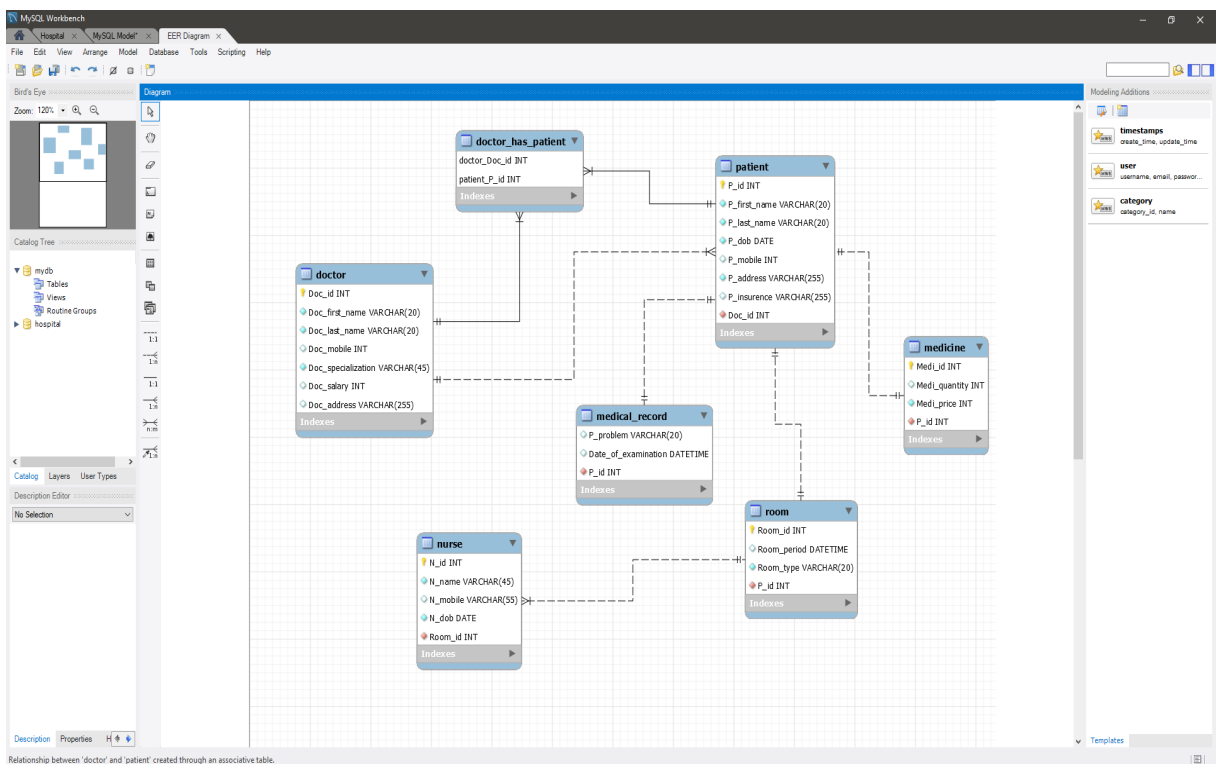


DBMS ASSIGNMENT-2

HOSPITAL DATABASE

1. Showcased a many-many relation between doctor and Patient using doctor_has_patients entity.
2.
 - Composite Keys : In doctor_has_patients : Primary Key (doctor.Doc_id,patient.P_id)
 - Weak Entity : doctor_has_patients , medicine, medical_report, room



ER Diagram Of Company Database

3. • Checking Primary Key and Unique Constraint :

Inserting Doctor's details into tables :

The screenshot shows the MySQL Workbench interface with the following SQL queries executed:

```

66 PRIMARY KEY (N_id),
67 CONSTRAINT FKDocRoom FOREIGN KEY (Room_id) REFERENCES Room (Room_id) ON DELETE RESTRICT ON UPDATE CASCADE
68 );
69
70 use hospital;
71
72 INSERT INTO Doctor
73 VALUES
74 (101, 'Ajit', 'Sharma', 7788498482, 'Cardiologist', 542135, null),
75 (102, 'Ramesh', 'Kumar', 6027849494, 'Audiologist', 5441235, 'Chennai');
76
77 SELECT * FROM Doctor;
  
```

The Result Grid shows the following data:

Doc_id	Doc_first_name	Doc_last_name	Doc_mobile	Doc_specialization	Doc_salary	Doc_address
101	Ajit	Sharma	7788498482	Cardiologist	542135	
102	Ramesh	Kumar	6027849494	Audiologist	5441235	Chennai

The Output window shows the following messages:

```

154 21:02:49 CREATE TABLE Medicine (Med_id INT NOT NULL, Med_quantity INT NULL DEFAULT NULL, Med_price INT NOT NULL, P_id INT NOT NULL,
155 21:02:49 DROP TABLE IF EXISTS Nurse
156 21:02:50 CREATE TABLE Nurse (N_id INT NOT NULL, N_name VARCHAR(45) NOT NULL, N_mobile VARCHAR(20) DEFAULT NULL, N_job DATE,
157 21:05:47 use hospital
158 21:06:00 INSERT INTO Doctor VALUES (101, 'Ajit', 'Sharma', 7788498482, 'Cardiologist', 542135, null), (102, 'Ramesh', 'Kumar', 6027849494, 'Audiologist', 5441235, 'Chennai');
159 21:06:20 SELECT * FROM Doctor LIMIT 0, 1000
  
```

Inserting Patient's details into tables :

The screenshot shows the MySQL Workbench interface with the following SQL queries executed:

```

71
72 INSERT INTO Doctor
73 VALUES
74 (101, 'Ajit', 'Sharma', 7788498482, 'Cardiologist', 542135, null),
75 (102, 'Ramesh', 'Kumar', 6027849494, 'Audiologist', 5441235, 'Chennai');
76
77 SELECT * FROM Doctor;
78
79
80
81 ALTER TABLE Doctor add Doc_name VARCHAR(40) as (concat(Doc_first_name, ' ', Doc_last_name));
82
83 INSERT INTO Patient
84 VALUES
85 (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'overtnulp', 102),
86 (2, 'Ramesh', 'Athe', '1999-11-01', 7740562398, 'Delhi', 'asdfghjkl', 101);
87
88 SELECT * FROM Patient;
89
90
  
```

The Result Grid shows the following data:

P_id	P_first_name	P_last_name	P_dob	P_mobile	P_address	P_insurance	Doc_id
1	Rahul	Raj	1978-05-27	6045218763	Bihar	overtnulp	102
2	Ramesh	Athe	1999-11-01	7740562398	Delhi	asdfghjkl	101

The Output window shows the following messages:

```

158 21:06:00 INSERT INTO Doctor VALUES (101, 'Ajit', 'Sharma', 7788498482, 'Cardiologist', 542135, null), (102, 'Ramesh', 'Kumar', 6027849494, 'Audiologist', 5441235, 'Chennai');
159 21:06:20 SELECT * FROM Doctor LIMIT 0, 1000
160 21:07:38 ALTER TABLE Doctor add Doc_name VARCHAR(40) as (concat(Doc_first_name, ' ', Doc_last_name));
161 21:07:44 SELECT * FROM Doctor LIMIT 0, 1000
162 21:10:58 INSERT INTO Patient VALUES (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'overtnulp', 102), (2, 'Ramesh', 'Athe', '1999-11-01', 7740562398, 'Delhi', 'asdfghjkl', 101);
163 21:16:25 SELECT * FROM Patient LIMIT 0, 1000
  
