For the submission of your work:

- Create a folder named RollNo_Name_DBI202_PaperNo, e.g. se01245_LongNT_DBI202_01. Do not create any subfolder in this folder. All file created will be located in the above folder.

- For each question, you are required to write a database script. Create a file with the name corresponding to the index of the question. For example, for question 1, we will create a file named Q1.sql and create a file Q2.sql for question 2. So, if you do 10 questions, your folder must contain only 10 files Q1.sql, Q2.sql, Q3.sql, Q4.sql, Q5.sql, Q6.sql, Q7.sql, Q8.sql, Q9.sql and Q10.sql.

- Do not use any commands having the database name such as create database, alter database, use [database name], *etc*.

- Your response must contain only necessary commands for answering the question. Do not include any other command. For example, if you are required to create a trigger/procedure, then your response should contain only commands for creating the corresponding trigger/procedure; all commands for testing the created trigger/procedure are forbidden.

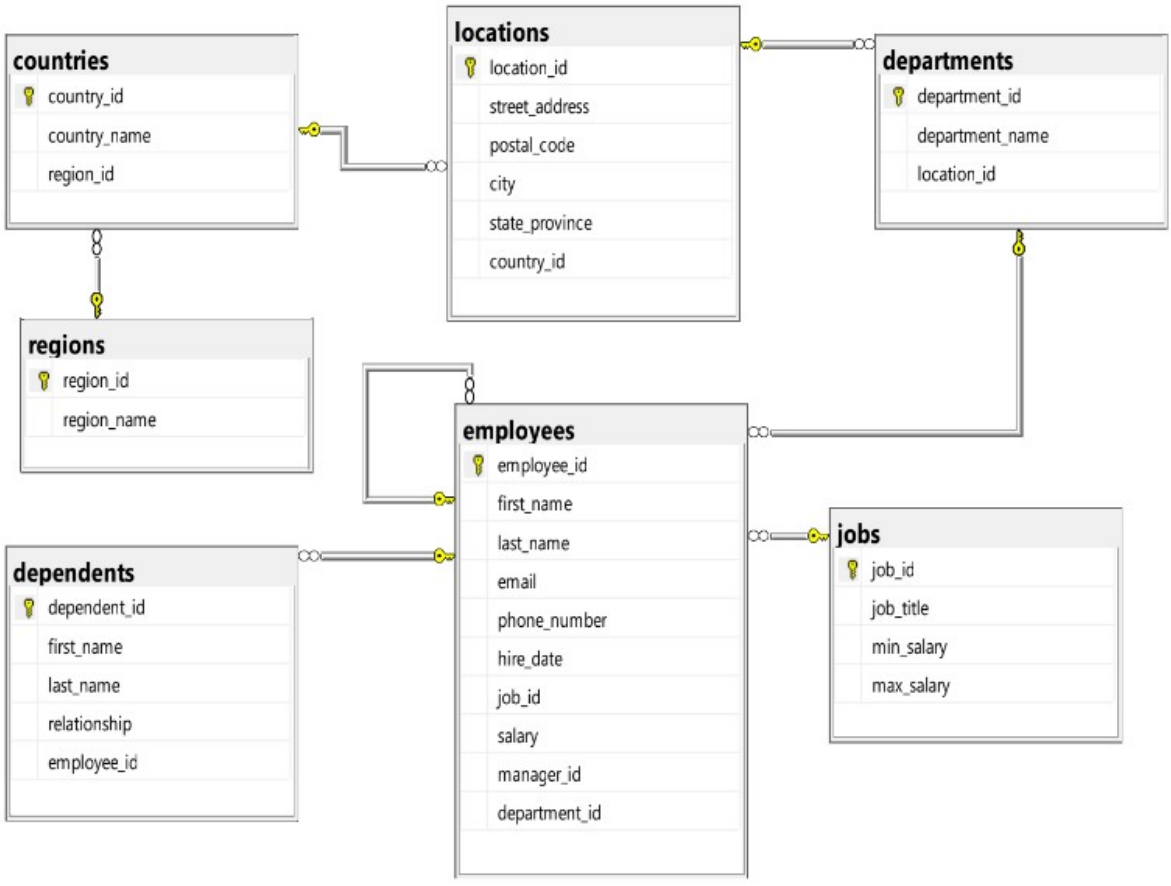
- On completion, import your work by browsing to the above folder.

- Note that:

+ You could use only SQL Server, SQL Server Management Studio, and paper or offline document in your computer.

+ If any of the previous requirements is not respected, your mark will be 0.

From the 2nd question, you should use the database provided in the .sql file which has the following database diagram. Please, run the provided script to create tables and insert data into your database.



Question 1:

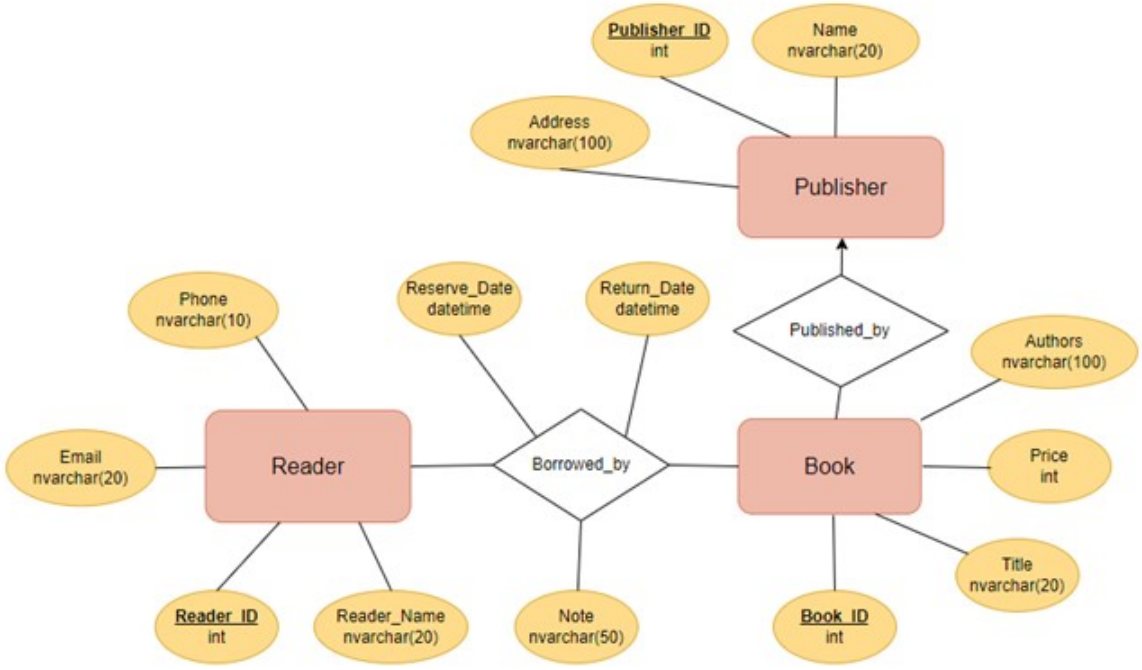
Create one database and then write SQL statements to create, in this database, all tables derived from the ERD given in the following picture with appropriate attributes, primary keys and foreign keys.

NOTE that when creating the SQL commands as request, you MUST keep the name of tables, relationship, attributes and data type of attributes as SAME as given in the given ERD.

Attributes with underline belong to the Primary Key of each entity.

Attributes which reference to the primary key of another table must have the same name as the attributes in the primary key of the referencing table.

When submitting the responses for this question, submit only SQL statements for creating tables with corresponding keys and foreign keys. Do not use “create database”, “Alter database”, “use database_name” or any statements using database’s name in your submission.



Picture 1.1

Question 2:

Write a query to find all employees with salary above 20000$.

	first_name	last_name	email
1	Steven	King	steven.king@sqltutorial.org

Picture 2.1

Question 3:

Write a query to find names of countries without departments.

	country_name
1	Argentina
2	Australia
3	Belgium
4	Brazil
5	Switzerland
6	China
7	Denmark
8	Egypt
9	France
10	HongKong
11	Israel
12	India
13	Italy
14	Japan
15	Kuwait
16	Mexico
17	Nigeria
18	Netherlands
19	Singapore
20	Zambia
21	Zimbabwe

Picture 3.1

Question 4:

Write a query to find employee id, employee name, salary and job title of employees managed by Nancy Greenberg.

	employee_id	first_name	last_name	salary	job_title
1	109	Daniel	Faviet	9000.00	Accountant
2	110	John	Chen	8200.00	Accountant
3	111	Ismael	Sciarra	7700.00	Accountant
4	112	Jose Manuel	Urman	7800.00	Accountant
5	113	Luis	Popp	6900.00	Accountant

Picture 4.1

Question 5:

Write a query to find the number of employees for each department and sort descending by number of employees.

	department_name	number_of_employee
1	Shipping	7
2	Finance	6
3	Purchasing	6
4	Sales	6
5	IT	5
6	Executive	3
7	Marketing	2
8	Accounting	2
9	Administration	1
10	Human Resources	1
11	Public Relations	1

Picture 5.1

Question 6:

Write a query to find employees with more than 30 years of service and sort descending by years of service.

	employee_id	full_name	job_title	hire_date	seniority
1	100	Steven, King	President	1987-06-17	35
2	200	Jennifer, Whalen	Administration Assistant	1987-09-17	35
3	101	Neena, Kochhar	Administration Vice President	1989-09-21	33
4	103	Alexander, Hunold	Programmer	1990-01-03	32
5	104	Bruce, Ernst	Programmer	1991-05-21	31

Picture 6.1

Question 7:

Write a query to find the departments have an average salary lower than the average salary of the whole company

	department_id	department_name	avg_salary
1	1	Administration	4400.000000
2	3	Purchasing	4150.000000
3	4	Human Resources	6500.000000
4	5	Shipping	5885.714285
5	6	IT	5760.000000

Picture 7.1

Question 8:

Create a function named func1 to calculate the number of employees in a department.

For example, when the statement below (to find the number of employees in the department 9) is executed, the result should be as in the following figure:

```
SELECT dbo.func1(9)
```

	(No column name)
1	3

Picture 8.1

Question 9:

Find a department with IT name changed to Information Technology

Question 10:

Create a trigger named trig1 for the insert statement on table Employees so that when a new record is inserted, the content of the last_name attribute will become UPPERCASE.

For example, when the following statement is executed, the result will be as in the following figure:

```
INSERT INTO employees (first_name, last_name,email, phone_number, hire_date,
job_id, salary, manager_id, department_id)
VALUES('Van An', 'nguyen', 'annv12@fpt.edu.vn', '0123456789',
'1/1/2022',1,10000,100,1);

SELECT first_name, last_name, email
FROM employees e
WHERE e.employee_id = (SELECT max(employee_id) FROM employees)
```

	first_name	last_name	email
1	Van An	NGUYEN	annv12@fpt.edu.vn

Picture 10.1