

Assignment-2

1. Show-cased a many-many relationship between student and course through class_time_table entity.

Business rule: one student can enroll in many courses and one course can be enrolled by many students.

2.

a). Composite key : In class_time_table entity primary key is {StudentId,CourseId}.

b). Weak entity:
class_time_table,feedback,culturalActivities_and_sports and Grade_Report.

3.

Inserting values into the table:

The screenshot shows the MySQL Workbench interface. The left sidebar displays the database structure for 'collegedatabase', including tables like Admissions, and columns like StudentId, DateOfAdmission, Fee, StudentDOB, StudentPhone, StudentEmail, StudentAddress, and Admission ID. The main query editor contains the following SQL script:

```
1 USE collegedatabase;
2 • insert into Admissions values(100,'2015-2-21',40000,'2002-05-12',8342343534,'monica@emial.com','Hyderabad',120)
3 • insert into Admissions values(145,'2013-6-12',50000,'2001-02-02',8123456775,'anvesha@emial.com','Banglore',124)
4 • insert into Admissions values(123,'2011-08-04',30000,'2000-08-20',9435464561,'srija@emial.com','Lucknow',167);
5 • insert into Admissions values(187,'2010-01-01',70000,'1999-03-22',7063578435,'mona@emial.com','Hyderguda',112);
6 • insert into Admissions values(143,'2016-04-11',20000,'1998-12-19',8342354546,'ansh@emial.com','kanpur',127);
7 • insert into Admissions values(200,'2010-10-10',40000,'2003-03-14',9343563456,'erica@emial.com','Secunderabad',156);
8
9 • select * From Admissions;
```

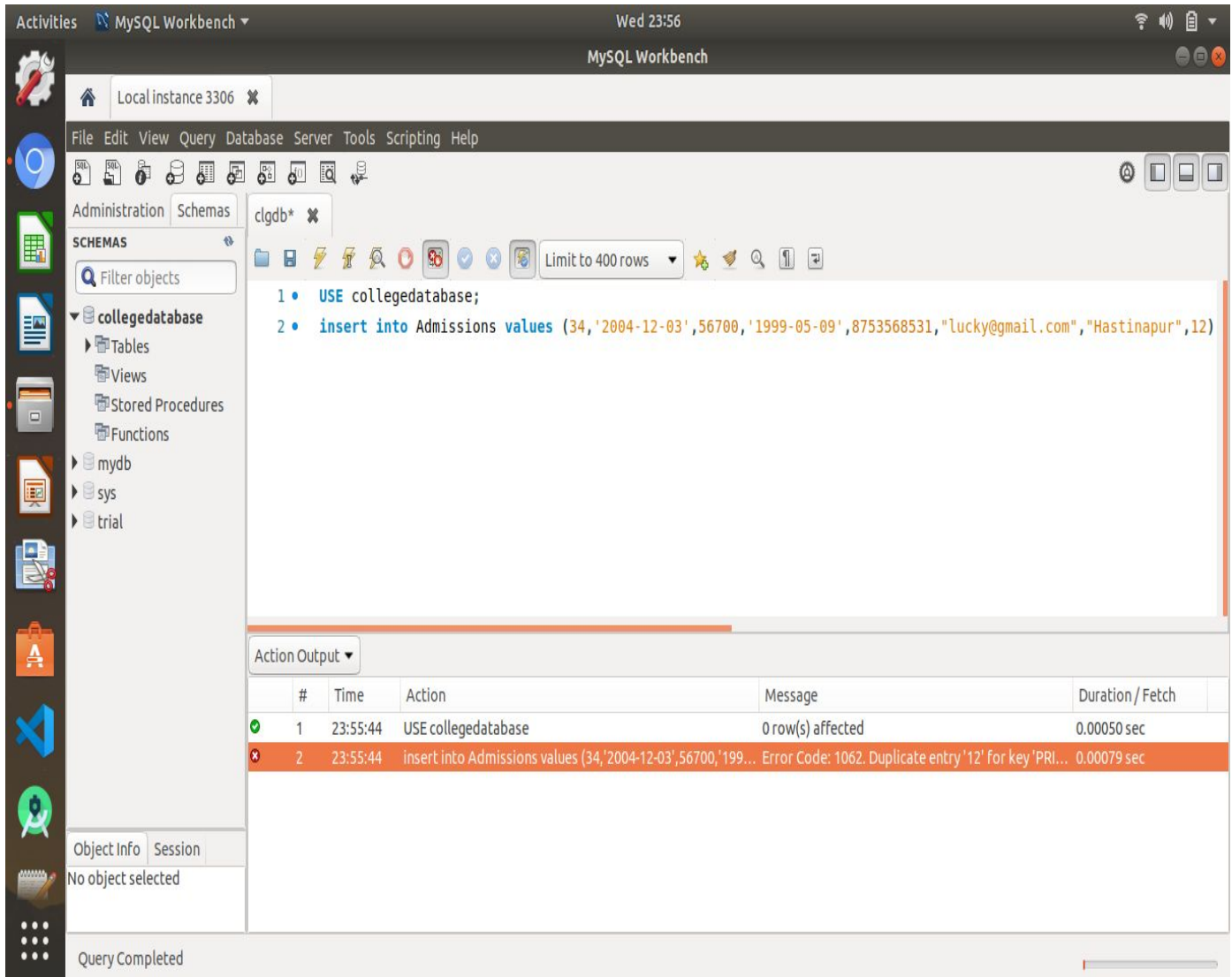
The 'Result Grid' at the bottom displays the data inserted into the 'Admissions' table:

#	StudentId	DateOfAdmission	Fee	StudentDOB	StudentPhone	StudentEmail	StudentAddress	Admission ID
1	187	2010-01-01	70000	1999-03-22	7063578435	mona@emial.com	Hyderguda	112
2	100	2015-02-21	40000	2002-05-12	8342343534	monica@emial.com	Hyderabad	120
3	145	2013-06-12	50000	2001-02-02	8123456775	anvesha@emial.com	Banglore	124
4	143	2016-04-11	20000	1998-12-19	8342354546	ansh@emial.com	kanpur	127
5	200	2010-10-10	40000	2003-03-14	9343563456	erica@emial.com	Secunderabad	156
6	123	2011-08-04	30000	2000-08-20	9435464561	srija@emial.com	Lucknow	167

The status bar at the bottom indicates 'Query Completed'.

a). Violating Unique constraint of primary key:

Inserting duplicate key into column AdmissionID which is a primary key:



The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL statements:

```
1 • USE collegedatabase;
2 • insert into Admissions values (34,'2004-12-03',56700,'1999-05-09',8753568531,"lucky@gmail.com","Hastinapur",12)
```

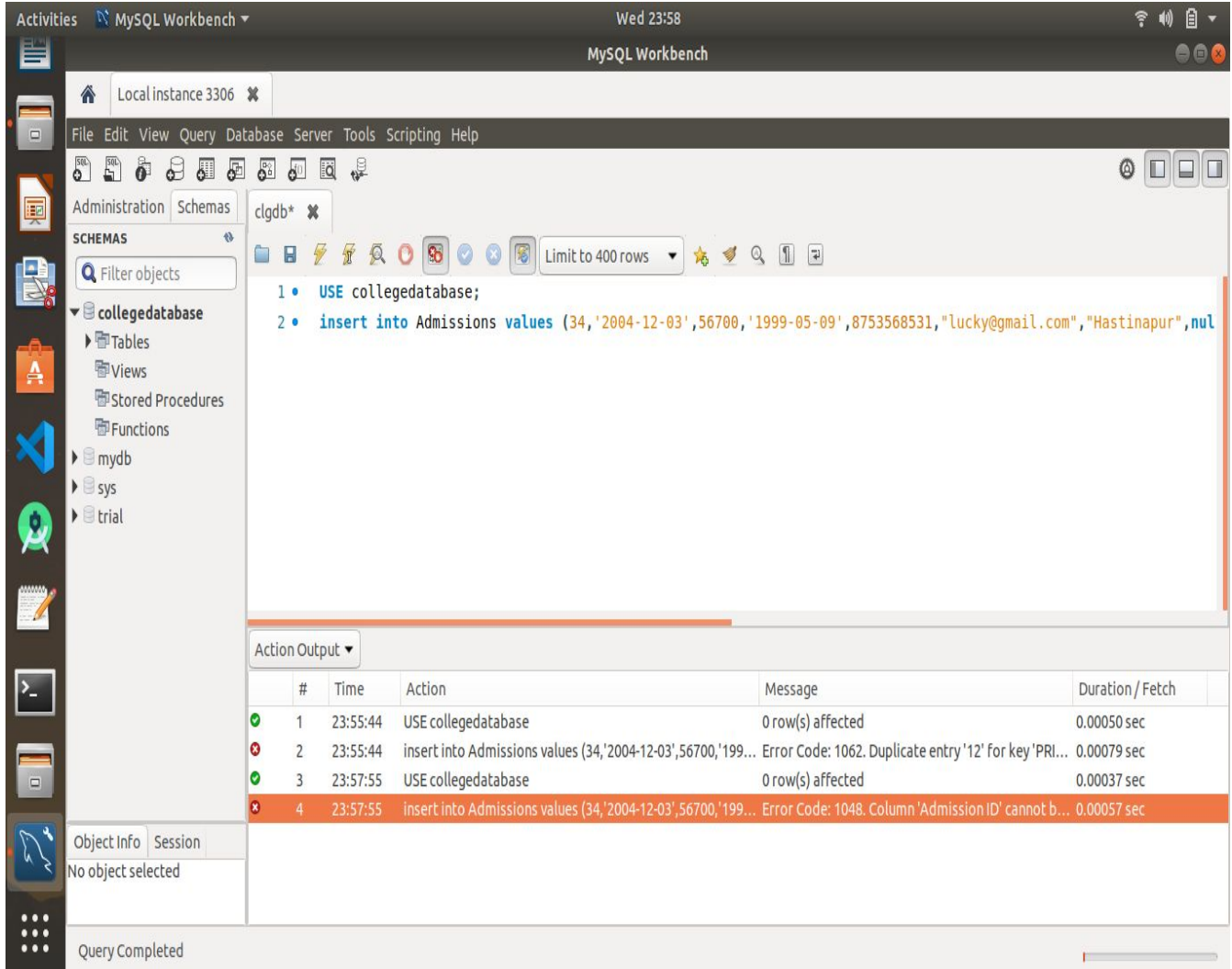
The Action Output pane shows the execution results:

#	Time	Action	Message	Duration / Fetch
1	23:55:44	USE collegedatabase	0 row(s) affected	0.00050 sec
2	23:55:44	insert into Admissions values (34,'2004-12-03',56700,'1999-05-09',8753568531,"lucky@gmail.com","Hastinapur",12)	Error Code: 1062. Duplicate entry '12' for key 'PRI...	0.00079 sec

The error message indicates a duplicate entry for the primary key '12'.

b). Violating not null constraint of primary key:

Inserting null value into AdmissionID which is specified as not null constraint:



The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL statements:

```
1 • USE collegedatabase;
