

Finding the Highest Salary Department wise

Problem: We have a employee details with department and we need to get the list of employees who are getting max (highest) salary in each department

Input Table:

	EID	ENAME	EDEPT	ESAL
1	121	TOM	HR	1000
2	123	SAM	HR	2000
3	124	RAHUL	HR	3000
4	125	JAN	HR	4000
5	126	AMOL	FA	1000
6	127	ROHIT	FA	2000
7	128	DINESH	FA	5000
8	129	SURESH	FA	6000
9	111	RAMESH	BE	3000
10	112	SUNIL	BE	2000
11	113	RAJEEV	BE	1000
12	114	SAGAR	BE	1000
13	115	RAJ	BE	500
14	116	MANDAR	ADMIN	4000
15	117	SACHIN	ADMIN	9000
16	118	SISHIL	ADMIN	100...
17	119	SAMEER	ADMIN	6000
18	101	MAHESH	TA	5000

Desired Output:

	EID	ENAME	EDEPT	ESAL
1	101	MAHESH	TA	5000
2	125	JAN	HR	4000
3	129	SURESH	FA	6000
4	111	RAMESH	BE	3000
5	118	SISHIL	ADMIN	10000

Solution_1: Use Group BY and Window function

```
WITH CTE_C AS
(
    SELECT
        ES.EDEPT,
        MAX(ES.ESAL) AS MAX_SAL
    FROM DBO.TBL_EMP_SAL ES
    GROUP BY ES.EDEPT
)
SELECT
    ES2.*
FROM DBO.TBL_EMP_SAL ES2
INNER JOIN CTE_C C
ON ES2.EDEPT=C.EDEPT AND ES2.ESAL=C.MAX_SAL;
```

Solution_2: Window function

```
WITH CTE AS(
Select
e.*,
DENSE_RANK() OVER (PARTITION BY e.EDEPT ORDER BY ESAL DESC) AS Ranking
From
TBL_EMP_SAL e)

Select
c.EID,
c.ENAME,
c.EDEPT,
c.ESAL
from CTE c
WHERE c.Ranking=1
```

Table Creation script:

```
CREATE TABLE DBO.TBL_EMP_SAL
(
    EID INT NOT NULL,
    ENAME VARCHAR(10) NOT NULL,
    EDEPT VARCHAR(10) NOT NULL,
    ESAL INT NOT NULL
);
GO
INSERT INTO DBO.TBL_EMP_SAL (EID, ENAME, EDEPT, ESAL) VALUES
(121, 'TOM', 'HR', 1000),
(123, 'SAM', 'HR', 2000),
(124, 'RAHUL', 'HR', 3000),
(125, 'JAN', 'HR', 4000),
(126, 'AMOL', 'FA', 1000),
(127, 'ROHIT', 'FA', 2000),
(128, 'DINESH', 'FA', 5000),
```

```

(129, 'SURESH', 'FA', 6000),
(111, 'RAMESH', 'BE', 3000),
(112, 'SUNIL', 'BE', 2000),
(113, 'RAJEEV', 'BE', 1000),
(114, 'SAGAR', 'BE', 1000),
(115, 'RAJ', 'BE', 500),
(116, 'MANDAR', 'ADMIN', 4000),
(117, 'SACHIN', 'ADMIN', 9000),
(118, 'SISHIL', 'ADMIN', 10000),
(119, 'SAMEER', 'ADMIN', 6000),
(101, 'MAHESH', 'TA', 5000),
(102, 'ABHIJIT', 'TA', 4000),
(103, 'AMAR', 'TA', 3000),
(103, 'JITESH', 'TA', 2000);
GO
SELECT * FROM DBO.TBL_EMP_SAL;
GO

```

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10	112	SUNIL	BE	2000
11	113	RAJEEV	BE	1000
12	114	SAGAR	BE	1000
13	115	RAJ	BE	500