10		12 Elencherian	Divya	7	OPV 1	230	FIRST
11		13 Francis	Feby	3	Rotavirus 1	1000	First
12		15 Francis	Freddy	18	DPT	1500	BOOSTER
13		3 Achuthan C V	Ajith A	10	Hib 1	150	BOOSTER
14		8 Damodaran P	Neethu D	10	Hib 1	150	BOOSTER
15		14 Damodaran P	Neethu D	2	OPV 1	500	First

c) Increase the amount of vaccine ‘Hib 1’ by 300.

```

125  /*5.c*/
126  update VaccinationDetails
127  set amount=amount+300
128  where vacc_name='Hib 1';
129
130  select *
131  from VaccinationDetails;

```

Data Output		Explain	Messages	Notifications			
	 vid [PK] integer 	parent_name character varying (20) 	child_name character varying (20) 	c_age_months integer 	vacc_name character varying (20) 	amount integer 	firstorbooster character varying (10) 
1	1	Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER
2	2	Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER
3	4	Chandran K	Malavika C	6	Rotavirus 1	1200	First
4	5	Bhaskaran H	Ajith A	6	PCV 1	2500	First
5	6	Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER
6	7	Bhaskaran H	Ajith A	6	OPV 1	230	FIRST
7	9	Damodaran P	Neethu D	6	Rotavirus 1	1200	First
8	10	Elencherian	Divya	7	PCV 1	2500	First
9	11	Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER
10	12	Elencherian	Divya	7	OPV 1	230	FIRST
11	13	Francis	Feby	3	Rotavirus 1	1000	First
12	15	Francis	Freddy	18	DPT	1500	BOOSTER
13	14	Damodaran P	Neethu D	2	OPV 1	500	First
14	3	Achuthan C V	Ajith A	10	Hib 1	450	BOOSTER
15	8	Damodaran P	Neethu D	10	Hib 1	450	BOOSTER

6. Remove the following data

a) Details of Ajith A son of Bhaskaran H.

```

134  /*6.a*/
135  delete from VaccinationDetails
136  where child_name='Ajith A' and parent_name='Bhaskaran H';
137
138  select *
139  from VaccinationDetails;

```








Data Output		Explain	Messages	Notifications			
vid [PK] integer	parent_name character varying (20)	child_name character varying (20)	c_age_months integer	vacc_name character varying (20)	amount integer	firstorbooster character varying (10)	
1	1	Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER
2	2	Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER
3	4	Chandran K	Malavika C	6	Rotavirus 1	1200	First
4	6	Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER
5	9	Damodaran P	Neethu D	6	Rotavirus 1	1200	First
6	10	Elencherian	Divya	7	PCV 1	2500	First
7	11	Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER
8	12	Elencherian	Divya	7	OPV 1	230	FIRST
9	13	Francis	Feby	3	Rotavirus 1	1000	First
10	15	Francis	Freddy	18	DPT	1500	BOOSTER
11	14	Damodaran P	Neethu D	2	OPV 1	500	First
12	3	Achuthan C V	Ajith A	10	Hib 1	450	BOOSTER
13	8	Damodaran P	Neethu D	10	Hib 1	450	BOOSTER

b) Details of children under age 5 months who took the vaccine Rotavirus 1 as First dosage.

```

142  /*6.b*/
143  delete from VaccinationDetails
144  where c_age_months<5
145         and vacc_name='Rotavirus 1'
146         and firstorbooster='First';
147
148  select *
149  from VaccinationDetails;

```

Data Output		Explain	Messages	Notifications			
	 vid [PK] integer	 parent_name character varying (20)	 child_name character varying (20)	 c_age_months integer	 vacc_name character varying (20)	 amount integer	 firstorbooster character varying (10)
1	1	Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER
2	2	Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER
3	4	Chandran K	Malavika C	6	Rotavirus 1	1200	First
4	6	Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER
5	9	Damodaran P	Neethu D	6	Rotavirus 1	1200	First
6	10	Elencherian	Divya	7	PCV 1	2500	First
7	11	Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER
8	12	Elencherian	Divya	7	OPV 1	230	FIRST
9	15	Francis	Freddy	18	DPT	1500	BOOSTER
10	14	Damodaran P	Neethu D	2	OPV 1	500	First
11	3	Achuthan C V	Ajith A	10	Hib 1	450	BOOSTER
12	8	Damodaran P	Neethu D	10	Hib 1	450	BOOSTER

c) Remove all the details of children above age 10, who took the vaccine 'DPT' ad the first dosage.

```

152  /*6.c*/
153  delete from VaccinationDetails
154  where c_age_months>10
155         and vacc_name='DPT'
156         and firstorbooster='First';
157
158  Select *
159  from VaccinationDetails;
160

```

Data Output		Explain	Messages	Notifications			
	<div>vid</div> <div>[PK] integer</div>	<div>parent_name</div> <div>character varying (20)</div>	<div>child_name</div> <div>character varying (20)</div>	<div>c_age_months</div> <div>integer</div>	<div>vacc_name</div> <div>character varying (20)</div>	<div>amount</div> <div>integer</div>	<div>firstorbooster</div> <div>character varying (10)</div>
1	1	Achuthan C V	Ajith A	6	Hep - B2	5000	BOOSTER
2	2	Chandran K	Malavika C	6	Hep - B2	5000	BOOSTER
3	4	Chandran K	Malavika C	6	Rotavirus 1	1200	First
4	6	Damodaran P	Neethu D	14	Rotavirus 3	1200	BOOSTER
5	9	Damodaran P	Neethu D	6	Rotavirus 1	1200	First
6	10	Elencherian	Divya	7	PCV 1	2500	First
7	11	Fransis	Freddy	15	Rotavirus 3	1200	BOOSTER
8	12	Elencherian	Divya	7	OPV 1	230	FIRST
9	15	Francis	Freddy	18	DPT	1500	BOOSTER
10	14	Damodaran P	Neethu D	2	OPV 1	500	First
11	3	Achuthan C V	Ajith A	10	Hib 1	450	BOOSTER
12	8	Damodaran P	Neethu D	10	Hib 1	450	BOOSTER

7. Export the data in the relations *VaccinationDetails* to *updatedvaccine.csv*

```
162  /*7*/
163  copy VaccinationDetails
164  to 'D:\19CSE101\lab\lab 4\updatedvaccine.csv'
165  csv header;
```

Data Output Explain Messages Notifications

COPY 12

Query returned successfully in 238 msec.

This PC > DATA (D:) > 19CSE101 > lab > lab 4

Name	Date modified	Type	Size
updatedvaccine.csv	26-11-2021 13:08	Microsoft Excel Co...	1 KB
vaccination1.csv	26-11-2021 09:24	Microsoft Excel Co...	1 KB

	A	B	C	D	E	F	G	H
1	vid	parent_na	child_nam	c_age_mo	vacc_name	amount	firstorbooster	
2	1	Achuthan	Ajith A	6	Hep - B2	5000	BOOSTER	
3	2	Chandran	Malavika C	6	Hep - B2	5000	BOOSTER	
4	4	Chandran	Malavika C	6	Rotavirus	1200	First	
5	6	Damodara	Neethu D	14	Rotavirus	1200	BOOSTER	
6	9	Damodara	Neethu D	6	Rotavirus	1200	First	
7	10	Elencheria	Divya	7	PCV 1	2500	First	
8	11	Fransis	Freddy	15	Rotavirus	1200	BOOSTER	
9	12	Elencheria	Divya	7	OPV 1	230	FIRST	
10	15	Francis	Freddy	18	DPT	1500	BOOSTER	
11	14	Damodara	Neethu D	2	OPV 1	500	First	
12	3	Achuthan	Ajith A	10	Hib 1	450	BOOSTER	
13	8	Damodara	Neethu D	10	Hib 1	450	BOOSTER	
14								
15								