

Project: Company_XYZ

Name of database: Company XYZ

Table 1: Employee

Column	Data type	Description
Id	INT	Unique identifier
Name	VARCHAR(50)	Employee name
Surname	VARCHAR(50)	Employee Name
Department_Id	INT	ID of department
Salary	DECIMAL(10, 2)	Employee salary
Hire_Date	DATE	Date of employment
Supervisor_Id	INT	ID of Supervisor

Data:

Id	Name	Surname	Department_Id	Salary	Hire_Date	Supervisor_Id
1	John	Smith	01	3900.00	2004-01-04	001
2	Adam	Bold	01	3650.00	2011-02-14	001
3	Henry	Green	01	3500.00	2008-11-24	001
4	John	White	01	3600.00	2009-05-15	001
5	Johan	Show	01	3900.00	2012-09-13	001
6	Lisa	Task	02	5600.00	2011-12-24	002
7	George	Smith	02	4800.00	2019-11-01	002
8	Bob	Richardson	02	5100.00	2014-02-09	002
9	Monika	Gee	02	4900.00	2016-02-19	002
10	Donald	Wilson	03	6100.00	2017-12-13	003
11	Margaret	Maguire	03	6600.00	2001-05-05	003
12	John	Smith	03	6900.00	2014-11-14	003

Query:

create table Employee

(id int not null identity(1,1) constraint klucz_id primary key(id),unique (id),

Name varchar(50),

Surname varchar(50),

Department_Id int,

Salary decimal (10,2),

Hire_Date date,

Supervisor_Id int,

);

insert into Employee (Name,Surname,Department_Id,Salary, Hire_Date,Supervisor_Id)values

('John','Smith',01,3900.00,'2004-01-04',001),

('Adam','Bold',01,3650.00,'2011-02-14',001),

('Henry','Green',01,3500.00,'2008-11-24',001),

('John','White',01,3600.00,'2009-05-15',001),

('Johan','Show',01,3900.00,'2012-09-13',001),

('Lisa','Task',02,5600.00,'2011-12-24',002),

('George','Smith',02,4800.00,'2019-11-01',002),

('Bob','Richardson',02,5100.00,'2014-02-09',002),

('Monika','Gee',02,4900.00,'2016-02-19',002),

('Donald','Wilson',03,6100.00,'2017-12-13',003),

('Margaret','Maguire',03,6600.00,'2001-05-05',003),

('John','Smith',03,6900.00,'2014-11-14',003);

Table 2: Departments

Column	Data type	Description
Id	INT	Unique identifier
Department_Name	VARCHAR(50)	Name of department

Data:

Id	Department_Name
1	PRODUCTION
2	SALES
3	ACCOUNTANCY

Query:

```
create table Departments
```

```
(id int not null identity(1,1),unique (id),
```

```
Department_Name varchar(50)
```

```
);
```

```
insert into Departments (Department_Name)values
```

```
('PRODUCTION'),
```

```
('SALES'),
```

```
('ACCOUNTANCY');
```

Table 3: Products

Column	Data type	Description
Id	INT	Unique identifier
Name	VARCHAR(100)	Name of product
Category	VARCHAR(50)	Category of product
Price	DECIMAL(10, 2)	Product price
Production_Date	DATE	Production date

Data:

Id	Name	Variant	Category	Price	Production_Date
1	PC_Station	Standard	IT	5000.00	2024-01-04
2	PC_Station	Standard	IT	5000.00	2024-01-06
3	PC_Station	Premium	IT	6500.00	2024-02-06
4	Mouse	Standard	IT	40.00	2024-01-07
5	Mouse	Standard	IT	40.00	2024-01-17
6	Monitor	Standard	IT	95.00	2024-01-20
7	Power_Supply	Standard	Electronics	35.00	2024-01-14
8	Power_Supply	Standard	Electronics	35.00	2024-02-14
9	Office_Chair	Standard	Furniture	150.00	2024-01-17
10	Office_Chair	Standard	Furniture	150.00	2024-02-17
11	Office_Desk	Standard	Furniture	260.00	2024-02-07
12	Office_Desk	Standard	Furniture	260.00	2024-02-07
13	Rack	Standard	Furniture	105.00	2024-02-08
14	Application	Standard	Software	600.00	2024-03-10

Query:

```
create table Products
(id int not null identity(1,1),unique (id),
Name varchar(100),
Variant varchar(100),
Category varchar(50),
Price decimal(10,2),
Production_Date date,
);
```

```
insert into Products (Name, Variant, Category, Price, Production_Date) values
('PC_Station','Standard','IT', 5000.00,'2024-01-04'),
('PC_Station','Standard','IT', 5000.00,'2024-01-06'),
('PC_Station','Premium','IT', 6500.00,'2024-02-06'),
('Mouse','Standard','IT',40.00,'2024-01-07'),
('Mouse','Standard','IT',40.00,'2024-01-17'),
('Monitor','Standard','IT',95.00,'2024-01-20'),
('Power_Supply','Standard','Electronics',35.00,'2024-01-14'),
('Power_Supply','Standard','Electronics',35.00,'2024-02-14'),
('Office_Chair','Standard','Furniture',150.00,'2024-01-17'),
('Office_Chair','Standard','Furniture',150.00,'2024-02-17'),
('Office_Desk','Standard','Furniture',260.00,'2024-02-07'),
('Office_Desk','Standard','Furniture',260.00,'2024-02-07'),
('Rack','Standard','Furniture',105.00,'2024-02-08'),
('Application','Standard','Software',600.00,'2024-03-10');
```

