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AIM: To create Table for given entities and attributes , Updating the created table according to the problem statement.

Experiments:
use 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 code 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),

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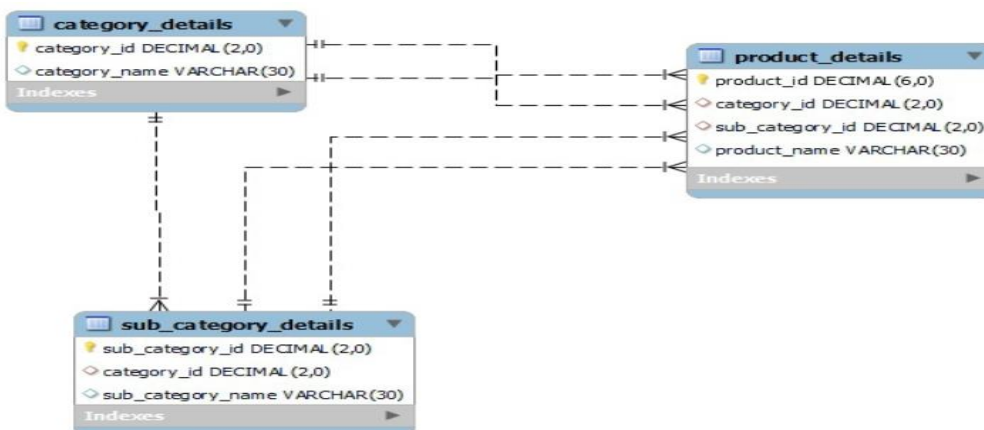INSERT INTO Sub_category_details VALUES (14,4,'gg');

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.
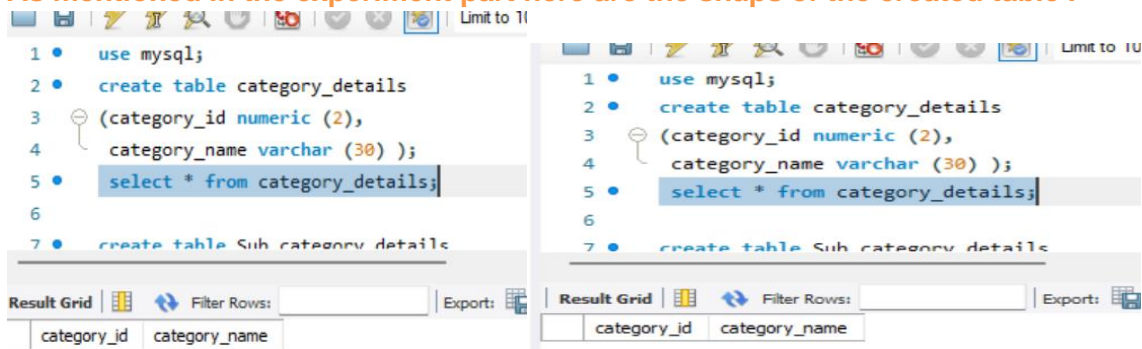
ALTER TABLE Product_details Drop price;
Dropping the price columns from the product details table.

ER diagram:-

Result:

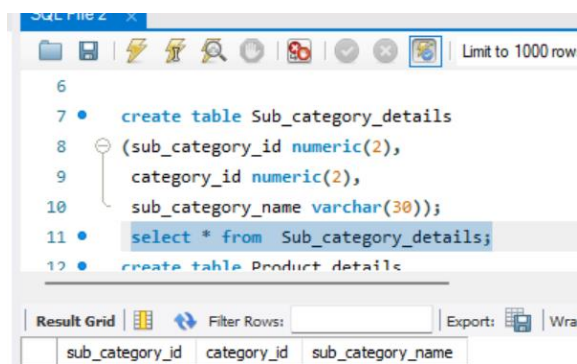**As mentioned in the experiment part here are the snaps of the created table .**

```
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

SQL File 2

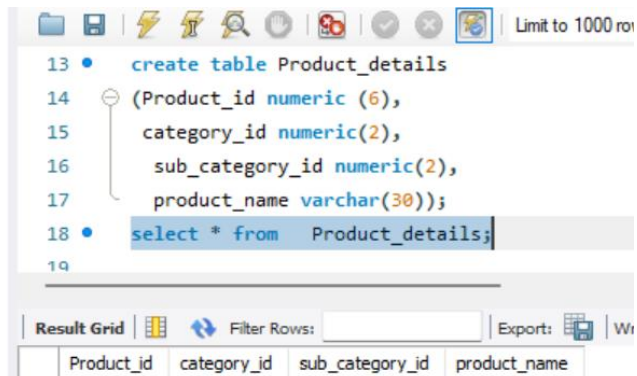```
6
7 •   create table Sub_category_details
8   ⊖ (sub_category_id numeric(2),
9   category_id numeric(2),
10   sub_category_name varchar(30));
11 • select * from Sub_category_details;
12 • create table Product details
```

Result Grid | Filter Rows: | Export: | Wra

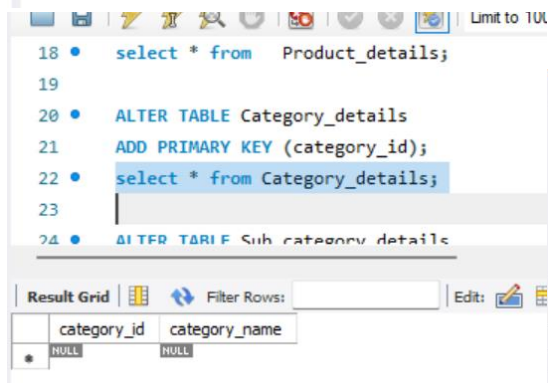| sub_category_id | category_id | sub_category_name |
|---|---|---|

```
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: | W

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
```
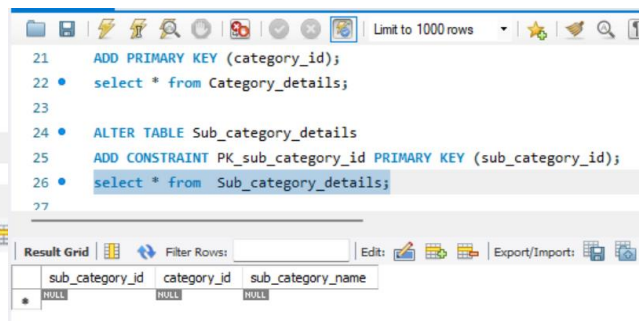
Result Grid | Filter Rows: | Edit:

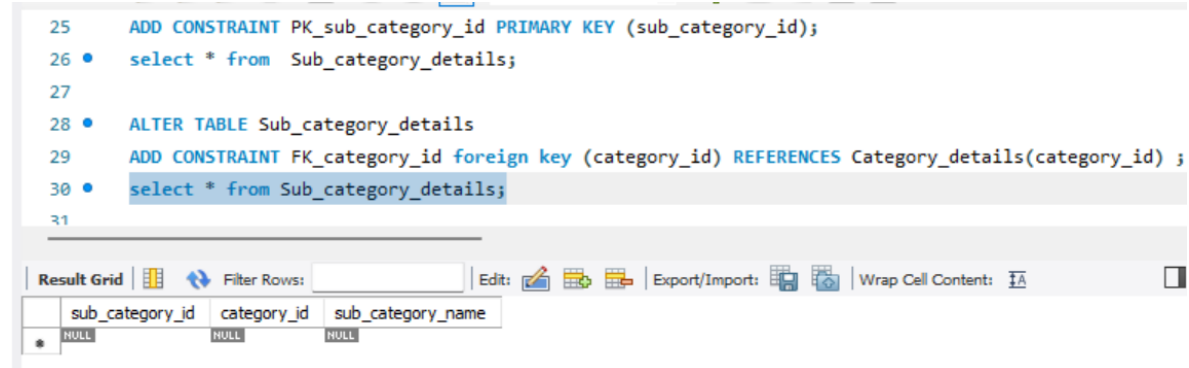| category_id	category_name
NULL	NULL

```
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/Import:

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/Import: | Wrap Cell Content:

sub_category_id	category_id	sub_category_name
NULL	NULL	NULL

```
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: IA

Product_id	category_id	sub_category_id	product_name
NULL	NULL	NULL	NULL

Limit to 1000 rows

```
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
```

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

Product_id	category_id	sub_category_id	product_name	price
NULL	NULL	NULL	NULL	NULL

```
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

```
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
```

Result Grid | Filter Rows: | Edit:

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

```
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:

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;
```

```
57 •   INSERT INTO Product_details VALUES (1111,1,11,'hh',50);
58 •   INSERT INTO Product_details VALUES (1112,2,12,'ii',60);
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
```

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

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/Impo

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

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.

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