## Data Analysis Using AdventureWorks2019 (DataBase)

# Step 1: Extracting Data Using SQL

**Description**:  
The first step involved extracting all employee details from the **HumanResources.Employee** table in the AdventureWorks2019 database. At this stage, I retrieved all available columns for further processing.

## Step 2: Data Processing in Excel

## After exporting the data to Excel, I performed the following steps to clean and prepare it for analysis:

## Remove unnecessary columns:

## Columns that were irrelevant to the analysis, such as system-generated or duplicate columns, were removed.

### Format and clean data:

* + - Dates were standardized for consistency.
    - Missing or incorrect data was checked and handled appropriately.
    - Changed data in Gender Column to make it more clear
    - Changed data in MaritalStatus Column to make it more clear

### Add a calculated column:

* + - A new column was added to calculate each employee’s years of experience by subtracting their hire date (**HireDate**) from the current dateUsing Date.Year(DateTime.LocalNow()) - Date.Year([hireDate]).
    - Merged some columns

# Creating a Dashboard in Excel

**Goals:  
The dashboard was designed to visually represent key employee metrics and make insights easily understandable. It used Excel features like Pivot Tables and Charts.**

1. Employee distribution by Department:
   * + **A cluster column displaying the distribution of employee at every job role.**
2. Gender distribution:
   * + **A pie chart showing the number of males employees compare to females employees**

### Experience Level:

* + - **A clustered bar show the relation between Number of employees and Years of Experience**

### Hiring trends over time:

* + - A line chart illustrating the number of employees hired each year

# Insights:

* + - 1. From the dashboard **Number Of Employee By Department** we can see that the heights number of employees is in : Production With 180 Employee
      2. From the **Compare Between Males Females** dashboard we can see that the number of male employee is bigger than the number of female employee
      3. From the **Realation Between The Number Of Employee & Years Of Experience dashboard we can see that’s the the heights number of employees the group who have 16 year of Experience**
      4. **From Hiring over time dashboard we can see that the beak of hiring were in 2009**