B.TECH. (2020-24)

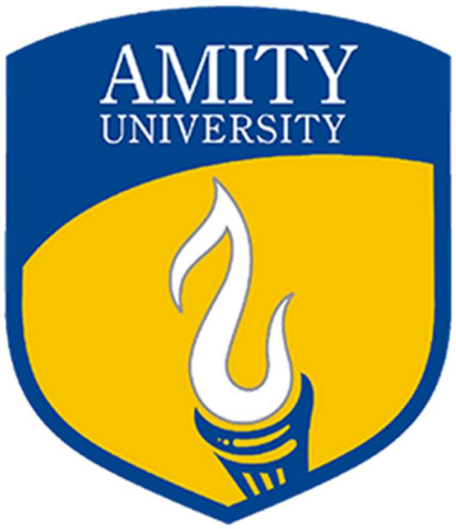
Artificial Intelligence

LAB FILE

on

DATABASE MANAGEMENT SYSTEMS

[CSE201]



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S. No.	Name of Experiment (Based on Employee and Department tables)	Date of Allotment	Signature of Faculty
1	**Write a query in SQL to display the last name and job title of all employees who do not have a manager**	19/01/2022	
2	**Write a query in SQL to display the last name, salary, and commission of all employees who earn commissions. Sort data in descending order of salary and commissions.**	19/01/2022	
3	**Write a query in SQL that prompts the user for a manager ID and generates the employee ID, last name, salary, and department for that manager's employees. The HR department wants the ability to sort the report on a selected column.**	19/01/2022	
4	**Write a query in SQL to Display all employee last names in which the third letter of the name is a.**	19/01/2022	
5	**Write a query in SQL to Display the last name of all employees who have both an a and an e in their last name.**	02/02/2022	
6	**Write a query in SQL to Display the last name, job, and salary for all employees whose job is sales representative or stock clerk and whose salary is not equal to $2,500, $3,500, or $7,000.**	02/02/2022	
7	**Write a query in SQL to display the employee number, last name, salary, and salary increased by 15.5% (expressed as a whole number) for each employee. Label the column New Salary.**	02/02/2022	
8	**Create a report that produces the following for each employee: <employee last name> earns <salary> monthly but wants <3 times salary>. Label the column Dream Salaries.**	09/02/2022	
9	**Create a query to display the last name and salary for all employees. Format the salary to be 15 characters long, left-padded with the $ symbol. Label the column SALARY.**	09/02/2022	
10	**Display each employee's last name, hire date, and salary review date, which is the first Monday after six months of service. Label the column REVIEW. Format the dates to appear in the format similar to "Monday, the Thirty-First of July, 2000."**	09/02/2022	
11	**Display the last name, hire date, and day of the week on which the employee started. Label the column DAY. Order the results by the day of the week, starting with Monday.**	09/02/2022	

SQL Queries

Based on Employee and Department tables, perform the following SQL queries:

1. Write a query in SQL to display the last name and job title of all employees who do not have a manager

SQL Query

```
SELECT last_name,job_title
FROM employees,jobs
WHERE manager_id IS NULL and employees.job_id = jobs.job_id;
```

OUTPUT

LAST_NAME	JOB_TITLE
King	President

---

2. Write a query in SQL to display the last name, salary, and commission of all employees who earn commissions. Sort data in descending order of salary and commissions.

SQL Query

```
SELECT last_name, salary, commission_pct
FROM employees
WHERE commission_pct IS NOT NULL
ORDER BY salary DESC, commission_pct DESC;
```

OUTPUT

LAST_NAME	SALARY	COMMISSION_PCT
Russell	14000	.4
Partners	13500	.3
Errazuriz	12000	.3
Ozer	11500	.25
Cambrault	11000	.3
Abel	11000	.3
Vishney	10500	.25
Zlotkey	10500	.2
King	10000	.35

3. Write a query in SQL that prompts the user for a manager ID and generates the employee ID, last name, salary, and department for that manager's employees. The HR department wants the ability to sort the report on a selected column.

SQL Query

```
SELECT e.manager_id, e.employee_id, e.last_name, salary, e.department_id, d.department_name
FROM employees e, departments d
WHERE e.manager_id = &manager_num and e.department_id = d.department_id
ORDER BY '&column';
```

INPUT

$$manager\_num = 100 \; and \; column = \text{'}last\_name\text{'}$$

OUTPUT

MANAGER_ID	EMPLOYEE_ID	LAST_NAME	SALARY	DEPARTMENT_ID	DEPARTMENT_NAME
100	148	Cambrault	11000	80	Sales
100	102	De Haan	17000	90	Executive
100	147	Errazuriz	12000	80	Sales
100	121	Fripp	8200	50	Shipping
100	201	Hartstein	13000	20	Marketing
100	122	Kaufling	7900	50	Shipping
100	101	Kochhar	17000	90	Executive
100	124	Mourgos	5800	50	Shipping
100	146	Partners	13500	80	Sales

---

4. Write a query in SQL to Display all employee last names in which the third letter of the name is a.

SQL Query

```
SELECT last_name
FROM employees
WHERE last_name LIKE '__a%';
```

OUTPUT

LAST_NAME
Grant
Grant
Whalen

---

5. Write a query in SQL to Display the last name of all employees who have both an a and an e in their last name.

SQL Query

```
SELECT last_name
FROM employees
WHERE last_name LIKE '%a%' and last_name LIKE '%e%';
```

OUTPUT

LAST_NAME
De Haan
Faviet
Raphaely
Colmenares
Nayer
Markle
Philtanker
Patel
Davies

---

6. Write a query in SQL to Display the last name, job, and salary for all employees whose job is sales representative or stock clerk and whose salary is not equal to $2,500, $3,500, or $7,000.

