**Prepare Sample Data To Practice SQL Skill.**

**Sample Table – Worker**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **WORKER\_ID** | **FIRST\_NAME** | **LAST\_NAME** | **SALARY** | **JOINING\_DATE** | **DEPARTMENT** |
| 001 | Monika | Arora | 100000 | 2014-02-20 09:00:00 | HR |
| 002 | Niharika | Verma | 80000 | 2014-06-11 09:00:00 | Admin |
| 003 | Vishal | Singhal | 300000 | 2014-02-20 09:00:00 | HR |
| 004 | Amitabh | Singh | 500000 | 2014-02-20 09:00:00 | Admin |
| 005 | Vivek | Bhati | 500000 | 2014-06-11 09:00:00 | Admin |
| 006 | Vipul | Diwan | 200000 | 2014-06-11 09:00:00 | Account |
| 007 | Satish | Kumar | 75000 | 2014-01-20 09:00:00 | Account |
| 008 | Geetika | Chauhan | 90000 | 2014-04-11 09:00:00 | Admin |

**Sample Table – Bonus**

|  |  |  |
| --- | --- | --- |
| **WORKER\_REF\_ID** | **BONUS\_DATE** | **BONUS\_AMOUNT** |
| 1 | 2016-02-20 00:00:00 | 5000 |
| 2 | 2016-06-11 00:00:00 | 3000 |
| 3 | 2016-02-20 00:00:00 | 4000 |
| 1 | 2016-02-20 00:00:00 | 4500 |
| 2 | 2016-06-11 00:00:00 | 3500 |

**Sample Table – Title**

|  |  |  |
| --- | --- | --- |
| **WORKER\_REF\_ID** | **WORKER\_TITLE** | **AFFECTED\_FROM** |
| 1 | Manager | 2016-02-20 00:00:00 |
| 2 | Executive | 2016-06-11 00:00:00 |
| 8 | Executive | 2016-06-11 00:00:00 |
| 5 | Manager | 2016-06-11 00:00:00 |
| 4 | Asst. Manager | 2016-06-11 00:00:00 |
| 7 | Executive | 2016-06-11 00:00:00 |
| 6 | Lead | 2016-06-11 00:00:00 |
| 3 | Lead | 2016-06-11 00:00:00 |

**SQL Script to Seed Sample Data.**

CREATE DATABASE ORG;

SHOW DATABASES;

USE ORG;

CREATE TABLE Worker (

WORKER\_ID INT NOT NULL PRIMARY KEY AUTO\_INCREMENT,

FIRST\_NAME CHAR(25),

LAST\_NAME CHAR(25),

SALARY INT(15),

JOINING\_DATE DATETIME,

DEPARTMENT CHAR(25)

);

INSERT INTO Worker

(WORKER\_ID, FIRST\_NAME, LAST\_NAME, SALARY, JOINING\_DATE, DEPARTMENT) VALUES

(001, 'Monika', 'Arora', 100000, '14-02-20 09.00.00', 'HR'),

(002, 'Niharika', 'Verma', 80000, '14-06-11 09.00.00', 'Admin'),

(003, 'Vishal', 'Singhal', 300000, '14-02-20 09.00.00', 'HR'),

(004, 'Amitabh', 'Singh', 500000, '14-02-20 09.00.00', 'Admin'),

(005, 'Vivek', 'Bhati', 500000, '14-06-11 09.00.00', 'Admin'),

(006, 'Vipul', 'Diwan', 200000, '14-06-11 09.00.00', 'Account'),

(007, 'Satish', 'Kumar', 75000, '14-01-20 09.00.00', 'Account'),

(008, 'Geetika', 'Chauhan', 90000, '14-04-11 09.00.00', 'Admin');

CREATE TABLE Bonus (

WORKER\_REF\_ID INT,

BONUS\_AMOUNT INT(10),

BONUS\_DATE DATETIME,

FOREIGN KEY (WORKER\_REF\_ID)

