1. ***What is SQL? What is DML? What is DDL? Recite the most important SQL commands.***
   SQL stands for Structured Query Language. It is used for creating queries and manipulating a database. DML stands for Data Manipulation Language and it contains a family of syntax elements for selecting (SELECT), inserting (INSERT), deleting (DELETE) and updating (UPDATE) data in a database. DDL stands for Data Definition Language and it manages table and index structure. The most basic items of DDL are the CREATE, ALTER, RENAME, DROP and TRUNCATE statements.
2. ***What is Transact-SQL (T-SQL)?***
   Transact-SQL is Microsoft's and Sybase's proprietary extension to SQL. T-SQL expands on the SQL standard to include procedural programming, local variables, various support functions for string processing, date processing, mathematics, etc. and changes to the DELETE and UPDATE statements.
3. ***Start SQL Management Studio and connect to the database TelerikAcademy. Examine the major tables in the "TelerikAcademy" database.***
   It's done.
4. ***Write a SQL query to find all information about all departments (use "TelerikAcademy" database).***

```
SELECT d.DepartmentID,
             d.Name AS [Department Name],
             e.FirstName + ' ' + e.LastName AS [Manager Name],
             e.JobTitle
FROM Departments d
       INNER JOIN Employees e
             ON d.ManagerID = e.EmployeeID
```

5. ***Write a SQL query to find all department names.***

```
SELECT d.Name AS [Department Name]
FROM Departments d
```

6. ***Write a SQL query to find the salary of each employee.***

```
SELECT FirstName + ' ' + LastName AS [Employee Name],
             Salary
FROM Employees
```

7. ***Write a SQL to find the full name of each employee.***

```
SELECT FirstName + ' ' + LastName AS [Employee Name]
FROM Employees
```

8. ***Write a SQL query to find the email addresses of each employee (by his first and last name). Consider that the mail domain is telerik.com. Emails should look like "John.Doe@telerik.com". The produced column should be named "Full Email Addresses".***

```
SELECT FirstName + '.' + LastName + '@telerik.com' AS [Full Email Addresses]
FROM Employees
```

9. ***Write a SQL query to find all different employee salaries.***

```
SELECT DISTINCT Salary
FROM Employees
```

10. ***Write a SQL query to find all information about the employees whose job title is "Sales Representative".***

```
SELECT *
FROM Employees
WHERE JobTitle LIKE '%Sales Representative%'
```

11. ***Write a SQL query to find the names of all employees whose first name starts with "SA".***

```
SELECT FirstName + ' ' + LastName AS [Employee Name]
FROM Employees
WHERE FirstName LIKE 'Sa%'
```

12. ***Write a SQL query to find the names of all employees whose last name contains "ei".***

```
SELECT FirstName + ' ' + LastName AS [Employee Name]
FROM Employees
WHERE LastName LIKE '%ei%'
```

13. ***Write a SQL query to find the salary of all employees whose salary is in the range [20000…30000].***

```
SELECT Salary
FROM Employees
WHERE Salary BETWEEN 20000 AND 30000
```

14. ***Write a SQL query to find the names of all employees whose salary is 25000, 14000, 12500 or 23600.***

```
SELECT FirstName + ' ' + LastName AS [Employee Name],
       Salary
FROM Employees
WHERE Salary IN (25000, 14000, 12500, 23600)
```

15. ***Write a SQL query to find all employees that do not have manager.***

```
SELECT *
FROM Employees
WHERE ManagerID IS NULL
```

16. ***Write a SQL query to find all employees that have salary more than 50000. Order them in decreasing order by salary.***

```
SELECT *
FROM Employees
WHERE Salary >= 50000
ORDER BY Salary DESC
```

17. ***Write a SQL query to find the top 5 best paid employees.***

```
SELECT TOP 5 *
FROM Employees
ORDER BY Salary DESC
```

18. ***Write a SQL query to find all employees along with their address. Use inner join with ON clause.***

```
SELECT *
FROM Employees e
INNER JOIN Addresses a
ON e.AddressID = a.AddressID
```

19. ***Write a SQL query to find all employees and their address. Use equijoins (conditions in the WHERE clause).***

```
SELECT *
FROM Employees e, Addresses a
WHERE e.AddressID = a.AddressID
```

20. ***Write a SQL query to find all employees along with their manager.***

```
SELECT e.FirstName + ' ' + e.LastName AS [Employee Name],
       m.FirstName + ' ' + m.LastName AS [Manager Name]
FROM Employees e
INNER JOIN Employees m
ON m.EmployeeID = e.ManagerID
```

21. ***Write a SQL query to find all employees, along with their manager and their address. Join the 3 tables: Employees e, Employees m and Addresses a.***

```
SELECT e.FirstName + ' ' + e.LastName AS [Employee Name],
       m.FirstName + ' ' + m.LastName AS [Manager Name],
       a.AddressText AS [Employee Address]
FROM Employees e
INNER JOIN Employees m
ON m.EmployeeID = e.ManagerID
INNER JOIN Addresses a
ON e.AddressID = a.AddressID
```

22. ***Write a SQL query to find all departments and all town names as a single list. Use UNION.***

```
SELECT Name
FROM Departments
UNION
SELECT Name
FROM Towns
```

23. ***Write a SQL query to find all the employees and the manager for each of them along with the employees that do not have manager. Use right outer join. Rewrite the query to use left outer join.***

```
SELECT e.FirstName + ' ' + e.LastName AS [Employee Name],
       m.FirstName + ' ' + m.LastName AS [Manager Name]
FROM Employees m
RIGHT OUTER JOIN Employees e
ON m.EmployeeID = e.ManagerID

SELECT e.FirstName + ' ' + e.LastName AS [Employee Name],
       m.FirstName + ' ' + m.LastName AS [Manager Name]
FROM Employees m
LEFT OUTER JOIN Employees e
ON m.EmployeeID = e.ManagerID
```

24. Write a SQL query to find the names of all employees from the departments "Sales" and "Finance" whose hire year is between 1995 and 2005.

```
SELECT *
FROM Employees e
INNER JOIN Departments d
ON e.DepartmentID = d.DepartmentID
WHERE d.Name IN ('Sales', 'Finance')
AND HireDate BETWEEN '1/1/1995' AND '1/1/2005'
```