

DBMS

Lab Assignment-II

Name of the Student: Somisetty Sai Praneeth
Roll. No: 20BCS125

Date: 02-02-2022

AIM: The aim of this lab assignment to understand and implement the syntax and rules of DBMS basically RDBMS in the MySQL Workbench, also it aims to drawing the schema diagram and the physical data diagram.

Experiment: In this experiment we are creating following:

1. Create table named as category_details.
2. Create table named as sub_category_details.
3. Create table named as product_details.
4. Implementing various functionalities of database.
5. Inserting tuples in tables.
6. using various syntax to make primary and foreign keys.

Using MySQL;

Create table category_details

(Category_id numeric (2),
category_name varchar (30));

select * from category_deatails;

Create table Sub_category_details

(Sub_category_id numeric (2),
category_id numeric (2),
sub_category_name varchar (30));

Create table Product_details

(Product_id numeric (6),
category_id numeric (2),
sub_category_id numeric (2),
product_name varchar (30));

From above codes of category_details, sub_category_details, product_details; those entities and attributes are created into a table.

ALTER TABLE Category_details

ADD PRIMARY KEY (category_id);

ALTER TABLE Sub_category_details

ADD CONSTRAINT PK_sub_category_id PRIMARY KEY (sub_category_id);

ALTER TABLE Sub_category_details

ADD CONSTRAINT FK_category_id foreign key (category_id) REFERENCES
Category_details(category_id);

ALTER TABLE Product_details

ADD CONSTRAINT PriKey_Product_id PRIMARY KEY (Product_id),

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```
ADD CONSTRAINT ForKey_category_id foreign key (category_id) REFERENCES
Category_details(category_id),
```

```
ADD CONSTRAINT ForKey_sub_category_id foreign key (sub_category_id) REFERENCES
Sub_category_details(sub_category_id);
```

From above code primary keys, foreign key added to the created table.

```
ALTER TABLE Product_details ADD price numeric (2);
```

ALTER TABLE Product_details

```
modify COLUMN price numeric (6,2);
```

In the above code price column was added and its data type was changed.

```
INSERT INTO Category_details VALUES (1,'aa');
```

```
INSERT INTO Category_details VALUES (2,'bb');
```

```
INSERT INTO Category_details VALUES (3,'cc');
```

```
INSERT INTO Category_details VALUES (4,'dd');
```

```
INSERT INTO Sub_category_details VALUES (11,1,'dd');
```

```
INSERT INTO Sub_category_details VALUES (12,2,'ee');
```

```
INSERT INTO Sub_category_details VALUES (13,3,'ff');
```

```
INSERT INTO Sub_category_details VALUES (14,4,'gg');
```

```
INSERT INTO Product_details VALUES (1111,1,11,'hh',50);
```

```
INSERT INTO Product_details VALUES (1112,2,12,'ii',60);
```

```
INSERT INTO Product_details VALUES (1113,3,13,'jj',70);
```

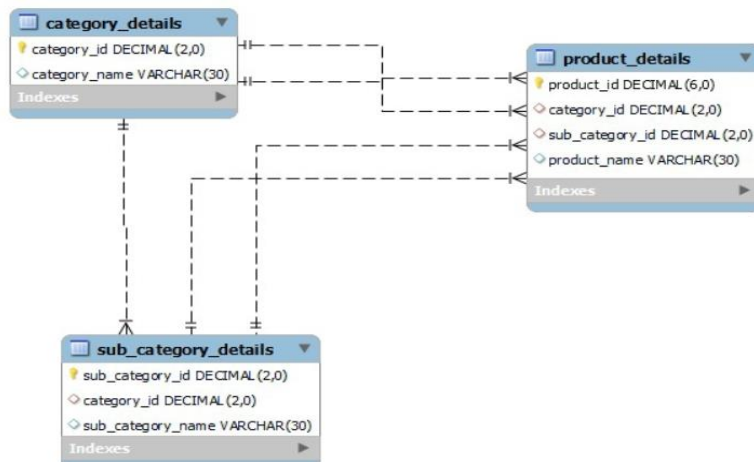
```
INSERT INTO Product_details VALUES (1114,4,14,'kk',80);
```

At last sample values were given to the entities.

```
ALTER TABLE Product_details Drop price;
```

Dropping the price columns from the product details table.

ERD:



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Result:

Here are the snaps of each table created as mentioned in the experiment part;

```
1 • use mysql;
2 • create table category_details
3 • (category_id numeric (2),
4 • category_name varchar (30) );
5 • select * from category_details;
6
7 • create table Sub_category_details
```

Result Grid | Filter Rows: | Export:

category_id	category_name
-------------	---------------

```
1 • use mysql;
2 • create table category_details
3 • (category_id numeric (2),
4 • category_name varchar (30) );
5 • select * from category_details;
6
7 • create table Sub_category_details
```

Result Grid | Filter Rows: | Export:

category_id	category_name
-------------	---------------

```
6
7 • create table Sub_category_details
8 • (sub_category_id numeric(2),
9 • category_id numeric(2),
10 • sub_category_name varchar(30));
11 • select * from Sub_category_details;
12 • create table Product_details
```

Result Grid | Filter Rows: | Export: | Wra

sub_category_id	category_id	sub_category_name
-----------------	-------------	-------------------