REFERENCES Worker(WORKER\_ID)

ON DELETE CASCADE

);

INSERT INTO Bonus

(WORKER\_REF\_ID, BONUS\_AMOUNT, BONUS\_DATE) VALUES

(001, 5000, '16-02-20'),

(002, 3000, '16-06-11'),

(003, 4000, '16-02-20'),

(001, 4500, '16-02-20'),

(002, 3500, '16-06-11');

CREATE TABLE Title (

WORKER\_REF\_ID INT,

WORKER\_TITLE CHAR(25),

AFFECTED\_FROM DATETIME,

FOREIGN KEY (WORKER\_REF\_ID)

REFERENCES Worker(WORKER\_ID)

ON DELETE CASCADE

);

INSERT INTO Title

(WORKER\_REF\_ID, WORKER\_TITLE, AFFECTED\_FROM) VALUES

(001, 'Manager', '2016-02-20 00:00:00'),

(002, 'Executive', '2016-06-11 00:00:00'),

(008, 'Executive', '2016-06-11 00:00:00'),

(005, 'Manager', '2016-06-11 00:00:00'),

(004, 'Asst. Manager', '2016-06-11 00:00:00'),

(007, 'Executive', '2016-06-11 00:00:00'),

(006, 'Lead', '2016-06-11 00:00:00'),

(003, 'Lead', '2016-06-11 00:00:00');

Questions:

#### Q-1. Write an SQL query to fetch “FIRST\_NAME” from Worker table using the alias name as <WORKER\_NAME>

#### Ans) SELECT FIRST\_NAME AS WORKER\_NAME FROM Worker;

#### Q-2. Write an SQL query to fetch “FIRST\_NAME” from Worker table in upper case.

#### Ans) SELECT UPPER(FIRST\_NAME) FROM Worker;

#### Q-3. Write an SQL query to fetch unique values of DEPARTMENT from Worker table.

#### Ans) SELECT DISTINCT DEPARTMENT FROM Worker;

#### Q-4. Write an SQL query to print the first three characters of  FIRST\_NAME from Worker table.

#### Ans) SELECT SUBSTR(FIRST\_NAME, 1, 3) FROM Worker;

#### Q-5. Write an SQL query to find the position of the alphabet (‘a’) in the first name column ‘Amitabh’ from Worker table.

#### Ans) SELECT INSTR(FIRST\_NAME, 'a') FROM Worker WHERE FIRST\_NAME = 'Amitabh';

#### Q-6. Write an SQL query to print the FIRST\_NAME from Worker table after removing white spaces from the right side.

#### Ans) SELECT RTRIM(FIRST\_NAME) FROM Worker;

#### Q-7. Write an SQL query to print the DEPARTMENT from Worker table after removing white spaces from the left side.

#### Ans) SELECT LTRIM(DEPARTMENT) FROM Worker;

#### Q-8. Write an SQL query that fetches the unique values of DEPARTMENT from Worker table and prints its length.

#### Ans) SELECT DISTINCT DEPARTMENT, LENGTH(DEPARTMENT) FROM Worker;

#### Q-9. Write an SQL query to print the FIRST\_NAME from Worker table after replacing ‘a’ with ‘A’.

#### Ans) SELECT REPLACE(FIRST\_NAME, 'a', 'A') FROM Worker;

#### Q-10. Write an SQL query to print the FIRST\_NAME and LAST\_NAME from Worker table into a single column COMPLETE\_NAME. A space char should separate them.

#### Ans) SELECT CONCAT(FIRST\_NAME, ' ', LAST\_NAME) AS COMPLETE\_NAME FROM Worker;

#### Q-11. Write an SQL query to print all Worker details from the Worker table order by FIRST\_NAME Ascending.

#### Ans) SELECT \* FROM Worker ORDER BY FIRST\_NAME ASC;

#### Q-12. Write an SQL query to print all Worker details from the Worker table order by FIRST\_NAME Ascending and DEPARTMENT Descending.

