1. Create the tables Customers and Orders with the following columns. (do not declare the corresponding primary and foreign keys )

CREATE TABLE Customers

(

Customerid char(5) not null,

CompanyName varchar(40) not null,

ContactName Char(30) null,

[Address] varchar(60) null,

City Char(15) null,

Phone Char(24) null,

Fax Char(24) null

)

CREATE TABLE Orders

(

OrderId integer not null,

customerId char(5) not null,

Orderdate datetime null,

Shippeddate datetime null,

Freight money null,

Shipname varchar(40) null,

Shipaddres varchar(60) null,

Quantity integer null

)

2. Using the ALTER TABLE statement, add a new column named shipregionto the Orderstable. The fields should be nullable and contain integers

Alter table dbo.Orders

Add shipregion integer null

3. Using the ALTER TABLE statement, change the data type of the column shipregion from INTEGER to CHARACTER with length 8. The fields may contain null values.

Alter table dbo.Orders

Alter column shipregion Char(8) null

4.Delete the formerly created column shipregion.

Alter table dbo.Orders

Drop column shipregion

5.Using the SQL Server Management Studio, try to instert a new row into the Orderstable with the following values:( 10, ‘ord01’, getdate(), getdate(), 100.0, ‘Windstar’, ‘Ocean’ ,1)

Insert into dbo.Orders

values ( 10, 'ord01', getdate(), getdate(), 100.0, 'Windstar', 'Ocean' ,1)

6.Using the ALTER TABLE statement, add the current system date and time as the default value to the orderdatecolumn of the Orderstable.

Alter table dbo.Orders

Add Constraint Df\_OrderDate Default GetDate() for Orderdate

7. Rename the city column of the Customerstable. The new name is Town.Orders OrderId integer not null customerId char(5) not null Orderdate datetime null Shippeddate datetime null Freight money null Shipname varchar(40) null Shipaddresvarchar(60) null Quantity integer null

Exec sp\_rename 'dbo.Customers.City','Town','COLUMN'

8. Create the following Tables and insert the shown data (This table will be used in the subsequent Lab sessions)

CREATE TABLE Department

(

Dept\_no Char(10) not null,

Dept\_name Char(10) not null,

location CHAR(50) not null

)

Insert INTO dbo.Department values('d1','Res','Dallas');

Insert INTO dbo.Department values('d2','Ac','Seattle');

Insert INTO dbo.Department values('d3','Ma','Dallas');

CREATE TABLE Employee

(

emp\_no Integer not null,

emp\_fname char(50) not null,

emp\_lname char(50) not null,

Dept\_no Char(10) not null

)

Insert INTO dbo.Employee values('25348','Matthew','Smith','d3');

Insert INTO dbo.Employee values('10102','Ann','Jones','d3');

Insert INTO dbo.Employee values('18316','John','Barrimore','d1');

Insert INTO dbo.Employee values('29346','James','James','d2');

CREATE TABLE Project

(

project\_no Char(10) not null,

project\_name char(50) not null,

Budget Varchar(50) not null

)

Insert INTO dbo.Project values('p1','Apollo','120000');

Insert INTO dbo.Project values('p2','Gemini','95000');

Insert INTO dbo.Project values('p3','Mercury','18560');

CREATE TABLE Work\_on

(

emp\_no Integer not null,

project\_no char(10) not null,

Job Varchar(50) null,

enter\_date date not null

)

Insert INTO dbo.Work\_on values('10102','p1','Analyst','1997.10.1')

Insert INTO dbo.Work\_on values('10102','p3','manager','1999.1.1')

Insert INTO dbo.Work\_on values('25348','p2','Clerk','1998.2.1')

Insert INTO dbo.Work\_on values('518316','p2',NULL,'1998.6.1')

Insert INTO dbo.Work\_on values('29346','p2',NULL,'1997.12.1')

Insert INTO dbo.Work\_on values('52581','p3','Analyst','1998.10.1')

Insert INTO dbo.Work\_on values('59031','p1','Manager','1998.4.1')

Insert INTO dbo.Work\_on values('28556','p1',NULL,'1998.8.1')

Insert INTO dbo.Work\_on values('28559','p2','Clerk','1992.2.1')

Insert INTO dbo.Work\_on values('9031','p3','Clerk','1997.11.1')

Insert INTO dbo.Work\_on values('29346','p1','Clerk','1998.1.4')

Simple Queries:

1. Get All Row of the work\_on table:

Select \* from dbo.work\_on

2. Get the employee numbers for all clerks

Select Emp\_no from dbo.Work\_on Where Job = 'Clerk'

3. Get the employee numbers for employees working in project p2, and having employee numbers smaller than 10000. Solve this problem with two different but equivalent SELECT statements

select emp\_no from dbo.work\_on where project\_no = 'p2'

UNION

SELECT emp\_no FROM dbo.Work\_on Where emp\_no > 10000

4. Get the employee numbers for all employees who didn’t enter their project in 1998.

select emp\_no from dbo.work\_on where DATEPART(yyyy,enter\_date) != '1998'

5. Get the employee numbers for all employees who have a leading job ( i.e., Analyst or Manager) in project p1

select emp\_no from dbo.work\_on where project\_no = 'p1' and (Job ='Analyst' OR JOB = 'manager')

6. Get the enter dates for all employess in project p2 whose jobs have not been determined yet.

select enter\_date from dbo.work\_on where project\_no = 'p2' and Job is null

7. Get the employee numbers and last names of all employees whose first names contain two letter t’s.

select emp\_no,emp\_lname from dbo.Employee where emp\_fname like ('%t%') and emp\_fname like ('%s%')

8. Get the employee numbers and first names of all employees whose last names have a letter o or a as the second character and end with the letters es.

select emp\_no,emp\_lname from dbo.Employee where (emp\_lname like ('\_o%') or emp\_lname like ('\_a%')) AND emp\_lname like ('%es')

9.Get the employee numbers of all employees whose departments are located in Seattle.

select emp\_no from dbo.Employee E INNER JOIN dbo.Department D ON E.Dept\_no = D.Dept\_no

where D.location = 'Seattle'

10.Find the last and first names of all employess who entered their projects on 04.01.1998

select emp\_fname,emp\_lname from dbo.Employee E INNER JOIN dbo.Work\_on W ON E.emp\_no = W.emp\_no where W.enter\_date = '04-01-1997'

11.Group all departments using their locations.

select location From Department group by location

12.Find the biggest employee number.

select Max(emp\_no) From dbo.Employee

13.Get the jobs that are done by more than two employees.

Select job from Dbo.work\_on where emp\_no in (select emp\_no FROM dbo.Work\_on group by emp\_no having count(job) >= 2)

14.Find the employee numbers of all employees who are clerks or work for department d3

Select e.emp\_no from Dbo.work\_on W inner join dbo.Employee E ON W.emp\_no = E.emp\_no where job = 'Clerk' or Dept\_no = 'd3'