**Part 01 (Views)**

**Use ITI DB:**

1. Create a view that displays the student's full name, course name if the student has a grade more than 50.
2. Create an Encrypted view that displays manager names and the topics they teach.
3. Create a view that will display Instructor Name, Department Name for the ‘SD’ or ‘Java’ Department “use Schema binding” and describe what is the meaning of Schema Binding
4. Create a view “V1” that displays student data for students who live in Alex or Cairo.

Note: Prevent the users to run the following query

Update V1 set st\_address=’tanta’

Where st\_address=’alex’;

1. Create a view that will display the project name and the number of employees working on it. (Use Company DB)

**use CompanySD32\_DB:**

1. Create a view named “v\_clerk” that will display employee Number ,project Number, the date of hiring of all the jobs of the type 'Clerk'.
2. Create view named “v\_without\_budget” that will display all the projects data without budget
3. Create view named “v\_count “ that will display the project name and the Number of jobs in it
4. Create view named ” v\_project\_p2” that will display the emp# s for the project# ‘p2’ . (use the previously created view “v\_clerk”)
5. modify the view named “v\_without\_budget” to display all DATA in project p1 and p2.
6. Delete the views “v\_ clerk” and “v\_count”
7. Create view that will display the emp# and emp last name who works on deptNumber is ‘d2’
8. Display the employee lastname that contains letter “J” (Use the previous view created in Q#7)
9. Create view named “v\_dept” that will display the department# and department name
10. using the previous view try enter new department data where dept# is ’d4’ and dept name is ‘Development’
11. Create view name “v\_2006\_check” that will display employee Number, the project Number where he works and the date of joining the project which must be from the first of January and the last of December 2006.this view will be used to insert data so make sure that the coming new data must match the condition
12. Create a view that calculates the square of numbers from 1 to 10

**Part 02**

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]
4. Create an Audit table with the following structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ProjectNo | UserName | ModifiedDate | Budget\_Old | Budget\_New |
| 100 | Dbo | 2008-01-31 | 95000 | 200000 |

This table will be used to audit the update trials on the Budget column (Project table, SD32-Company DB)

Example:

If a user updated the budget column then the project number, username that made that update, the date of the modification and the value of the old and the new budget will be inserted into the Audit table

Note: This process will take place only if the user updated the budget column

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**Part 03**

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 04**

**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 Name | Details | Comments |
| Department | |  |  |  | | --- | --- | --- | | DeptNo (PK) | DeptName | Location | | d1 | Research | NY | | d2 | Accounting | DS | | d3 | Marketing | KW | | 1-Create it programmatically  [By Code] |
| Employee | |  |  |  |  |  | | --- | --- | --- | --- | --- | | EmpNo (PK) | Emp Fname | Emp Lname | DeptNo | Salary | | 25348 | Mathew | Smith | d3 | 2500 | | 10102 | Ann | Jones | d3 | 3000 | | 18316 | John | Barrymore | d1 | 2400 | | 29346 | James | James | d2 | 2800 | | 9031 | Lisa | Bertoni | d2 | 4000 | | 2581 | Elisa | Hansel | d2 | 3600 | | 28559 | Sybl | Moser | d1 | 2900 | | 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 |
| Project | |  |  |  | | --- | --- | --- | | ProjectNo (PK) | ProjectName | Budget | | p1 | Apollo | 120000 | | p2 | Gemini | 95000 | | p3 | Mercury | 185600 | | 1-Create it by Wizard  2-ProjectName can't contain null values  3-Budget allow null |
| Works\_on | |  |  |  |  |  | | --- | --- | --- | --- | --- | | EmpNo (PK) | ProjectNo(PK) | Job | Enter\_Date | | | 10102 | p1 | Analyst | | 2006.10.1 | | 10102 | p3 | Manager | | 2012.1.1 | | 25348 | p2 | Clerk | | 2007.2.15 | | 18316 | p2 | NULL | | 2007.6.1 | | 29346 | p2 | NULL | | 2006.12.15 | | 2581 | p3 | Analyst | | 2007.10.15 | | 9031 | p1 | Manager | | 2007.4.15 | | 28559 | p1 | NULL | | 2007.8.1 | | 28559 | p2 | Clerk | | 2012.2.1 | | 9031 | p3 | Clerk | | 2006.11.15 | | 29346 | p1 | Clerk | | 2007.1.4 | | 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 |
| Testing Referential Integrity | 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 | |
| Table Modification | 1-Add TelephoneNumber column to the employee table[programmatically]  2-drop this column[programmatically]  3-Build A diagram to show Relations between tables | |

1. Create the following schema and transfer the following tables to it
   1. Company Schema
      1. Department table
      2. Project table
   2. Human Resource Schema
      1. Employee table
2. Increase the budget of the project where the manager number is 10102 by 10%.
3. Change the name of the department for which the employee named James works.The new department name is Sales.
4. 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.
5. Delete the information in the works\_on table for all employees who work for the department located in KW.

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