```

When Trying to insert duplicate value for attribute P_id of Patients table which is a primary key :

```

81
82
83 INSERT INTO Patient
84 VALUES
85 (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'qwertyuiop', 1802),
86 (2, 'Ramesh', 'Asha', '1999-11-01', 7740562398, 'Delhi', 'asdfghjkl', 1803);
87
88 SELECT * FROM Patient;
89 ALTER TABLE Patient add P_name VARCHAR(40) as (concat(P_first_name, ' ', P_last_name));
90
91 INSERT INTO Patient
92 VALUES
93 (1, 'Pavan', 'Kumar', '1988-01-07', 9856321475, 'Karnataka', 'xyzcdmno', 1802);
94 ALTER TABLE Patient add P_name VARCHAR(40) as (concat(P_first_name, ' ', P_last_name));
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111 -- use hospital;
112 -- show tables;
113
--
-- MySQL Workbench - Query Output
--
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Time | Action | Message | Duration / Fetch |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 161 21:07:44 | SELECT * FROM Doctor LIMIT 0 1000 | 2 row(s) returned | 0.016 sec / 0.000 sec |
| 162 21:15:58 | INSERT INTO Patient VALUES (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'qwertyuiop', 1802), (2, 'Ramesh', 'Asha', '1999-11-01', 7740562398, 'D... | 2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0 | 0.312 sec / 0.000 sec |
| 163 21:16:25 | SELECT * FROM Patient LIMIT 0 1000 | 2 row(s) returned | 0.000 sec / 0.000 sec |
| 164 21:17:38 | ALTER TABLE Patient add P_name VARCHAR(40) as (concat(P_first_name, ' ', P_last_name)) | 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 | 2.422 sec / 0.000 sec |
| 165 21:17:46 | SELECT * FROM Patient LIMIT 0 1000 | 2 row(s) returned | 0.000 sec / 0.000 sec |
| 166 21:22:01 | INSERT INTO Patient VALUES (1, 'Pavan', 'Kumar', '1988-01-07', 9856321475, 'Karnataka', 'xyzcdmno', 1802) | Error Code: 1136. Column count doesn't match value count at row 1 | 0.000 sec / 0.000 sec |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Query interrupted
  
```

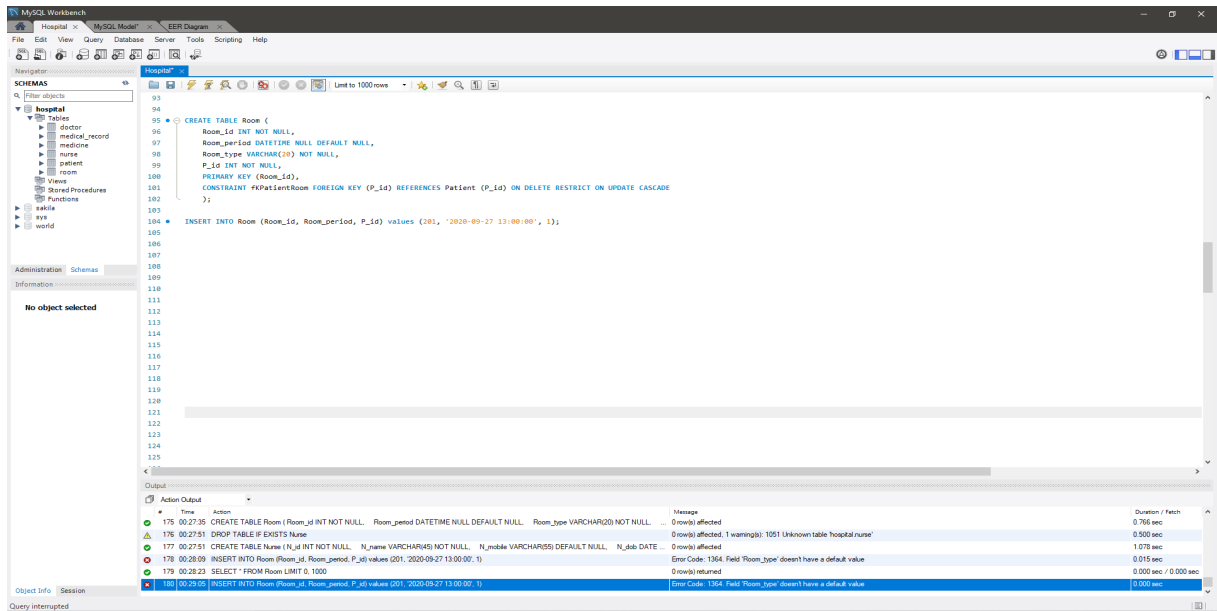
- Checking Not Null and Default Constraint :

