EFCOD rules

1. Single valued data
2. Data to be stored in multiple tables
3. Column can be validated by 2 type – data type and constraints.

Data types:

1. Char – A-Z, a-z, 0-9 – upto 2000 chars
2. Varchar - A-Z, a-z, 0-9 and combinations as well – upto 4000 chars
3. Number – Number(precision, scale) eg – Number(5,2) – 999.99
4. Date – dd-mon-yy or dd-mon-yyyy.
5. largeObject – upto 4gb of size. charlargeObject and binarylargeobject(Images)

Constraints

Applying restrictions to the cols.

1. UNIQUE
2. NOT NULL
3. CHECK – check(Sal>0)
4. PRIMARY KEY – only 1 primary key per table
5. Foreign key – accepts duplicate and nulls

Data Query Language

Select, Selection, Projection, Joins

Projection – Select \*/Expression/ Dinstinct(col\_name) From Tb\_Name

1. Write a query to display name of an employee along with salary with 25% hike.

>> Select Emp\_Name, Salary from Emp Where

Salary = (Salary\*0.25);

1. Write a query to display all the details of the employee with 10% deduction in salary.

>> Select \* from emp Where

Salary = (Salary/10);

1. WAQ to display name of the employee with their half term salary

>> Select \* From emp Where Salary

1. WAQ to display all the details of employee who is working in Dept 10

>> Select \* From EMP where Dept\_Id = “10”;

Operators

1. Arithmetic
2. Concatenate - ||
3. Logical – AND, OR, NOT
4. Comparison - =, !=, <, >
5. Relational - >=, <=, >, <
6. Special – IN, NOT IN, BETWEEN, NOT BETWEEN, LIKE, NOT LIKE, IS, NOT IS
7. Sub Query – EXIST, not exist
8. WAQ to display the name, job, dept number of all the employees in dept\_no 10,20 and 30.

>> Select EmpName, job, dept\_num where dept\_id BETWEEN 10 AND 30;

1. WAQ to display details of the employee except for the employee getting salary 3000 and 1250.

>> Select \* From Emp where NOT Salary = “3000” OR NOT salary = “1250”;

1. WAQ to display all the details of employees who were hired between 81 and 85.

>> Select \* from emp where Hiring\_Date BETWEEN “01-JAN-81” AND “31-DEC-85”

1. WAQ to display name of the employee who has no reporting manager

>> SELECT EMP\_NAME FROM EMP WHERE REPORTING\_MANAGER IS NULL;

1. WAQ to display name of the employee who gets commission in dept 10

>> SELECT EMP\_NAME FROM EMP WHERE DEPT\_ID=”10” AND COMMISSION IS NOT NULL;

1. WAQ to display name of the employee who has 2 L’s in his name

>> SELECT EMP\_NAME FROM EMP WHERE EMP\_NAME LIKE ‘%LL%’;

1. WAQ to display all employees whose name starts with “s” or “a”.

>>SELECT \* FROM EMP WHERE EMP\_NAME LIKE ‘A%’ OR LIKE ‘S%’

1. WAQ to display all employees whose name starts with vowels.

>> SELECT \* FROM EMP WHERE EMP\_NAME LIKE ‘A%’ OR LIKE ‘E%’ OR LIKE ‘I%’ OR LIKE ‘O%’ OR LIKE ‘U%’ ;

1. WAQ to display all employees hired in November and December.

>> SELECT \* FROM EMPLOYEES WHERE HIRE\_DATE IN (%-Nov-%, %-Dec-%)

Functions

Single row functions and Multi row functions (Min, max, count, avg, sum)

1. WAQ to display average salary needed to pay for all employees

>> