Module 4 (SQL)

Database Name: HR

1. Display all information in the tables EMP and DEPT.

select \*from employees;

select \*from departments;

1. Display only the hire date and employee name for each employee.

SELECT hire\_date,concat(first\_name,"",last\_name) as employee\_name from employees;

3. Display the ename concatenated with the job ID, separated by a comma and space, and name the column Employee and Title

select concat(first\_name,last\_name,job\_id) as "Employee and Title" from employees;

4. Display the hire date, name and department number for all clerks.

select hire\_date,concat(first\_name,"",last\_name) as clerksfull\_name,department\_id from employees where job\_id like '\_\_\_clerk%';

5. Create a query to display all the data from the EMP table. Separate each column by a comma. Name the column THE OUTPUT

select concat(employee\_id,',',first\_name,',',last\_name,',',email,',',phone\_number,',',hire\_date,',',job\_id,',',salary,',',commission\_pct,',',manager\_id,',',department\_id)as THE\_OUTPUT from employees;

6. Display the names and salaries of all employees with a salary greater than 2000.

select concat(first\_name,"",last\_name) as full\_name,salary from employees where salary>2000;

7. Display the names and dates of employees with the column headers "Name" and "Start Date"

select concat(first\_name,"",last\_name) as 'NAME',hire\_date as start\_date from employees;

8. Display the names and hire dates of all employees in the order they were hired.

select concat(first\_name,"",last\_name) as emp\_name,hire\_date from employees order by hire\_date;

9. Display the names and salaries of all employees in reverse salary order.

select concat(first\_name,"",last\_name) as e\_name,salary from employees order by salary desc;

10. Display 'ename" and "deptno" who are all earned commission and display salary in reverse order.

select concat(first\_name,"",last\_name) as emp\_name,department\_id from employees where commission\_pct is not null order by salary desc;

11. Display the last name and job title of all employees who do not have a manager

SELECT last\_name,job\_id from employees where manager\_id is null;

12. 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 $5,000

select last\_name,job\_id,salary from employees where job\_id in('sa\_rep','st\_clerk') and salary not in(2500,3500,5000);

13. Display the maximum, minimum and average salary and commission earned.

select max(SALARY),min(SALARY),avg(SALARY),max(commission\_pct),min(commission\_pct),avg(commission\_pct) from employees;

14. Display the department number, total salary payout and total commission payout for each department.

select department\_id,sum(salary),sum(commission\_pct) from employees group by department\_id;

15. Display the department number and number of employees in each department.

select department\_id,count(employee\_id) from employees group by department\_id;

16. Display the department number and total salary of employees in each department.

select department\_id,sum(salary) from employees group by department\_id;

17. Display the employee's name who doesn't earn a commission. Order the result set without using the column name

select concat(first\_name,"",last\_name)as employee\_name from employees where commission\_pct is null order by 1;

18. Display the employees name, department id and commission. If an Employee doesn't earn the commission, then display as 'No commission'. Name the columns appropriately

SELECT employee\_id, first\_name, department\_id,

CASE

WHEN commission\_pct IS NULL THEN 'No commission'

ELSE commission\_pct

END AS commission

FROM employees;

19. Display the employee's name, salary and commission multiplied by 2. If an Employee doesn't earn the commission, then display as 'No commission. Name the columns appropriately

SELECT first\_name AS "Name", salary,

CASE

WHEN commission\_pct IS NULL THEN 'No commission\_pct'

ELSE commission\_pct \* 2

END AS "Commission\_pct x 2"

FROM employees;

20. Display the employee's name, department id who have the first name same as another employee in the same department

select

concat(e.first\_name,"",e.last\_name) as employee\_name,

e.department\_id

from

employees e

join

employees m

on

e.first\_name=m.first\_name

and e.department\_id=m.department\_id

and e.employee\_id<>m.employee\_id;

21. Display the sum of salaries of the employees working under each Manager.

select

sum(salary)

from

employees

group by manager\_id;

22. Select the Managers name, the count of employees working under and the department ID of the manager.

select

concat(first\_name,"",last\_name) as manager\_name,

count(e.employee\_id)as employee\_count,d.department\_name

from employees e join departments d on e.manager\_id=d.manager\_id and e.department\_id=d.department\_id group by e.employee\_id,d.department\_name;

23. Select the employee name, department id, and the salary. Group the result with the manager name and the employee last name should have second letter 'a!

select concat(first\_name,"",last\_name)as employee\_name,department\_id,salary from employees where last\_name like '\_a%';

24. Display the average of sum of the salaries and group the result with the department id. Order the result with the department id.

select department\_id,avg(salary) from employees group by department\_id order by department\_id;

25. Select the maximum salary of each department along with the department id.

select department\_id,max(salary) from employees group by department\_id;

26. Display the commission, if not null display 10% of salary, if null display a default value 1.

select coalesce(commission\_pct,salary \* 0.1,1) as "commission" from employees;

27. . Write a query that displays the employee's last names only from the string's 2-5th position with the first letter capitalized and all other letters lowercase, Give each column an appropriate label.