```
13 • create table Product_details
14 • (Product_id numeric (6),
15 • category_id numeric(2),
16 • sub_category_id numeric(2),
17 • product_name varchar(30));
18 • select * from Product_details;
19
```

Result Grid | Filter Rows: | Export: | Wri

Product_id	category_id	sub_category_id	product_name
------------	-------------	-----------------	--------------

```
18 • select * from Product_details;
19
20 • ALTER TABLE Category_details
21 • ADD PRIMARY KEY (category_id);
22 • select * from Category_details;
23
24 • ALTER TABLE Sub_category_details
```

Result Grid | Filter Rows: | Edit:

category_id	category_name
NULL	NULL

```
21 • ADD PRIMARY KEY (category_id);
22 • select * from Category_details;
23
24 • ALTER TABLE Sub_category_details
25 • ADD CONSTRAINT PK_sub_category_id PRIMARY KEY (sub_category_id);
26 • select * from Sub_category_details;
27
```

Result Grid | Filter Rows: | Edit: | Export/Imports:

sub_category_id	category_id	sub_category_name
NULL	NULL	NULL

```
25 • ADD CONSTRAINT PK_sub_category_id PRIMARY KEY (sub_category_id);
26 • select * from Sub_category_details;
27
28 • ALTER TABLE Sub_category_details
29 • ADD CONSTRAINT FK_category_id foreign key (category_id) REFERENCES Category_details(category_id) ;
30 • select * from Sub_category_details;
31
```

Result Grid | Filter Rows: | Edit: | Export/Imports: | Wrap Cell Content: |

sub_category_id	category_id	sub_category_name
NULL	NULL	NULL

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```
31
32 • ALTER TABLE Product_details
33   ADD CONSTRAINT PriKey_Product_id PRIMARY KEY (Product_id),
34   ADD CONSTRAINT ForKey_category_id foreign key (category_id) REFERENCES Category_details(category_id),
35   ADD CONSTRAINT ForKey_sub_category_id foreign key (sub_category_id) REFERENCES Sub_category_details(sub_
36 • select * from Product_details;
37
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

Product_id	category_id	sub_category_id	product_name
NULL	NULL	NULL	NULL

```
34   ADD CONSTRAINT ForKey_category_id foreign key (category_id) REF
35   ADD CONSTRAINT ForKey_sub_category_id foreign key (sub_category
36 • select * from Product_details;
37
38 • ALTER TABLE Product_details ADD price numeric(2);
39 • select * from Product_details;
40
41 • ALTER TABLE Product_details
42   modify COLUMN price numeric(6,2);
43 • select * from Product_details;
44
```

Result Grid | Filter Rows: | Edit: | Export/Import: |

Product_id	category_id	sub_category_id	product_name	price
NULL	NULL	NULL	NULL	NULL

Result Grid | Filter Rows: | Edit: | Export/Import: |

Product_id	category_id	sub_category_id	product_name	price
NULL	NULL	NULL	NULL	NULL

```
44
45 • INSERT INTO Category_details VALUES (1,'aa');
46 • INSERT INTO Category_details VALUES (2,'bb');
47 • INSERT INTO Category_details VALUES (3,'cc');
48 • INSERT INTO Category_details VALUES (4,'dd');
49 • select * from Category_details;
50
51 • INSERT INTO Sub_category_details VALUES (11,1,'dd');
52 • INSERT INTO Sub_category_details VALUES (12,2,'ee');
53 • INSERT INTO Sub_category_details VALUES (13,3,'ff');
54 • INSERT INTO Sub_category_details VALUES (14,4,'gg');
55 • select * from Sub_category_details;
56
```

Result Grid | Filter Rows: | Edit: | Export/Import: |

category_id	category_name
1	aa
2	bb
3	cc
4	dd
NULL	NULL

Result Grid | Filter Rows: | Edit: | Export/Import: |

sub_category_id	category_id	sub_category_name
11	1	dd
12	2	ee
13	3	ff
14	4	gg
NULL	NULL	NULL

```
59 • INSERT INTO Product_details VALUES (1113,3,13,'jj',70);
60 • INSERT INTO Product_details VALUES (1114,4,14,'kk',80);
61 • select * from Product_details;
62
63 • ALTER TABLE Product_details Drop price;
64 • select * from Product_details;
```

Result Grid | Filter Rows: | Edit: | Export/Import: |

Product_id	category_id	sub_category_id	product_name	price
1111	1	11	hh	50.00
1112	2	12	ii	60.00
1113	3	13	jj	70.00
1114	4	14	kk	80.00
NULL	NULL	NULL	NULL	NULL

Result Grid | Filter Rows: | Edit: | Export/Import: |

Product_id	category_id	sub_category_id	product_name
1111	1	11	hh
1112	2	12	ii
1113	3	13	jj
1114	4	14	kk
NULL	NULL	NULL	NULL

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Conclusion:

SQL database are the most prominent database, in which data can be inserted in form of tables with the help of some commands. Through these commands, one can create tables, and in each table, one can declare some entities. We can have entities named Primary keys which are used to identify the rows/tuples uniquely and foreign keys which are used to relate two different tables. These 2 keys can have constraints with/without constraint names. The columns/entities can also be added, modified, or dropped even after tables are declared. With the 'insert' command we can add the tuples/rows with carefully chosen primary and foreign keys.