2 • insert into Admissions values (34,'2004-12-03',56700,'1999-05-09',8753568531,"lucky@gmail.com","Hastinapur",nul
```

The Action Output pane shows the execution results:

#	Time	Action	Message	Duration / Fetch
1	23:55:44	USE collegedatabase	0 row(s) affected	0.00050 sec
2	23:55:44	insert into Admissions values (34,'2004-12-03',56700,'199...	Error Code: 1062. Duplicate entry '12' for key 'PRI...	0.00079 sec
3	23:57:55	USE collegedatabase	0 row(s) affected	0.00037 sec
4	23:57:55	insert into Admissions values (34,'2004-12-03',56700,'199...	Error Code: 1048. Column 'Admission ID' cannot be null	0.00057 sec

The error message for row 4 is highlighted in red. The status bar at the bottom indicates "Query Completed".

c). Violating default value constraint of Primarykey:

Not inserting any value into column AdmissionID whose default value is set to false:

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'Schemas' tree with 'collegedatabase' expanded, showing tables like 'Admissions' and 'Columns'. The main editor contains the following SQL query:

```
1 • USE collegedatabase;
2 • insert into Admissions(StudentId,DateOfAdmission,Fee,StudentDOB,StudentPhone,StudentEmail
3 • ,StudentAddress) values (34,'2004-12-03',56700,'1999-05-09',8753568531,"lucky@gmail.com","Hayathnagar");
4
5
```

The 'Action Output' pane at the bottom shows the execution results. The final row (14) indicates an error:

#	Time	Action	Message	Duration / Fetch
14	00:08:15	insert into Admissions(StudentId,DateOfAdmission,Fee,...	Error Code: 1364. Field 'Admission ID' doesn't have a default value	0.00071 sec

Query Completed

4.