#### Ans) SELECT \* FROM Worker ORDER BY FIRST\_NAME ASC, DEPARTMENT DESC;

#### Q-13. Write an SQL query to print details for Workers with the first name as “Vipul” and “Satish” from Worker table.

#### Ans) SELECT \* FROM Worker WHERE FIRST\_NAME IN ('Vipul', 'Satish');

#### Q-14. Write an SQL query to print details of workers excluding first names, “Vipul” and “Satish” from Worker table.

#### Ans) SELECT \* FROM Worker WHERE FIRST\_NAME NOT IN ('Vipul', 'Satish');

#### Q-15. Write an SQL query to print details of Workers with DEPARTMENT name as “Admin”.

#### Ans) SELECT \* FROM Worker WHERE DEPARTMENT = 'Admin';

#### Q-16. Write an SQL query to print details of the Workers whose FIRST\_NAME contains ‘a’.

#### Ans) SELECT \* FROM Worker WHERE FIRST\_NAME LIKE '%a%';

#### Q-17. Write an SQL query to print details of the Workers whose FIRST\_NAME ends with ‘a’.

#### Ans) SELECT \* FROM Worker WHERE FIRST\_NAME LIKE '%a';

#### Q-18. Write an SQL query to print details of the Workers whose FIRST\_NAME ends with ‘h’ and contains six alphabets.

