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SC24M136

Ex. No. 8 Scientific Computing

DBMS

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1. Write SQL queries based on the table given below

Employee Details

Emp ID	Fullname	Manager id	Date of joining
121	Ravi Nair	321	10/10/2013
221	Geetha Kumar	321	1/5/2014
321	Maya Raj	986	5/4/2010
421	Alok Mishra	876	4/3/2009

Employee Salary

Emp ID	Project	Salary
121	P1	50000
221	P2	60000
321	P1	90000
421	P3	55000

(a) Write a query to fetch employee names and salary records. Return employee details even if the salary record is not present for the employee.

(Query)

```
SELECT ed.full_name, es.salary
FROM employee_details ed, employee_salary es
WHERE ed.emp_id = es.emp_id
```

(Output)

	full_name character varying (255)	salary integer
1	Ravi Nair	50000
2	Geetha Kumar	60000
3	Maya Raj	90000
4	Alok Mishra	55000

(b) Write a SQL query to fetch all the Employees who are also managers from Employee Details table.

(Query)

```
SELECT *
FROM employee_details
WHERE emp_id IN (SELECT manager_id FROM employee_details )
```

(Output)

	emp_id integer	full_name character varying (255)	manager_id integer	date_of_joining date
1	321	Maya Raj	986	2010-04-05

(c) Write a SQL query to fetch project wise count of employees sorted by project's count in descending order.

(Query)

```
SELECT * FROM public.employee_details
JOIN public.employee_salary ON employee_details.emp_id =
employee_salary.emp_id
ORDER BY num_of_projects DESC
```

(Output)

	emp_id integer	full_name character varying (255)	manager_id integer	date_of_joining date	emp_id integer	num_of_projects integer	salary integer
1	421	Alok Mishra	876	2009-03-04	421	3	55000
2	221	Geetha Kumar	321	2014-05-01	221	2	60000
3	121	Ravi Nair	321	2013-10-10	121	1	50000
4	321	Maya Raj	986	2010-04-05	321	1	90000

(d) Write a SQL query to fetch employee names having salary greater than or equal to 60000 and less than or equal 90000.

(Query)

```
1 SELECT full_name FROM public.employee_details
2 JOIN public.employee_salary ON employee_details.emp_id =
employee_salary.emp_id
3 WHERE employee_salary.salary >= 60000 AND employee_salary.salary <= 90000
```

(Output)

	full_name character varying (255)
1	Geetha Kumar
2	Maya Raj

2. Solve the questions for the following table

ID	Country	Official Language(s)	Population (Millions)	GDP (USD Billions)	Founded On
1	United States	English	331	25462	July 4, 1776
2	China	Mandarin	1412	18321	October 1, 1949
3	India	Hindi, English	1428	3730	August 15, 1947
4	Japan	Japanese	125	4231	February 11, 660 BCE
5	Germany	German	84	4305	January 18, 1871
6	Brazil	Portuguese	214	2080	September 7, 1822
7	Russia	Russian	143	2064	June 12, 1990
8	United Kingdom	English	67	3691	July 12, 927
9	France	French	67	3000	September 22, 1792
10	Canada	English, French	38	2139	July 1, 1867

```
CREATE TABLE country_details(
id int,
country VARCHAR(255),
official_languages VARCHAR(255),
gdp INT,
founded_on DATE)
```

Questions:
1. Write a query to fetch country names and their GDP records. Return country details even if the GDP record is not present for the country.
(Query)

```
SELECT country, gdp FROM country_details
```

(Output)

	country character varying (255)	gdp integer
1	United States	25462
2	China	18321
3	India	3730
4	Japan	4231
5	Germany	4305
6	Brazil	2080
7	Russia	2064
8	United Kingdom	3691
9	France	3000
10	Canada	2139

2. Write a SQL query to fetch all the countries that have an official language of "English" from the Countries table.

(Query)

```
SELECT country
FROM country_details
WHERE official_languages LIKE '%English%'
```

(Output)

	country character varying (255)
1	United States
2	India
3	United Kingdom
4	Canada

3. Write a SQL query to fetch country names that have a population greater than or equal to 100 million and less than or equal to 500 million.

(Query)

```
SELECT country
FROM country_details
WHERE population > 100 AND population <= 500
```

(Output)

	country character varying (255)
1	United States
2	Japan
3	Brazil
4	Russia

4. Write a query to list the countries founded after the year 1900.

(Query)

```
SELECT country
FROM country_details
WHERE founded_on > '1900-01-01'
```

(Output)

	country character varying (255)
1	China
2	India
3	Russia
4	United Kingdom

5. Write a SQL query to fetch the country names and populations in ascending order of population.

(Query)

```
SELECT country,population
FROM country_details
ORDER BY population ASC
```

(Output)

	country character varying (255)	population integer
1	Canada	38
2	France	67
3	United Kingdom	67
4	Germany	84
5	Japan	125
6	Russia	143
7	Brazil	214
8	United States	331
9	China	1412
10	India	1428

6. Write a SQL query to fetch all the countries whose official language is not "English" from the Countries table.

(Query)

```
SELECT country
FROM country_details
WHERE official_languages NOT LIKE '%English%'
```

(Output)

	country character varying (255)
1	China
2	Japan
3	Germany
4	Brazil
5	Russia
6	France