Experiment 2

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1. AIM

1. Your task is to generate a report that maps employees to their respective managers, showing: The employee's name and department, Their manager's name and department (if applicable).

2. Find the NPV of each query from the Queries table. Return the output order by ID and Year in the sorted form. However, not all ID-YEAR combinations in the Queries table are present in the Year_tbl. If an NPV is missing for a requested combination, assume it to be 0 to maintain a consistent financial report.

2. Tool Used

1. MS SQL Server
2. Data Grip

3. SQL Code

```
-------- Task 1
CREATE TABLE Employee (
    EmpID INT PRIMARY KEY,
    EmpName VARCHAR(50) NOT NULL,
    Department VARCHAR(50) NOT NULL,
    ManagerID INT NULL
);


ALTER TABLE Employee
ADD CONSTRAINT FK_Manager FOREIGN KEY (ManagerID) REFERENCES
Employee(EmpID);


INSERT INTO Employee (EmpID, EmpName, Department, ManagerID)
VALUES
(1, 'Alice', 'HR', NULL),        -- Top-level manager
(2, 'Bob', 'Finance', 1),
```

```
(3, 'Charlie', 'IT', 1),
(4, 'David', 'Finance', 2),
(5, 'Eve', 'IT', 3),
(6, 'Frank', 'HR', 1);

select
    e.EmpName,
    e.Department,
    m.EmpName as [MANAGER NAME],
    m.Department as [MANAGER Department]
from Employee as m
right join Employee as e
on  e.ManagerID = m.EmpID;

------ Task 2
create table year_tbl(
    id int,
    year int,
    npv int not null,
    primary key (id, year)
);

create table queries_tbl(
    id int,
    year int,
    primary key (id, year)
);

insert into year_tbl(id, year, npv) values
(1, 2018,  100),
(7, 2020,  30),
(13, 2019,  40),
(1, 2019,  113),
(2, 2008,  121),
(3, 2009,  12),
(11, 2020,  99),
(7, 2019,  0);

insert  into queries_tbl(id, year) values
(1, 2019),
(2, 2008),
(3, 2009),
(7, 2018),
(7, 2019),
(7, 2020),
(13, 2019);
```

```
select q.id, q.year, ISNULL(yt.npv, 0) as npv
from queries_tbl as q
left join year_tbl yt
on q.year = yt.year and q.id = yt.id;
```

4. Output

	EmpName	Department	[MANAGER NAME]	[MANAGER Department]
1	Alice	HR	*null*	*null*
2	Bob	Finance	Alice	HR
3	Charlie	IT	Alice	HR
4	David	Finance	Bob	Finance
5	Eve	IT	Charlie	IT
6	Frank	HR	Alice	HR

	id	year	npv
1	1	2019	113
2	2	2008	121
3	3	2009	12
4	7	2018	0
5	7	2019	0
6	7	2020	30
7	13	2019	40