DESCRIPTION

Table: Employee

+-------------+---------+

| Column Name | Type |

+-------------+---------+

| id | int |

| name | varchar |

| department | varchar |

| managerId | int |

+-------------+---------+

id is the primary key (column with unique values) for this table.

Each row of this table indicates the name of an employee, their department, and the id of their manager.

If managerId is null, then the employee does not have a manager.

No employee will be the manager of themself.

Write a solution to find managers with at least **five direct reports**.

Return the result table in **any order**.

The result format is in the following example.

Example 1:

Input:

Employee table:

+-----+-------+------------+-----------+

| id | name | department | managerId |

+-----+-------+------------+-----------+

| 101 | John | A | null |

| 102 | Dan | A | 101 |

| 103 | James | A | 101 |

| 104 | Amy | A | 101 |

| 105 | Anne | A | 101 |

| 106 | Ron | B | 101 |

+-----+-------+------------+-----------+

Output:

+------+

| name |

+------+

| John |

+------+

SOLUTION

Option 1:

- First, get a dataframe with 'managerId' column and its occurrence counts using value_counts(), and reset index using reset_index()
- Join the above dataframe where 'idx' is at least 5 with 'employee' using merge()
- Return a dataframe with 'name' column

```
import pandas as pd

def find_managers(employee: pd.DataFrame) -> pd.DataFrame:
    df = employee['managerId'].value_counts().reset_index(name='idx')
    dfr =  df[df.idx >= 5].merge(employee, left_on='managerId',
right_on='id',how='inner')
    return dfr[['name']]
```

- Snapshot of the same code above for readability purposes

```
import pandas as pd

def find_managers(employee: pd.DataFrame) -> pd.DataFrame:
    df = employee['managerId'].value_counts().reset_index(name='idx')
    dfr =  df[df.idx >= 5].merge(employee, left_on='managerId', right_on='id',how='inner')
    return dfr[['name']]
```

Option 2:

- Using size() and iloc

```
import pandas as pd
```

```
def find_managers(employee: pd.DataFrame) -> pd.DataFrame:
    df = employee.groupby('managerId').size().reset_index(name='idx')
    return df[df.idx >= 5].merge(employee, left_on='managerId',
right_on='id',how='inner').iloc[:,[3]]
```

- Snapshot of the same code above for readability purposes

```
import pandas as pd

def find_managers(employee: pd.DataFrame) -> pd.DataFrame:
    df = employee.groupby('managerId').size().reset_index(name='idx')
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