SQL Query

```
SELECT last_name,job_id,salary
FROM employees
WHERE (job_id LIKE 'ST_CLERK' OR job_id LIKE 'SA_REP') AND salary NOT IN (2500,3500,7000);
```

OUTPUT

LAST_NAME	JOB_ID	SALARY
Nayer	ST_CLERK	3200
Mikkilineni	ST_CLERK	2700
Landry	ST_CLERK	2400
Markle	ST_CLERK	2200
Bissot	ST_CLERK	3300
Atkinson	ST_CLERK	2800
Olson	ST_CLERK	2100
Mallin	ST_CLERK	3300
Rogers	ST_CLERK	2900

---

7. Write a query in SQL to display the employee number, last name, salary, and salary increased by 15.5% (expressed as a whole number) for each employee. Label the column New Salary.

SQL Query

```
SELECT employee_id,last_name,salary,ROUND(1.155*salary) AS "New Salary"
FROM employees;
```

OUTPUT

EMPLOYEE_ID	LAST_NAME	SALARY	New Salary
100	King	24000	27720
101	Kochhar	17000	19635
102	De Haan	17000	19635
103	Hunold	9000	10395
104	Ernst	6000	6930
105	Austin	4800	5544
106	Pataballa	4800	5544
107	Lorentz	4200	4851
108	Greenberg	12008	13869

8. Create a report that produces the following for each employee: <employee last name> earns <salary> monthly but wants <3 times salary>. Label the column Dream Salaries.

SQL Query

```
SELECT last_name||' earns '||salary||' monthly but wants '||3*salary AS "Dream Salaries"
FROM employees;
```

OUTPUT

Dream Salaries
King earns 24000 monthly but wants 72000
Kochhar earns 17000 monthly but wants 51000
De Haan earns 17000 monthly but wants 51000
Hunold earns 9000 monthly but wants 27000
Ernst earns 6000 monthly but wants 18000
Austin earns 4800 monthly but wants 14400
Pataballa earns 4800 monthly but wants 14400
Lorentz earns 4200 monthly but wants 12600
Greenberg earns 12008 monthly but wants 36024
Faviet earns 9000 monthly but wants 27000

9. Create a query to display the last name and salary for all employees. Format the salary to be 15 characters long, left-padded with the $ symbol. Label the column SALARY.

SQL Query

```
SELECT last_name,LPAD(salary,15,'$') AS "SALARY"
FROM employees;
```

OUTPUT

LAST_NAME	SALARY
King	$$$$$$$$$24000
Kochhar	$$$$$$$$$17000
De Haan	$$$$$$$$$17000
Hunold	$$$$$$$$$$9000
Ernst	$$$$$$$$$$6000
Austin	$$$$$$$$$$4800
Pataballa	$$$$$$$$$$4800
Lorentz	$$$$$$$$$$4200
Greenberg	$$$$$$$$$12008
Faviet	$$$$$$$$$$9000

10. Display each employee's last name, hire date, and salary review date, which is the first Monday after six months of service. Label the column REVIEW. Format the dates to appear in the format similar to "Monday, the Thirty-First of July, 2000."

SQL Query

```
SELECT last_name,hire_date, TO_CHAR((NEXT_DAY(ADD_MONTHS(hire_date,6),'MONDAY')),'Day, "the" Ddspth "of" Month, YYYY') AS "REVIEW"
FROM employees;
```

OUTPUT

LAST_NAME	HIRE_DATE	REVIEW
King	06/17/2003	Monday , the Twenty-Second of December , 2003
Kochhar	09/21/2005	Monday , the Twenty-Seventh of March , 2006
De Haan	01/13/2001	Monday , the Sixteenth of July , 2001
Hunold	01/03/2006	Monday , the Tenth of July , 2006
Ernst	05/21/2007	Monday , the Twenty-Sixth of November , 2007
Austin	06/25/2005	Monday , the Twenty-Sixth of December , 2005
Pataballa	02/05/2006	Monday , the Seventh of August , 2006
Lorentz	02/07/2007	Monday , the Thirteenth of August , 2007
Greenberg	08/17/2002	Monday , the Twenty-Fourth of February , 2003

11. Display the last name, hire date, and day of the week on which the employee started. Label the column DAY. Order the results by the day of the week, starting with Monday.

SQL Query

```
SELECT last_name,hire_date,TO_CHAR(hire_date,'Day') AS "DAY"
FROM employees
ORDER BY TO_CHAR(hire_date-1,'d');
```

OUTPUT

LAST_NAME	HIRE_DATE	DAY
Ladwig	07/14/2003	Monday
Cambrault	10/15/2007	Monday
Mallin	06/14/2004	Monday
Ernst	05/21/2007	Monday
Greene	03/19/2007	Monday
Banda	04/21/2008	Monday
Walsh	04/24/2006	Monday
Ande	03/24/2008	Monday