

## SQL Server Assignment

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-- Create Worker table

```
CREATE TABLE Worker (  
    WORKER_ID INT IDENTITY(1,1) PRIMARY KEY,  
    FIRST_NAME CHAR(25),  
    LAST_NAME CHAR(25),  
    SALARY INT,  
    JOINING_DATE DATETIME,  
    DEPARTMENT CHAR(25)  
);
```

-- Insert data into Worker table

```
INSERT INTO Worker (FIRST_NAME, LAST_NAME, SALARY, JOINING_DATE,  
DEPARTMENT)  
VALUES  
('Monika', 'Arora', 100000, '2020-02-14 09:00:00', 'HR'),  
('Niharika', 'Verma', 80000, '2011-06-14 09:00:00', 'Admin'),  
('Vishal', 'Singhal', 300000, '2020-02-14 09:00:00', 'HR'),  
('Amitabh', 'Singh', 500000, '2020-02-14 09:00:00', 'Admin'),  
('Vivek', 'Bhati', 500000, '2011-06-14 09:00:00', 'Admin'),  
('Vipul', 'Diwan', 200000, '2011-06-14 09:00:00', 'Account'),  
('Satish', 'Kumar', 75000, '2020-01-14 09:00:00', 'Account'),  
('Geetika', 'Chauhan', 90000, '2011-04-14 09:00:00', 'Admin');
```

-- Create Bonus table

```
CREATE TABLE Bonus (  
    BONUS_ID INT IDENTITY(1,1) PRIMARY KEY,  
    WORKER_REF_ID INT,  
    BONUS_AMOUNT INT,  
    BONUS_DATE DATETIME,  
    FOREIGN KEY (WORKER_REF_ID) REFERENCES Worker(WORKER_ID) ON DELETE  
CASCADE  
);
```

-- Insert data into Bonus table

```
INSERT INTO Bonus (WORKER_REF_ID, BONUS_AMOUNT, BONUS_DATE)  
VALUES  
(1, 5000, '2020-02-16'),  
(2, 3000, '2011-06-16'),  
(3, 4000, '2020-02-16'),  
(1, 4500, '2020-02-16'),  
(2, 3500, '2011-06-16');
```

```

-- Create Title table
CREATE TABLE Title (
    TITLE_ID INT IDENTITY(1,1) PRIMARY KEY,
    WORKER_REF_ID INT,
    WORKER_TITLE CHAR(25),
    AFFECTED_FROM DATETIME,
    FOREIGN KEY (WORKER_REF_ID) REFERENCES Worker(WORKER_ID) ON DELETE
    CASCADE
);
-- Insert data into Title table
INSERT INTO Title (WORKER_REF_ID, WORKER_TITLE, AFFECTED_FROM)
VALUES
    (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');

```

```

select * from Worker
select * from Title
select * from Bonus

```

```

-- 1 Write a query to display all the first_name in upper case
SELECT UPPER (First_Name) 'First_Name' FROM Worker

```

Output:

```

First_Name
-----
MONIKA
NIHARIKA
VISHAL
AMITABH
VIVEK
VIPUL
SATISH
GEETIKA

```

```

-- 2 Write a query to display unique department from workers table
SELECT DISTINCT DEPARTMENT FROM Worker

```

Output:

```

DEPARTMENT
-----
Account
Admin
HR

```

-- 3 Write an SQL query to print the first three characters of FIRST\_NAME from Worker table  
SELECT SUBSTRING(First\_Name,1,3) FROM Worker

Output:

```
---  
Mon  
Nih  
Vis  
Ami  
Viv  
Vip  
Sat  
Gee
```

-- 4 Write an SQL query to find the position of the alphabet ('a') in the first name column 'Amitabh' from Worker table.  
SELECT CHARINDEX('a', first\_name COLLATE Latin1\_General\_BIN) AS position  
FROM Worker WHERE first\_name = 'Amitabh';

Output:

```
position  
-----  
5
```

-- 5 Write an SQL query that fetches the unique values of DEPARTMENT from Worker table and prints its length

SELECT DISTINCT (DEPARTMENT), LEN (DEPARTMENT) as 'Length' FROM  
Worker

Output:

DEPARTMENT	Length
Account	7
Admin	5
HR	2

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

SELECT \* FROM Worker Order By FIRST\_NAME ASC , Department DESC

Output:

