DBMS Lab Assignment-2

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Aim: To create a table for the given set of entities and attributes, Updating the newly formed tables by following the given problem statement

Experiment:

1. First, we create tables (Employees, Departments, Projects, Workson)

```
create table employee(
employee_id numeric(9) not null,
first_name varchar(10),
last_name varchar(20),
deptcode char(5),
salary numeric(9,2),
Primary key (employee_id)
);
Create table departments(
deptcode char(5) not null,
deptname varchar(30),
Manager_id numeric(9),
subdeptof char(5),
Primary key (deptcode)
);
Create table projects(
project_id char(8) not null,
deptcode char(5),
description varchar(200),
```

```
startdate date,

stopdate date,

revenue numeric(12,2),

Primary key (project_id)

);

create table workson(

employee_id numeric(9) not null,

project_id char(8) not null,

assignedtime numeric(3,2)

);
```

2. Now, we are going to add foreign keys for the above-created tables

```
alter table employees add foreign key (deptcode)
references departments (`deptcode`);

alter table departments add foreign key (subdeptof)
references departments (`deptcode`);

alter table departments add foreign key (employee_id)
references employee (`employee_id`);

alter table workson add foreign key (employee_id)
references employee (`employee_id`);

alter table workson add foreign key (project_id)
references projects (`project_id`);
```

3. Entering 8 rows of data in these tables

```
insert into employee
values(190301,"Lokesh","Kasse","A",100000.00),
(190302,"Vivek","Ankathi","B",90000.00),
(190303,"Harry","Potter","C",85000.00),
(190304,"Hermione","Granger","D",86000),
(190305,"Ron","Weasley","E",80000),
(190306,"Draco","Malfoy","F",81000),
```

```
(190307,"Neville","Longbottom","G",82000),
(190308,"Luna","Lovegood","H",83000);

insert into departments
values("C01","Mathematics",1991,"03C1"),
("C02","Social Studies",1992,"03C2"),
("C03","Language",1993,"03C3"),
("C04","General Science",1994,"03C4"),
("C05","General Knowledge",1995,"03C5"),
("C06","Ethics",1996,"03C6"),
("C07","Computers",1997,"03C7"),
("C08","Sports",1998,"03C8");


insert into projects
values("20C11","03A1","Dissecting the ‘anatomy’ of viral web content, memes, or social
media arguments.",'20040101','20040105',34000),
("20C12","03A2"," Launching a recycling program that solves an identified problem with
existing recycling programs. This can be done at a household-level, school-level,
neighborhood-level, or city-level.",'20040201','20040202',54620),
("20C13","03A3","Analyzing the five most popular social media platforms for teens, then
predict and design a new platform based on existing trends and past trajectory of
change.",'20040315','20040320',41300),
("20C14","03A4","Creating visibility for something beautiful, useful, or otherwise deserving of
attention that currently is under-appreciated.",'20040416','20040421',31000),
("20C15","03A5","Mashing three existing video games together to create a new game.
Obviously this would not be done digitally but through annotated planning and blueprint
design.",'20040513','20040522',155000),
("20C16","03A6","Solving the problem of negative or fake
news",'20040615','20040623',22000),
("20C17","03A7"," Helping local businesses increase environmental
sustainability.",'20040701','20040713',106000),
("20C18","03A8","Creating an interactive family tree with voice-overs from living family
members.",'20040827','20040912',46000);

insert into workson
values(190301,"20C11",1.23),
(190302,"20C12",2.32),
(190303,"20C13",3.34),
(190304,"20C14",6.54),
(190305,"20C15",5.23),
(190306,"20C16",7.45),
(190307,"20C17",6.28),
(190308,"20C18",8.43);
```

Exercises

1. Now, we should list the first and last names of all employees.

Select first_name AS "First Name", last_name AS "Last Name"

FROM employee;

2. Now, we should List all attributes of the projects with revenue greater than $40,000.

select revenue from projects where revenue > 40000;

3. Now, we should List the department codes of the projects with revenue between $100,000 and $150,000.

Select deptcode from projects where revenue between 100000 and 150000;