#### Ans) SELECT \* FROM Worker WHERE FIRST\_NAME LIKE '\_\_\_h';

#### Q-19. Write an SQL query to print details of the Workers whose SALARY lies between 100000 and 500000.

#### Ans) SELECT \* FROM Worker WHERE SALARY BETWEEN 100000 AND 500000;

#### Q-20. Write an SQL query to print details of the Workers who have joined in Feb’2014.

#### Ans) SELECT \* FROM Worker WHERE JOINING\_DATE LIKE '2014-02%';

#### Q-21. Write an SQL query to fetch the count of employees working in the department ‘Admin’.

#### Ans: SELECT COUNT(\*) FROM employees WHERE department = 'Admin';

#### Q-22. Write an SQL query to fetch worker names with salaries >= 50000 and <= 100000.

#### Ans: SELECT worker\_name FROM workers WHERE salary >= 50000 AND salary <= 100000;

#### Q-23. Write an SQL query to fetch the no. of workers for each department in the descending order.

#### Ans: SELECT department, COUNT(\*) AS num\_of\_workers

#### FROM employees

#### GROUP BY department

#### ORDER BY num\_of\_workers DESC;

#### Q-24. Write an SQL query to print details of the Workers who are also Managers.

#### Ans: SELECT \* FROM workers WHERE worker\_id IN (SELECT manager\_id FROM managers);

#### Q-25. Write an SQL query to fetch duplicate records having matching data in some fields of a table.

#### Ans: SELECT column1, column2, column3, COUNT(\*) as count

#### FROM table\_name

#### GROUP BY column1, column2, column3

#### HAVING COUNT(\*) > 1;

#### Q-26. Write an SQL query to show only odd rows from a table.

#### Ans: SELECT \* FROM table\_name WHERE id % 2 = 1;

#### Q-27. Write an SQL query to show only even rows from a table.

#### Ans: SELECT \* FROM table\_name WHERE id % 2 = 0;

#### Q-28. Write an SQL query to clone a new table from another table.

#### Ans: CREATE TABLE new\_table AS

#### SELECT \*

#### FROM original\_table;

#### Q-29. Write an SQL query to fetch intersecting records of two tables.

#### Ans: SELECT column1, column2, column3

#### FROM table1

#### INTERSECT

#### SELECT column1, column2, column3

#### FROM table2;

#### Q-30. Write an SQL query to show records from one table that another table does not have.

#### Ans: SELECT column1, column2, column3

#### FROM table1

#### WHERE (column1, column2, column3) NOT IN

#### (SELECT column1, column2, column3 FROM table2);

#### Q-31. Write an SQL query to show the current date and time.

#### Ans) SELECT NOW();

#### Q-32. Write an SQL query to show the top n (say 10) records of a table.

#### Ans) SELECT \* FROM employees LIMIT 10;

#### Q-33. Write an SQL query to determine the nth (say n=5) highest salary from a table.

#### Ans) SELECT salary FROM employees ORDER BY salary DESC LIMIT 1 OFFSET 4;

#### Q-34. Write an SQL query to determine the 5th highest salary without using TOP or limit method.

#### Ans) SELECT DISTINCT salary FROM employees e1

#### WHERE 5 = (SELECT COUNT(DISTINCT salary) FROM employees e2 WHERE e2.salary >= e1.salary);

#### Q-35. Write an SQL query to fetch the list of employees with the same salary.

#### Ans) SELECT salary, GROUP\_CONCAT(name) as employees\_with\_same\_salary FROM employees GROUP BY salary;

#### Q-36. Write an SQL query to show the second highest salary from a table.

#### Ans) SELECT salary FROM employees ORDER BY salary DESC LIMIT 1 OFFSET 1;

#### Q-37. Write an SQL query to show one row twice in results from a table.

#### Ans) SELECT \* FROM employees LIMIT 1

#### UNION ALL

#### SELECT \* FROM employees LIMIT 1;

#### Q-38. Write an SQL query to fetch intersecting records of two tables.

#### Ans) SELECT \* FROM table1 INNER JOIN table2 ON table1.column\_name = table2.column\_name;

#### Q-39. Write an SQL to fetch the first 50% records from a table.query

#### Ans) SELECT \* FROM employees LIMIT 50%;

#### Q-40. Write an SQL query to fetch the departments that have less than five people in it.

#### SELECT department, COUNT(\*) AS num\_of\_employees

#### FROM employees

#### GROUP BY department

#### HAVING num\_of\_employees < 5;

#### Q-41. Write an SQL query to show all departments along with the number of people in there.

#### SELECT department, COUNT(\*) AS num\_of\_employees

#### FROM employees

#### GROUP BY department;

#### Q-42. Write an SQL query to show the last record from a table.

#### SELECT \*

#### FROM table\_name

#### ORDER BY id DESC

#### LIMIT 1;

#### Q-43. Write an SQL query to fetch the first row of a table.

#### SELECT \* FROM table\_name LIMIT 1;

#### Q-44. Write an SQL query to fetch the last five records from a table.

#### SELECT \* FROM table\_name ORDER BY id DESC LIMIT 5;

#### Q-45. Write an SQL query to print the name of employees having the highest salary in each department.

#### SELECT e.worker\_name, e.department, e.salary

#### FROM employees e

#### INNER JOIN

#### (SELECT department, MAX(salary) AS max\_salary FROM employees GROUP BY department) s

#### ON e.department = s.department AND e.salary = s.max\_salary;

#### Q-46. Write an SQL query to fetch three max salaries from a table.

#### SELECT MAX(salary) AS max\_salary

#### FROM table\_name

#### ORDER BY max\_salary DESC

#### LIMIT 3;

#### Q-47. Write an SQL query to fetch three min salaries from a table.

#### SELECT MIN(salary) AS min\_salary

#### FROM table\_name

#### ORDER BY min\_salary ASC

#### LIMIT 3;

#### Q-48. Write an SQL query to fetch nth max salaries from a table.

#### SELECT salary

#### FROM table\_name

#### ORDER BY salary DESC

#### LIMIT n, 1;

#### Q-49. Write an SQL query to fetch departments along with the total salaries paid for each of them.

#### SELECT department, SUM(salary) AS total\_salary

#### FROM employees

#### GROUP BY department;

#### Q-50. Write an SQL query to fetch the names of workers who earn the highest salary.

#### SELECT worker\_name

#### FROM workers

#### WHERE salary = (SELECT MAX(salary) FROM workers);