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
4	Amitabh	Singh	500000	2020-02-14 09:00:00.000	Admin
8	Geetika	Chauhan	90000	2011-04-14 09:00:00.000	Admin
1	Monika	Arora	100000	2020-02-14 09:00:00.000	HR
2	Niharika	Verma	80000	2011-06-14 09:00:00.000	Admin
7	Satish	Kumar	75000	2020-01-14 09:00:00.000	Account
6	Vipul	Diwan	200000	2011-06-14 09:00:00.000	Account
3	Vishal	Singhal	300000	2020-02-14 09:00:00.000	HR
5	Vivek	Bhati	500000	2011-06-14 09:00:00.000	Admin

-- 7 Write a query to get workers whose name are Vipul and Satish

SELECT \* FROM Worker WHERE FIRST\_NAME = 'Vipul' or FIRST\_NAME = 'Satish'

Output:

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
6	Vipul	Diwan	200000	2011-06-14 09:00:00.000	Account
7	Satish	Kumar	75000	2020-01-14 09:00:00.000	Account

-- 8 Write an SQL query to print details of the Workers whose FIRST\_NAME contains 'a'

SELECT \* FROM Worker WHERE FIRST\_NAME Like 'a%'

Output:

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
4	Amitabh	Singh	500000	2020-02-14 09:00:00.000	Admin

-- 9 Write an SQL query to print details of the Workers whose FIRST\_NAME ends with 'h' and contains six alphabets

SELECT \* FROM Worker WHERE FIRST\_NAME LIKE '\_\_\_\_h'

Output:

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
7	Satish	Kumar	75000	2020-01-14 09:00:00.000	Account

-- 10 Write an SQL query to print details of the Workers whose SALARY lies between 100000 and 500000

SELECT \* FROM Worker WHERE salary>= 100000 and salary<= 500000

Output:

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	2020-02-14 09:00:00.000	HR
3	Vishal	Singhal	300000	2020-02-14 09:00:00.000	HR
4	Amitabh	Singh	500000	2020-02-14 09:00:00.000	Admin
5	Vivek	Bhati	500000	2011-06-14 09:00:00.000	Admin
6	Vipul	Diwan	200000	2011-06-14 09:00:00.000	Account

-- 11 Write an SQL query to print details of the Workers who have joined in Feb'2014  
 SELECT \* FROM Worker WHERE JOINING\_DATE >= '2014-02-01' AND  
 JOINING\_DATE < '2014-03-01';

No Output

Output:

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
-----					

-- 12 Write an SQL query to fetch the count of employees working in the department 'Admin'  
 SELECT COUNT(\*) Admin\_Count from Worker where DEPARTMENT='Admin'

Output:

```
Admin_Count
-----
          4
```

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

SELECT DEPARTMENT, COUNT(\*) Count FROM Worker GROUP BY  
 DEPARTMENT ORDER BY Count DESC

Output:

```
DEPARTMENT          Count
-----
Admin                4
HR                   2
Account              2
```

-- 14 Write a query to display workers who are managers

SELECT \* FROM Worker WHERE Department= 'Admin'

Output:

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
-----					
2	Niharika	Verma	80000	2011-06-14 09:00:00.000	Admin
4	Amitabh	Singh	500000	2020-02-14 09:00:00.000	Admin
5	Vivek	Bhati	500000	2011-06-14 09:00:00.000	Admin
8	Geetika	Chauhan	90000	2011-04-14 09:00:00.000	Admin

-- 15 Write query to find duplicate rows title table

SELECT TITLE\_ID, WORKER\_REF\_ID, COUNT(\*) AS count  
 FROM Title

```
GROUP BY TITLE_ID, WORKER_REF_ID
HAVING COUNT(*) > 1;
```

Output:

```
TITLE_ID    WORKER_REF_ID count
-----
```

```
-- 16 Write an SQL query to show all workers who got the bonus along with bonus amount
      SELECT w.worker_id ID, MIN(first_name) AS "Name", SUM(B.BONUS_AMOUNT)
AS "Total Bonus" FROM Worker w inner join Bonus b ON w.WORKER_ID =
b.WORKER_REF_ID
      GROUP BY w.WORKER_ID
```