4. Now, we should List the project IDs for the projects that started on or before July 1, 2004.

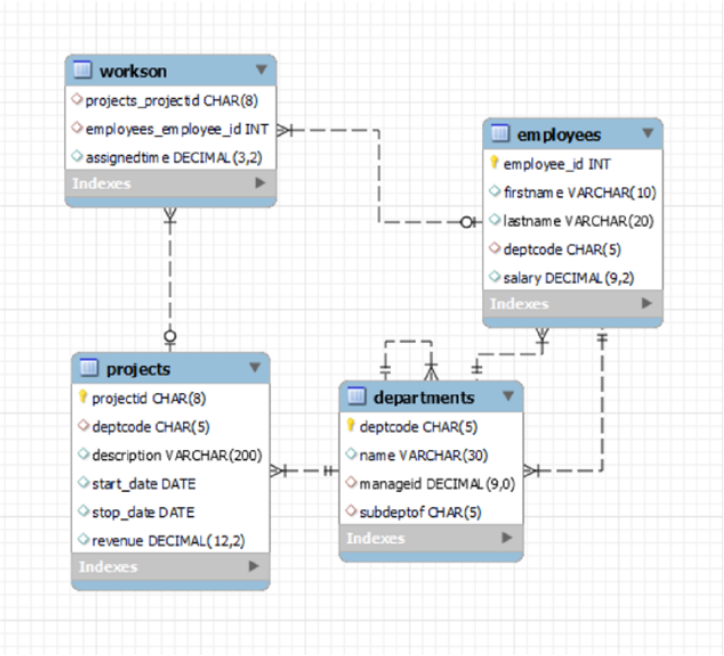
Select projectid from projects where start_date <= ‘20040701’;

5. Finally we should List all the department codes assigned to a project. Remove all duplicates.

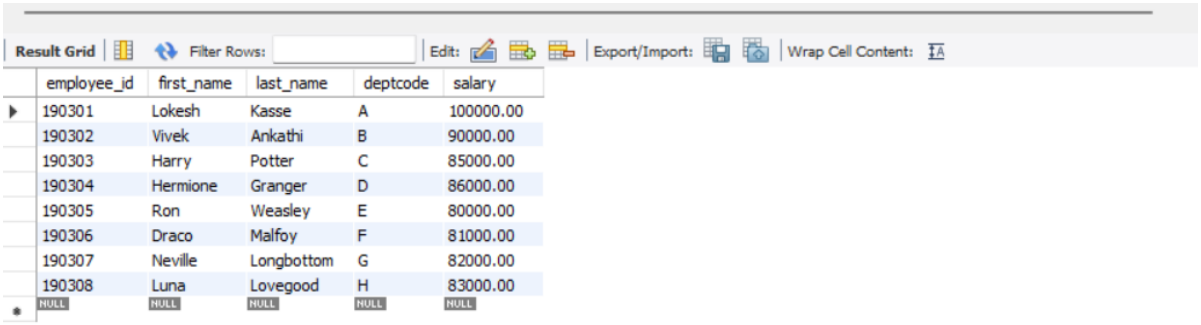
Select distinct deptcode from projects;

Results:

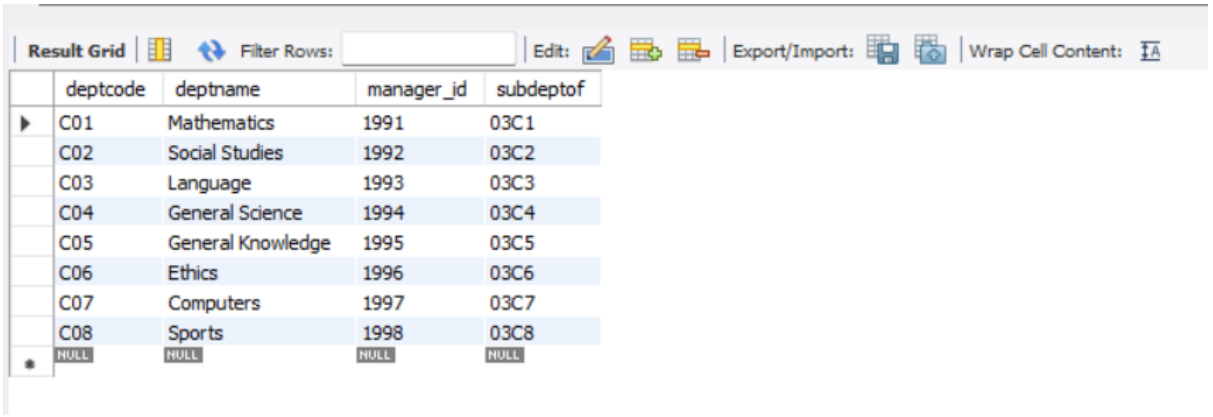
Er diagram:



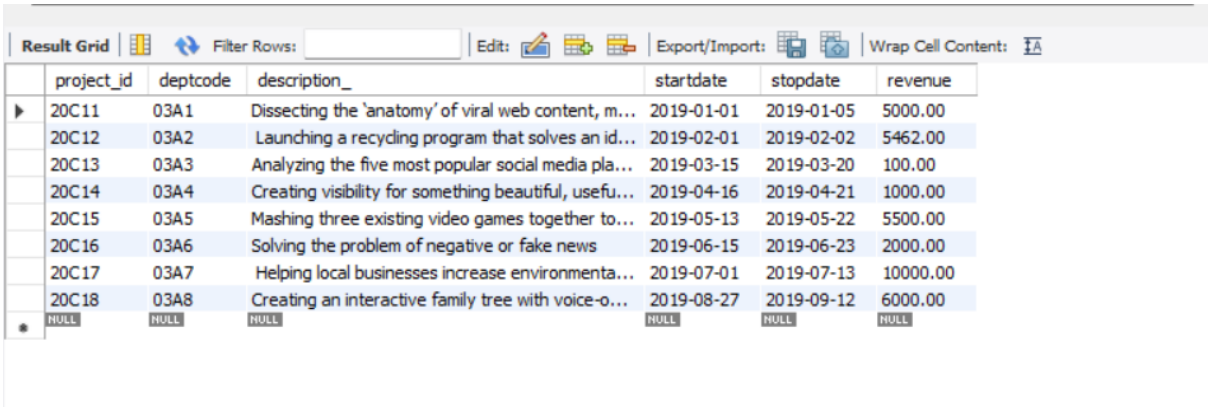
Tables:



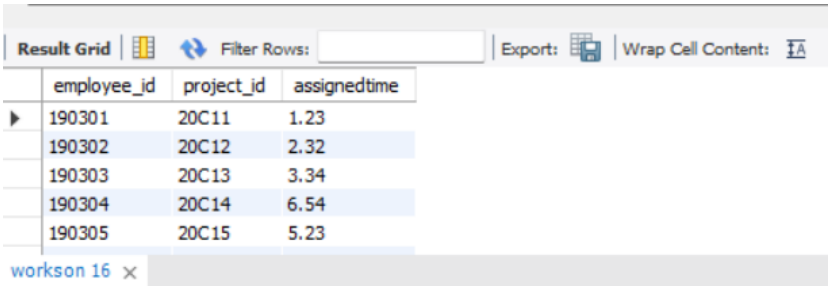
employee_id	first_name	last_name	deptcode	salary
190301	Lokesh	Kasse	A	100000.00
190302	Vivek	Ankathi	B	90000.00
190303	Harry	Potter	C	85000.00
190304	Hermione	Granger	D	86000.00
190305	Ron	Weasley	E	80000.00
190306	Draco	Malfoy	F	81000.00
190307	Neville	Longbottom	G	82000.00
190308	Luna	Lovegood	H	83000.00



deptcode	deptname	manager_id	subdeptof
C01	Mathematics	1991	03C1
C02	Social Studies	1992	03C2
C03	Language	1993	03C3
C04	General Science	1994	03C4
C05	General Knowledge	1995	03C5
C06	Ethics	1996	03C6
C07	Computers	1997	03C7
C08	Sports	1998	03C8



project_id	deptcode	description_	startdate	stopdate	revenue
20C11	03A1	Dissecting the 'anatomy' of viral web content, m...	2019-01-01	2019-01-05	5000.00
20C12	03A2	Launching a recycling program that solves an id...	2019-02-01	2019-02-02	5462.00
20C13	03A3	Analyzing the five most popular social media pla...	2019-03-15	2019-03-20	100.00
20C14	03A4	Creating visibility for something beautiful, usefu...	2019-04-16	2019-04-21	1000.00
20C15	03A5	Mashing three existing video games together to...	2019-05-13	2019-05-22	5500.00
20C16	03A6	Solving the problem of negative or fake news	2019-06-15	2019-06-23	2000.00
20C17	03A7	Helping local businesses increase environmenta...	2019-07-01	2019-07-13	10000.00
20C18	03A8	Creating an interactive family tree with voice-o...	2019-08-27	2019-09-12	6000.00

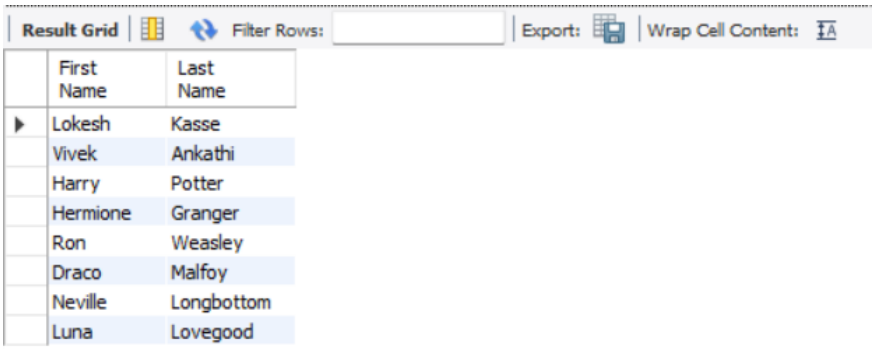


employee_id	project_id	assignedtime
190301	20C11	1.23
190302	20C12	2.32
190303	20C13	3.34
190304	20C14	6.54
190305	20C15	5.23

workson 16

Exercise solutions:

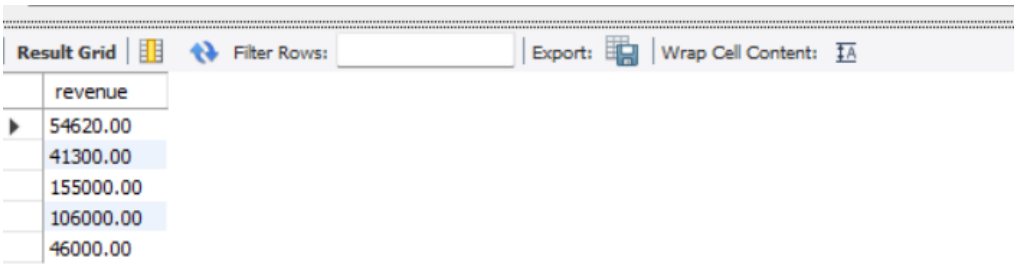
1.



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

First Name	Last Name
Lokesh	Kasse
Vivek	Ankathi
Harry	Potter
Hermione	Granger
Ron	Weasley
Draco	Malfoy
Neville	Longbottom
Luna	Lovegood

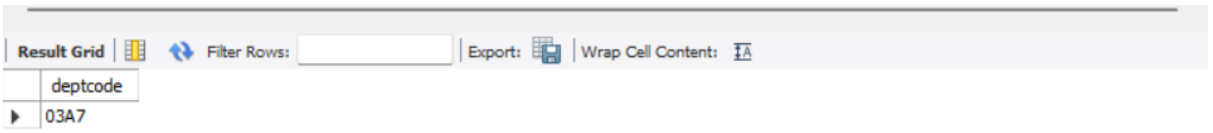
2.



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

revenue
54620.00
41300.00
155000.00
106000.00
46000.00

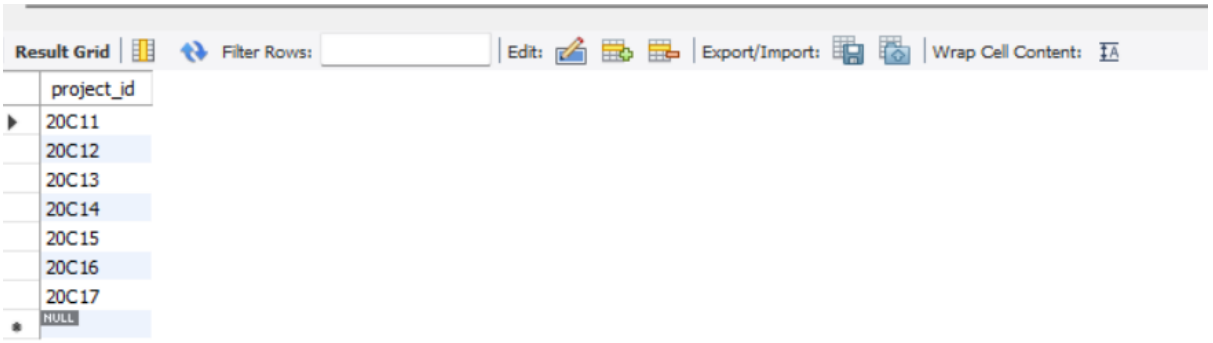
3.



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

deptcode
03A7

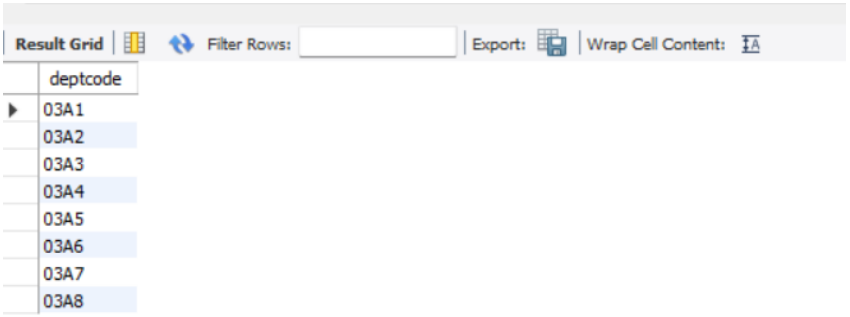
4.



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

project_id
20C11
20C12
20C13
20C14
20C15
20C16
20C17
NULL

5.



deptcode
03A1
03A2
03A3
03A4
03A5
03A6
03A7
03A8

Conclusion:

Thus, the tables were created. Added a primary key and a foreign key for the respective tables. Entered data for respective tables. Later on, listed the first and last names of all employees table, all attributes of the projects with revenue greater than $40,000, the department codes of the projects with revenue between $100,000 and $150,000, the project IDs for the projects that started on or before July 1, 2004.