Derived attribute: Age is derived using currentyear-DOB of Student:

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'collegedatabase' selected. The main query editor contains the following SQL code:

```
1 • USE collegedatabase;
2 • select *,year(current_date())-year(StudentDOB) as StudenntAge From Admissions;
```

The 'Result Grid' shows the results of the query, with columns: #, StudentId, DateOfAdmission, Fee, StudentDOB, StudentPhone, StudentEmail, StudentAddress, Admission ID, and StudenntAge. The results are as follows:

#	StudentId	DateOfAdmission	Fee	StudentDOB	StudentPhone	StudentEmail	StudentAddress	Admission ID	StudenntAge
1	20	1999-09-30	456000	1987-06-23	7578534667	aish@email.com	jaipur	12	33
2	23	1999-09-30	456000	1987-06-23	7578534667	aish@email.com	jaipur	15	33
3	187	2010-01-01	70000	1999-03-22	7063578435	mona@emial.com	Hyderguda	112	21
4	100	2015-02-21	40000	2002-05-12	8342343534	monica@emial.com	Hyderabad	120	18
5	145	2013-06-12	50000	2001-02-02	8123456775	anvesha@emial.com	Banglore	124	19
6	143	2016-04-11	20000	1998-12-19	8342354546	ansh@emial.com	kanpur	127	22
7	200	2010-10-10	40000	2003-03-14	9343563456	erica@emial.com	Secunderabad	156	17

The 'Action Output' pane shows the execution log:

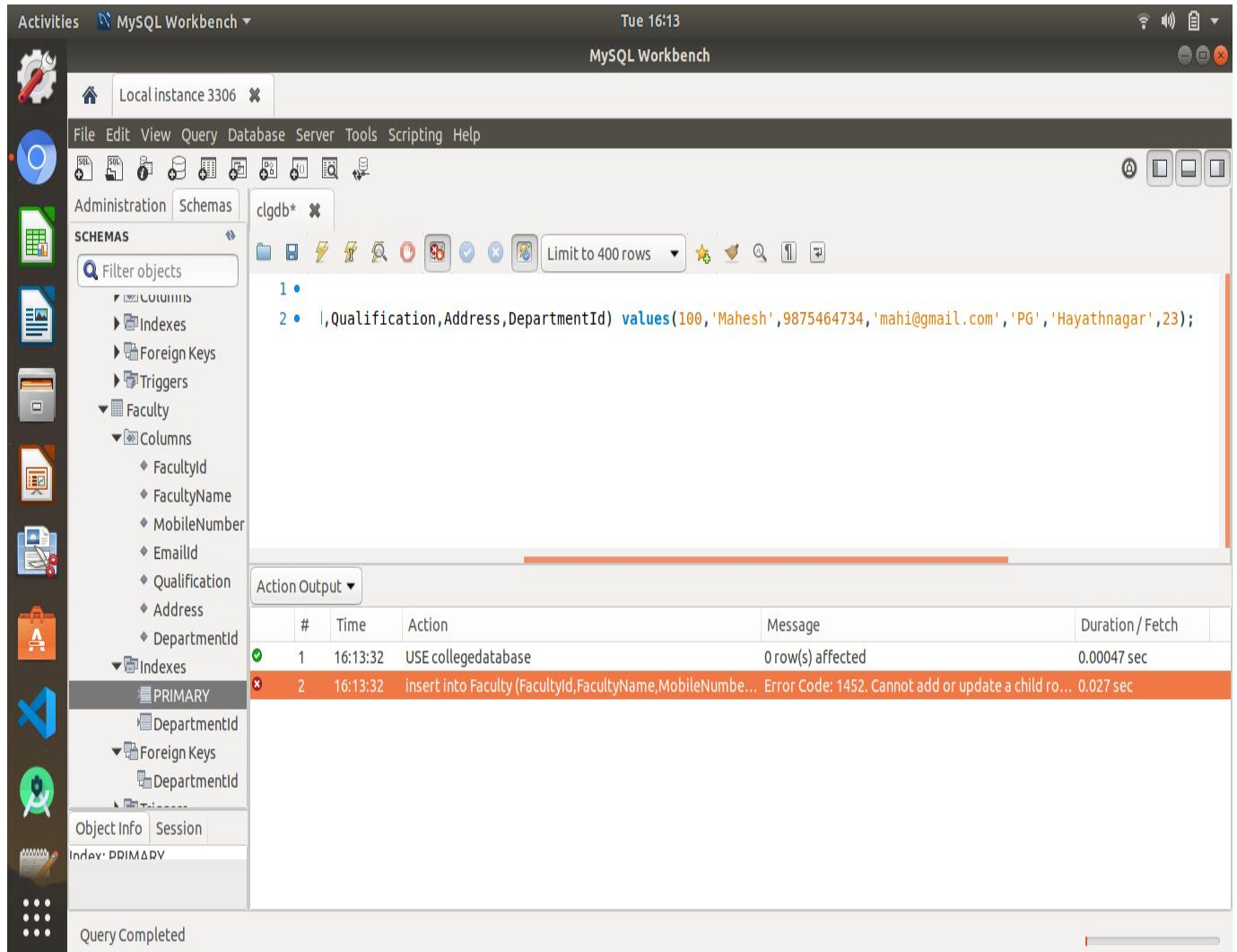
#	Time	Action	Message	Duration / Fetch
8	16:39:00	alter table Admissions add StudentAge INT as(year(curr...	Error Code: 3102. Expression of generated colum...	0.024 sec
9	16:39:00	select * From Admissions LIMIT 0, 400	14 row(s) returned	0.00059 sec / 0.000...
10	16:45:22	USE collegedatabase	0 row(s) affected	0.00031 sec
11	16:45:22	select *.year(current_date())-year(StudentDOB) as Stud...	14 row(s) returned	0.00065 sec / 0.000...