(a) When Trying to insert null value for attribute Doc_id of Doctor table which is specified as not null :

```

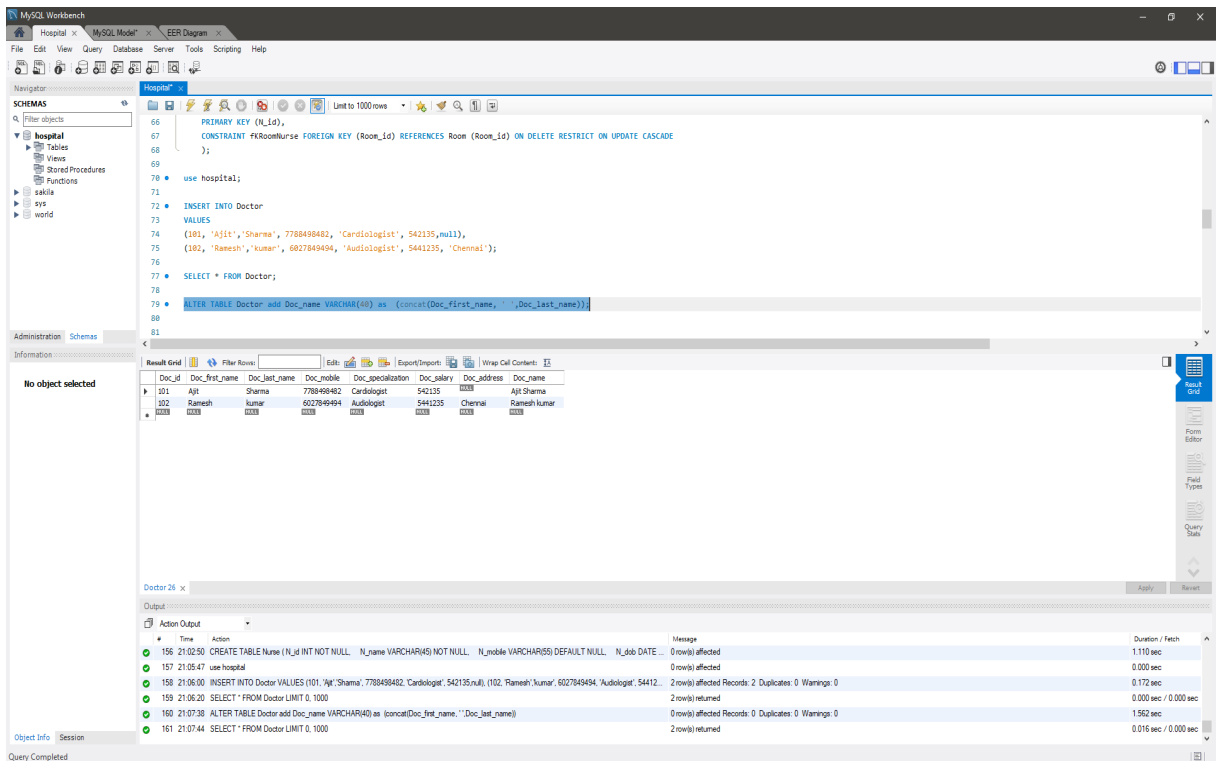
91
92
93 INSERT INTO Doctor
94 VALUES
95 (null, 'sameer', 'Sharma', 6045801248, 'Cardiologist', 242135, null);
96
97
98
99
100
101
102
103
104
105
106
107
108
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112
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114
115
116
117
118
119
120
121
122
123
--
-- MySQL Workbench - Query Output
--
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Time | Action | Message | Duration / Fetch |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 162 21:15:58 | INSERT INTO Patient VALUES (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'qwertyuiop', 1802), (2, 'Ramesh', 'Asha', '1999-11-01', 7740562398, 'D... | 2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0 | 0.312 sec / 0.000 sec |
| 163 21:16:25 | SELECT * FROM Patient LIMIT 0 1000 | 2 row(s) returned | 0.000 sec / 0.000 sec |
| 164 21:17:38 | ALTER TABLE Patient add P_name VARCHAR(40) as (concat(P_first_name, ' ', P_last_name)) | 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 | 2.422 sec / 0.000 sec |
| 165 21:17:46 | SELECT * FROM Patient LIMIT 0 1000 | 2 row(s) returned | 0.000 sec / 0.000 sec |
| 166 21:22:01 | INSERT INTO Patient VALUES (1, 'Pavan', 'Kumar', '1988-01-07', 9856321475, 'Karnataka', 'xyzcdmno', 1802) | Error Code: 1136. Column count doesn't match value count at row 1 | 0.000 sec / 0.000 sec |
| 167 21:24:30 | INSERT INTO Doctor VALUES (null, 'sameer', 'Sharma', 6045801248, 'Cardiologist', 242135, null) | Error Code: 1136. Column count doesn't match value count at row 1 | 0.000 sec / 0.000 sec |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Query interrupted
  