select substring(last\_name,2,4) as "last name substring" from employees;

28. Write a query that displays the employee's first name and last name along with a " in between for e.g.: first name : Ram; last name : Kumar then Ram-Kumar. Also displays the month on which the employee has joined.

select concat(first\_name,"",last\_name)as"full name",monthname(hire\_date)as "join month" from employees;

29. Write a query to display the employee's last name and if half of the salary is greater than ten thousand then increase the salary by 10% else by 11.5% along with the bonus amount of 1500 each. Provide each column an appropriate label.

select last\_name,case when salary/2>10000 then salary \* 1.10 else salary \*1.115 end as "Updated Salary",1500 as "Bonus" from employees;

30. Display the employee ID by Appending two zeros after 2nd digit and 'E' in the end, department id, salary and the manager name all in Upper case, if the Manager name consists of 'z' replace it with '$!

SELECT

CONCAT(SUBSTR(employee\_id, 1, 2), '00', SUBSTR(employee\_id, 3), 'E') AS modified\_employee\_id,

UPPER(department\_id) AS department\_id,

UPPER(salary) AS salary,

UPPER(REPLACE(CONCAT(first\_name, ' ', last\_name), 'z', '$!')) AS manager\_name

FROM employees;

31. Write a query that displays the employee's last names with the first letter capitalized and all other letters lowercase, and the length of the names, for all employees whose name starts with J, A, or M. Give each column an appropriate label. Sort the results by the employees' last names

SELECT LAST\_NAME AS "Last Name", LENGTH(last\_name) AS "Length"

FROM employees

WHERE last\_name LIKE 'J%'

OR last\_name LIKE 'A%'

OR last\_name LIKE 'M%'

ORDER BY last\_name;

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

SELECT last\_name,lpad(salary,15,'₹') as salary from employees;

33. Display the employee's name if it is a palindrome.

SELECT concat(first\_name,"",last\_name)as employee\_name

FROM employees

WHERE first\_name = REVERSE(first\_name)

OR last\_name = REVERSE(last\_name);

34. Display First names of all employees with initcaps.

SELECT first\_name

FROM employees;

35. From LOCATIONS table, extract the word between first and second space from the STREET ADDRESS column.

select substr(street\_address,instr(street\_address,'')+1,instr(substr(street\_address,instr(street\_address,'')+1),'')-1) from locations;

36. Extract first letter from First Name column and append it with the Last Name. Also add "@systechusa.com" at the end. Name the column as e-mail address. All characters should be in lower case. Display this along with their First Name.

SELECT LOWER(CONCAT(SUBSTRING(First\_Name, 1, 1), Last\_Name, '@systechusa.com')) AS Email\_Address, First\_Name

FROM employees;

37. Display the names and job titles of all employees with the same job as Trenna.

SELECT first\_name, job\_id

FROM employees

WHERE job\_id = (

SELECT job\_id

FROM employees

WHERE first\_name = 'Trenna');

38. Display the names and department name of all employees working in the same city as Trenna.

select e.first\_name,d.department\_name from employees e join departments d using(department\_id) join locations l on l.location\_id=d.location\_id where l.city=(select l.city from employees where first\_name='trenna');

39. Display the name of the employee whose salary is the lowest.

select concat(first\_name,"",last\_name)as 'ename' from employees where salary=(select min(salary) from employees);

39. Display the names of all employees except the lowest paid.

select concat(first\_name,"",last\_name) as 'ename',salary from employees where salary>(select min(salary) from employees);

40. Write a query to display the last name, department number, department name for all employees.

select e.last\_name,e.department\_id,d.department\_name

from employees e

join departments d

using(department\_id);

41. Create a unique list of all jobs that are in department 4. Include the location of the department in the output.

select distinct e.job\_id,d.location\_id

from employees e

join departments d

on e.department\_id=d.department\_id

where d.department\_id=4;

42. Write a query to display the employee last name,department name,location id and city of all employees who earn commission.

SELECT

e.last\_name,

d.department\_name,

d.location\_id,

l.city

FROM

employees e

JOIN

departments d ON e.department\_id = d.department\_id

JOIN

locations l ON d.location\_id = l.location\_id

WHERE

e.commission\_pct IS NOT NULL;

43. Display the employee last name and department name of all employees who have an 'a' in their last name.

select e.last\_name,d.department\_name

from employees e

join departments d

on e.department\_id=d.department\_id

where e.last\_name like '%a%';

44. Write a query to display the last name,job,department number and department name for all employees who work in ATLANTA.

SELECT e.last\_name, e.job\_id, e.department\_id, d.department\_name

FROM employees e

JOIN departments d

ON e.department\_id = d.department\_id

WHERE location\_id = (

SELECT location\_id

FROM locations

WHERE city = 'Atlanta');

45. Display the employee last name and employee number along with their manager's last name and manager number.

SELECT e.last\_name AS employee\_last\_name,

e.employee\_id AS employee\_number,

m.last\_name AS manager\_last\_name,

m.employee\_id AS manager\_number

FROM employees e

JOIN employees m ON e.manager\_id = m.employee\_id;

46. Display the employee last name and employee number along with their manager's last name and manager number (including the employees who have no manager).