Output:

```
TITLE_ID    WORKER_REF_ID count
-----
ID           Name                               Total Bonus
-----
      1 Monika                               9500
      2 Niharika                             6500
      3 Vishal                               4000
```

```
-- 17 Write a query to find employees in worker table that do not exist in bonus table (ie did
not get bonus)
```

```
      SELECT W.FIRST_NAME "No Bonus" from Worker W where W.WORKER_ID not in
(SELECT B.WORKER_REF_ID from Bonus B)
```

No Bonus

```
-----
Amitabh
Vivek
Vipul
Satish
Geetika
```

```
-- 18 Write a query to find the highest 2 salaries
```

```
      SELECT DISTINCT TOP(2) SALARY FROM Worker ORDER BY SALARY DESC
```

```
SALARY
-----
500000
300000
```

-- 19 Find 2nd highest without using TOP or LIMIT

```
SELECT MAX(SALARY) "2nd Highest" FROM Worker WHERE SALARY < (SELECT
MAX(SALARY) FROM Worker)
```

2nd Highest

-----

300000

-- 20 Find people who have the same salary

```
SELECT W1.FIRST_NAME from Worker W1 inner join Worker W2 ON
(W1.WORKER_ID != W2.WORKER_ID and W1.SALARY = W2.SALARY )
```

FIRST\_NAME

-----

Amitabh

Vivek

-- 21 Write a query to fetch 1st 50% records without using Top

```
SELECT *
FROM (
  SELECT *, ROW_NUMBER() OVER (ORDER BY Worker_Id) AS row_num
  FROM Worker
) AS numbered_table
WHERE row_num <= (SELECT COUNT(*) FROM Worker) / 2;
```

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	2020-02-14 09:00:00.000	HR
2	Niharika	Verma	80000	2011-06-14 09:00:00.000	Admin
3	Vishal	Singhal	300000	2020-02-14 09:00:00.000	HR
4	Amitabh	Singh	500000	2020-02-14 09:00:00.000	Admin

-- 22 Write a query to select a department with more than 3 people in worker table

```
SELECT DEPARTMENT FROM Worker group by DEPARTMENT Having COUNT(*) >3
```

DEPARTMENT

-----

Admin

-- 23 Write a query to select 1st and last row of a worker table

```
SELECT * FROM
(
    SELECT *, ROW_NUMBER() OVER (ORDER BY WORKER_ID ASC) AS RowAsc
FROM Worker
) AS FirstWorker WHERE RowAsc = 1
UNION
SELECT * FROM
(
    SELECT *, ROW_NUMBER() OVER (ORDER BY WORKER_ID DESC) AS
RowDesc FROM Worker
) AS LastWorker WHERE RowDesc = 1
```

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	2020-02-14 09:00:00.000	HR
8	Geetika	Chauhan	90000	2011-04-14 09:00:00.000	Admin

-- 24 Write a query to select last 5 entries from worker table

```
SELECT TOP(5) * from Worker order by WORKER_ID DESC
```

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
8	Geetika	Chauhan	90000	2011-04-14 09:00:00.000	Admin
7	Satish	Kumar	75000	2020-01-14 09:00:00.000	Account
6	Vipul	Diwan	200000	2011-06-14 09:00:00.000	Account
5	Vivek	Bhati	500000	2011-06-14 09:00:00.000	Admin
4	Amitabh	Singh	500000	2020-02-14 09:00:00.000	Admin

-- 25 Write a query to select people with highest salary in each group

```
SELECT MAX(SALARY) "Max Salary", MAX(FIRST_NAME) "FirstName",
DEPARTMENT from Worker group by DEPARTMENT
```

Max Salary	FirstName	DEPARTMENT
200000	Vipul	Account
500000	Vivek	Admin
300000	Vishal	HR

-- 26 Write a query to fetch departments along with the total salaries paid for each of them

```
SELECT DEPARTMENT , SUM(SALARY) "Total Salary" FROM Worker Group By
DEPARTMENT
```

DEPARTMENT	Total Salary
Account	275000
Admin	1170000
HR	400000



-- 27 Write a query to fetch the names of workers who earn the highest salary  
SELECT FIRST\_NAME "Higest Salary" FROM Worker WHERE SALARY=(SELECT  
MAX(SALARY) FROM Worker)

Higest Salary

-----

Amitabh

Vivek