```

- (b) When Trying to insert values into room table in which the attribute room_type doesn't have any default value :



4. Derived Attributes :

- Doc.name attribute of Doctor table:
Dependant on/Derived from concatenation of Doc_first_name and Doc_last_name attributes of Doctor table.



5. Inserting tuples into dependant table of a foreign key constraint first.

Patient table is dependant on Doctor table for getting Doc_id which is the foreign key of the table. If we insert data into Doc_id column of Patient table without inserting any data into Doctor table then :

MySQL Workbench

Hospital x MySQL Model x EER Diagram x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

hospital

- Tables
 - doctor
 - medical_record
 - medicine
 - nurse
 - patient
 - room
- Views
- Stored Procedures
- Functions
- schema
- sys
- world

Administration Schemas

Information

No object selected

Limit to 1000 rows

```

82 VALUES
83 (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'qwertyuiop', 180),
84 (2, 'Ramesh', 'Athe', '1999-11-01', 7740562398, 'Delhi', 'asdfghjkl', 180);
85
86 ALTER TABLE Patient add P_name VARCHAR(40) as (concat(P_first_name, ' ', P_last_name));
87 DROP TABLE Room;
88
89
90 SELECT * FROM Patient;
91
92 SELECT * FROM Doctor;
93
94 INSERT INTO Patient
95 VALUES
96 (3, 'Amit', 'Modi', '1983-01-01', 9876543210, 'UP', 'qwertyuiop', 180);
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114

```

Output

Action Output

#	Time	Action	Message	Duration / Fetch
216	00:56:09	INSERT INTO Patient VALUES (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'qwertyuiop', 180); (2, 'Ramesh', 'Athe', '1999-11-01', 7740562398, 'Delhi', 'asdfghjkl', 180);	2 row(s) affected; Records: 2 Duplicates: 0 Warnings: 0	0.765 sec
217	00:56:15	INSERT INTO Patient VALUES (1, 'Rahul', 'Raj', '1978-05-27', 6045218763, 'Bihar', 'qwertyuiop', 180); (2, 'Ramesh', 'Athe', '1999-11-01', 7740562398, 'Delhi', 'asdfghjkl', 180);	Error Code: 1062. Duplicate entry '1' for key 'patient.PRIMARY'	0.000 sec
218	00:56:34	SELECT * FROM Patient LIMIT 0. 1000	2 row(s) returned	0.000 sec / 0.000 sec
219	00:56:22	SELECT * FROM Doctor LIMIT 0. 1000	2 row(s) returned	0.016 sec / 0.000 sec
220	00:56:33	SELECT * FROM Patient LIMIT 0. 1000	2 row(s) returned	0.000 sec / 0.000 sec
221	00:59:02	INSERT INTO Patient VALUES (3, 'Amit', 'Modi', '1983-01-01', 9876543210, 'UP', 'qwertyuiop', 180);	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails ('hospital', 'patient', CONSTRAINT 'fkDoctorPatients' FOREIGN KEY (Doc_id) REFERENCES doctor (Doc_id) ON DELETE RESTRICT ON UPDATE CASCADE)	0.016 sec

Object Info Session

Query interrupted