Table 4: Orders

Column	Data type	Description
Id	INT	Unique identifier
Customer_Id	INT	Customer identifier
Product_Id	INT	Product identifier
Quantity	INT	Number of products ordered
Order_Date	DATE	Order Date

Data:

Id	Customer_Id	Product_Id	Quantity	Order_Date
1	1	6	5	2023-05-10
2	2	13	2	2024-02-09
3	2	22	1	2024-02-01
4	2	23	2	2024-04-16
5	3	24	3	2024-08-11
6	4	26	1	2024-01-10
7	5	26	5	2024-05-10
8	5	28	3	2024-12-10
9	5	29	1	2024-07-14
10	5	29	5	2024-08-22
11	6	30	7	2024-03-26
12	7	30	2	2024-07-22
13	7	11	9	2023-11-04

Query:

create table Orders

(id int not null identity(1,1),unique (id),

Customer_Id int,

Product_Id int,

Quantity int,

Order_Date date,

);

insert into Orders (Customer_Id, Product_Id, Quantity, Order_Date) values

(1,6,5,'2023-05-10'),

(2,13,2,'2024-02-09'),

(2,22,1,'2024-02-01'),

(2,23,2,'2024-04-16'),

(3,24,3,'2024-08-11'),

(4,26,1,'2024-01-10'),

(5,26,5,'2024-05-10'),

(5,28,3,'2024-12-10'),

(5,29,1,'2024-07-14'),

(5,29,5,'2024-08-22'),

(6,30,7,'2024-03-26'),

(7,30,2,'2024-07-22'),

(7,11,9,'2023-11-04');

Table 5: Customers

Column	Data type	Description
Id	INT	Unique identifier
Name	VARCHAR(50)	Customer name
Surname	VARCHAR(50)	Customer surname
email	VARCHAR(100)	Customer Email
Phone_Number	VARCHAR(20)	Customer's phone number

Data:

Id	Name	City	email	Phone_Number
1	FOX	BERLIN	FOXBERLIN@gmail.com	+ 48 584-258-147
2	SAS	CHICAGO	SASCHICAGO@gmail.com	+ 48 147-258-369
3	B2FREE	ROME	B2FREEROME@gmail.com	+ 48 789-455-123
4	LTT Company	MADRID	LTT CompanyMADRID@gmail.com	+ 48 123-456-789
5	BEE2	NEW YORK	BEE2NEW YORK@gmail.com	+ 48 852-159-951
6	OFFREC	PARIS	OFFRECPARIS@gmail.com	+ 48 789-258-123
7	X-TOUR	PORTO	X-TOURPORTO@gmail.com	+ 48 357-753-159

Query:

```
create table Customers
```

```
(Id int not null identity(1,1),unique (id),
```

```
Name VARCHAR(50),
```

```
City VARCHAR(50),
```

```
email VARCHAR(100),
```

```
Phone_Number VARCHAR(20),
```

```
);
```

```
insert into Customers (Name, City, email, Phone_Number) values
```

```
('FOX','BERLIN','FOXBERLIN@gmail.com','584-258-147'),
```

```
('SAS','CHICAGO','SASCHICAGO@gmail.com','147-258-369'),
```

```
('B2FREE','ROME','B2FREEROME@gmail.com','789-455-123'),
```

```
('LTT Company','MADRID','LTT CompanyMADRID@gmail.com','123-456-789'),
```

```
('BEE2','NEW YORK','BEE2NEW YORK@gmail.com','852-159-951'),
```

```
('OFFREC','PARIS','OFFRECPARIS@gmail.com','789-258-123'),
```

```
('X-TOUR','PORTO','X-TOURPORTO@gmail.com','357-753-159');
```

Queries (type "select")

Task 1

Display department name and total number of employees in each department.

```
select Department_Name, COUNT(Surname) as "Qty. of Employee"
from Departments as D
left outer join Employee as E on D.id = E.Department_Id
group by Department_Name
Order by "Qty. of Employee" desc;
```

Task 2

Display employee names and the department they belong to.

```
select E.Name,E.Surname,D.Department_Name
from Departments as D
left outer join Employee as E on D.Id = E.Department_Id;
```

Task 3

Display the department name and average salary of employees in that department.

```
select Department_Name, AVG(Salary) as "Avg Salary in each Department"
from Departments as D
left outer join Employee as E on D.Id = E.Department_Id
group by Department_Id,Department_Name;
```

Task 4

Display the name of the department and the name of the employee who earns the most in that department.

```
with SUB_Query as (
select  Department_Name,
        max(Salary) as "Highest salary"
from Departments as D
left join Employee as E on D.id = E.Department_Id
group by Department_Name)

Select Department_Name,Surname, [Highest salary]
from SUB_Query as SQ
left join Employee as E on SQ.[Highest salary] = E.Salary
order by [Highest salary] desc;
```

Task 5

Display the five most expensive products by name and price.

```
select distinct top 5(Price),Name,Variant  
from Product  
order by Price desc;
```

Task 6

Display the product name, category, and price with the price increased by 15%.

```
select distinct Name, Variant,Category,Price, cast(Price as float)*0.15+Price as "Price including +15% increase"  
from Products  
order by price desc;
```

Task 7

Display the product name and its price if the price is higher than the average price of all products.

```
select Name,variant, Price  
from Products  
where Price > ( select avg(Price)  
from Products)  
group by Name,variant, Price  
order by Price desc;
```

```
select avg(Price) as "AVG Price of all Products"  
from Products;
```