**Part 01**

**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.

———————————————————————————————————

**Part 02**

**Use SD32-Company:**

* Create an Audit table with the following structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ProjectNo | UserName | ModifiedDate | Budget\_Old | Budget\_New |
| p2 | Dbo | 2008-01-31 | 95000 | 200000 |

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

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)

**Part 03**

**Use ITI DB :**

* Create an index on column (Hiredate) that allows you to cluster the data in table Department. What will happen?
* Create an index that allows you to enter unique ages in the student table. What will happen?
* Try to Create Login Named(RouteStudent) who can access Only student and Course tables from ITI DB then allow him to select and insert data into tables and deny Delete and update
* Try to Create Login With Your Name And give yourself access Only to Employee and Floor tables then allow this login to select and insert data into tables and deny Delete and update (Don't Forget To take screenshot to every step)