The status bar at the bottom indicates 'Query Completed'.

5. Inserting tuples into dependent table first:

In entity Faculty, departmentId is the foreign key referenced from Department entity.

Inserting tuples into faculty without inserting into Department:



The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'Faculty' expanded, showing its columns: FacultyId, FacultyName, MobileNumber, EmailId, Qualification, Address, and DepartmentId. The 'DepartmentId' column is highlighted. The main query editor contains the following SQL statement:

```
1 •  
2 • |,Qualification,Address,DepartmentId) values(100,'Mahesh','9875464734','mahi@gmail.com','PG','Hayathnagar',23);
```

The 'Action Output' pane at the bottom shows the execution results:

#	Time	Action	Message	Duration / Fetch
1	16:13:32	USE collegedatabase	0 row(s) affected	0.00047 sec
2	16:13:32	Insert into Faculty (FacultyId,FacultyName,MobileNumbe...	Error Code: 1452. Cannot add or update a child ro...	0.027 sec

The status bar at the bottom indicates 'Query Completed'.

Inserting tuples into faculty after inserting into Department entity:

The screenshot displays the MySQL Workbench interface. The left sidebar shows the 'Schemas' tree with 'collegedatabase' selected. The main editor window contains the following SQL queries:

```
1 • USE collegedatabase;
2 • insert into Department values (59,'ECE','jay');
3 • insert into Faculty values(190,'Mahesh',9875464734,'mahi@gmail.com','PG','Hayathnagar',59);
4 • select * From Faculty;
```

The 'Result Grid' shows the output of the queries. The first three queries (1, 2, 3) are not visible in the grid. The fourth query (4) is visible, showing 4 rows of data from the Faculty table:

#	FacultyId	FacultyName	MobileNumber	EmailId	Qualification	Address	DepartmentId
1	100	Mahesh	9875464734	mahi@gmail.com	PG	Hayathnagar	24
2	120	Mahesh	9875464734	mahi@gmail.com	PG	Hayathnagar	25
3	150	Mahesh	9875464734	mahi@gmail.com	PG	Hayathnagar	29
4	190	Mahesh	9875464734	mahi@gmail.com	PG	Hayathnagar	59

The 'Action Output' tab shows the execution details of the queries:

#	Time	Action	Message	Duration / Fetch
10	16:19:22	USE collegedatabase	0 row(s) affected	0.00045 sec
11	16:19:22	insert into Department values (59,'ECE','jay')	1 row(s) affected	0.019 sec
12	16:19:22	insert into Faculty values(190,'Mahesh',9875464734,'mah...	1 row(s) affected	0.067 sec
13	16:19:50	select * From Faculty LIMIT 0, 400	4 row(s) returned	0.00077 sec / 0.000...

The status bar at the bottom indicates 'Query Completed'.