Part 01

1. Create a stored procedure to show the number of students per department.[use ITI DB]

2. Create a stored procedure that will check for the Number of employees in the project 100 if they are more than 3 print message to the user “'The number of employees in the project 100 is 3 or more'” if they are less display a message to the user “'The following employees work for the project 100'” in addition to the first name and last name of each one. [MyCompany DB]

3. Create a stored procedure that will be used in case an old employee has left the project and a new one becomes his replacement. The procedure should take 3 parameters (old Emp. number, new Emp. number and the project number) and it will be used to update works_on table. [MyCompany DB]

Part 02

1. Create a stored procedure that calculates the sum of a given range of numbers

2. Create a stored procedure that calculates the area of a circle given its radius

3. Create a stored procedure that calculates the age category based on a person's age (Note: IF Age < 18 then Category is Child and if Age >= 18 AND Age < 60 then Category is Adult otherwise Category is Senior)

4. Create a stored procedure that determines the maximum, minimum, and average of a given set of numbers (Note : set of numbers as Numbers = '5, 10, 15, 20, 25')

Part 03

Create a database “by Wizard” named “RouteCompany”

1. Create the following tables with all the required information and load the required data as specified in each table using insert statements[at least two rows]

<table>
<tr><th>Table Name</th><th>Details</th><th>Comments</th></tr>
<tr><td>Department</td><td>
<table>
<tr><th>DeptNo (PK)</th><th>DeptName</th><th>Location</th></tr>
<tr><td>d1</td><td>Research</td><td>NY</td></tr>
<tr><td>d2</td><td>Accounting</td><td>DS</td></tr>
<tr><td>d3</td><td>Marketing</td><td>KW</td></tr>
</table>
</td><td>1-Create it programmatically [By Code]</td></tr>
</table>

<table>
<tr>
<td>Employee</td>
<td>
<table>
<tr><th>EmpNo (PK)</th><th>Emp Fname</th><th>Emp Lname</th><th>DeptNo</th><th>Salary</th></tr>
<tr><td>25348</td><td>Mathew</td><td>Smith</td><td>d3</td><td>2500</td></tr>
<tr><td>10102</td><td>Ann</td><td>Jones</td><td>d3</td><td>3000</td></tr>
<tr><td>18316</td><td>John</td><td>Barrymore</td><td>d1</td><td>2400</td></tr>
<tr><td>29346</td><td>James</td><td>James</td><td>d2</td><td>2800</td></tr>
<tr><td>9031</td><td>Lisa</td><td>Bertoni</td><td>d2</td><td>4000</td></tr>
<tr><td>2581</td><td>Elisa</td><td>Hansel</td><td>d2</td><td>3600</td></tr>
<tr><td>28559</td><td>Sybl</td><td>Moser</td><td>d1</td><td>2900</td></tr>
</table>
</td>
<td>1-Create it programmatically
2-PK constraint on EmpNo
3-FK constraint on DeptNo
4-Unique constraint on Salary
5-EmpFname, EmpLname don’t accept null values</td>
</tr>
<tr>
<td>Project</td>
<td>
<table>
<tr><th>ProjectNo (PK)</th><th>ProjectName</th><th>Budget</th></tr>
<tr><td>p1</td><td>Apollo</td><td>120000</td></tr>
<tr><td>p2</td><td>Gemini</td><td>95000</td></tr>
<tr><td>p3</td><td>Mercury</td><td>185600</td></tr>
</table>
</td>
<td>1-Create it by Wizard
2-ProjectName can't contain null values
3-Budget allow null</td>
</tr>
</table>

<table>
<tr>
<td>Works_on</td>
<td>
<table>
<tr><th>EmpNo (PK)</th><th>ProjectNo(PK)</th><th>Job</th><th>Enter_Date</th></tr>
<tr><td>10102</td><td>p1</td><td>Analyst</td><td>2006.10.1</td></tr>
<tr><td>10102</td><td>p3</td><td>Manager</td><td>2012.1.1</td></tr>
<tr><td>25348</td><td>p2</td><td>Clerk</td><td>2007.2.15</td></tr>
<tr><td>18316</td><td>p2</td><td>NULL</td><td>2007.6.1</td></tr>
<tr><td>29346</td><td>p2</td><td>NULL</td><td>2006.12.15</td></tr>
<tr><td>2581</td><td>p3</td><td>Analyst</td><td>2007.10.15</td></tr>
<tr><td>9031</td><td>p1</td><td>Manager</td><td>2007.4.15</td></tr>
<tr><td>28559</td><td>p1</td><td>NULL</td><td>2007.8.1</td></tr>
<tr><td>28559</td><td>p2</td><td>Clerk</td><td>2012.2.1</td></tr>
<tr><td>9031</td><td>p3</td><td>Clerk</td><td>2006.11.15</td></tr>
<tr><td>29346</td><td>p1</td><td>Clerk</td><td>2007.1.4</td></tr>
</table>
</td>
<td>1-Create it Wizard
2- EmpNo INTEGER NOT NULL
3-ProjectNo doesn't accept null values
4-Job can accept null
5-Enter_Date can’t accept null
and has the current system date as a default value[visually]
6-The primary key will be EmpNo,ProjectNo)
7-there is a relation between works_on and employee, Project tables</td>
</tr>
<tr>
<td>Testing Referential Integrity</td>
<td colspan="2">1-Add new employee with EmpNo =11111 In the works_on table [what will happen]
2-Change the employee number 10102 to 11111 in the works on table [what will happen]
3-Modify the employee number 10102 in the employee table to 22222. [what will happen]
4-Delete the employee with id 10102</td>
</tr>
<tr>
<td>Table Modification</td>
<td colspan="2">1-Add TelephoneNumber column to the employee table[programmatically]
2-drop this column[programmatically]
3-Build A diagram to show Relations between tables</td>
</tr>
</table>

2. Create the following schema and transfer the following tables to it
    a. Company Schema
        i. Department table
        ii. Project table
    b. Human Resource Schema
        i. Employee table

3. Increase the budget of the project where the manager number is 10102 by 10%.
4. Change the name of the department for which the employee named James works.The new department name is Sales.

5. Change the enter date for the projects for those employees who work in project p1 and belong to department ‘Sales’. The new date is 12.12.2007.
6. Delete the information in the works_on table for all employees who work for the department located in KW.

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