SELECT

e.last\_name AS employee\_last\_name,

e.employee\_id AS employee\_number,

m.last\_name AS manager\_last\_name,

m.employee\_id AS manager\_number

FROM

employees e

JOIN

employees m ON e.manager\_id = m.employee\_id;

47. Create a query that displays employees last name,department number,and all the employees who work in the same department as a given employee.

SELECT e.last\_name, e.department\_id

FROM employees e

WHERE e.department\_id = (

SELECT department\_id

FROM employees

WHERE employee\_id = :given\_employee\_id

);

48. Create a query that displays the name,job,department name,salary,grade for all employees. Derive grade based on salary(>=50000=A, >=30000=B.

select first\_name,job\_id,department\_name,salary,

case

when salary>=50000 then 'A'

when salary>=30000 then 'B'

else'c'

end as 'grade'from employees join departments using(department\_id);

49. Display the names and hire date for all employees who were hired before their managers along withe their manager names and hire date. Label the columns as Employee name, emp\_hire\_date,manager name,man\_hire\_date.

SELECT concat(e.first\_name,"",e.last\_name) AS "Employee name",

e.hire\_date AS "emp\_hire\_date",

concat(m.first\_name,"",m.last\_name) AS "manager name",

m.hire\_date AS "man\_hire\_date"

FROM employees e

JOIN employees m ON e.manager\_id = m.employee\_id

WHERE e.hire\_date < m.hire\_date;

50. Write a query to display the last name and hire date of any employee in the same department as SALES.

select last\_name,hire\_date

from employees

where department\_id=(

select department\_id

from departments

where department\_name='Sales');

51. Create a query to display the employee numbers and last names of all employees who earn more than the average salary. Sort the results in ascending order of salary.

select employee\_id,last\_name

from employees

where salary>(select avg(salary) from employees)

order by salary asc;

52. Write a query that displays the employee numbers and last names of all employees who work in a department with any employee whose last name contains a' u.

select employee\_id,last\_name

from employees

where department\_id in(

select department\_id from employees

where last\_name like '%U%');

53. Display the last name, department number, and job ID of all employees whose department location is ATLANTA.

SELECT last\_name, department\_id, job\_id

FROM employees

WHERE department\_id IN (

SELECT department\_id

FROM departments

WHERE location\_id = (

SELECT location\_id

FROM locations

WHERE city = 'ATLANTA'));

54. Display the last name and salary of every employee who reports to FILLMORE.

select last\_name,salary

from employees

where manager\_id=(

select manager\_id from employees

where last\_name='FILLMORE');

55. Display the department number, last name, and job ID for every employee in the OPERATIONS department.

select department\_id,last\_name,job\_id

from employees

where department\_id=(

select department\_id from departments where department\_name='OPERATIONS');

56. Modify the above query to display the employee numbers, last names, and salaries of all employees who earn more than the average salary and who work in a department with any employee with a 'u'in their name.

SELECT employee\_id,last\_name,salary

from employees

where salary in(select avg(salary)from employees

where department\_id in(select department\_id from employees

where first\_name like '%U%'));

57. Display the names of all employees whose job title is the same as anyone in the sales dept.

select e.first\_name,e.last\_name

from employees e

where job\_id in( select job\_id from employees

where department\_id=(select department\_id from departments

where department\_name='sales'));

58. Write a compound query to produce a list of employees showing raise percentages, employee IDs, and salaries. Employees in department 1 and 3 are given a 5% raise, employees in department 2 are given a 10% raise, employees in departments 4 and 5 are given a 15% raise, and employees in department 6 are not given a raise.

SELECT

Employee\_ID,

Salary,

CASE

WHEN Department\_ID IN (1, 3) THEN 0.05

WHEN Department\_ID = 2 THEN 0.10

WHEN Department\_ID IN (4, 5) THEN 0.15

WHEN Department\_ID = 6 THEN 0

ELSE 0

END AS Raise\_Percentage

FROM employees;

59. Write a query to display the top three earners in the EMPLOYEES table. Display their last names and salaries.

select last\_name,salary

from employees

order by salary desc

LIMIT 3;

60. Display the names of all employees with their salary and commission earned. Employees with a null commission should have O in the commission column.

SELECT concat(first\_name,"",last\_name)as employee\_name, salary, COALESCE(commission\_pct, 0) AS commission

FROM employees;

61. Display the Managers (name) with top three salaries along with their salaries and department information.

SELECT

m.first\_name,

m.last\_name,

m.salary,

d.department\_name

FROM

employees m

JOIN

departments d ON m.department\_id = d.department\_id

WHERE

m.employee\_id IN (

SELECT manager\_id

FROM employees

GROUP BY manager\_id

)

ORDER BY

m.salary DESC

LIMIT 3;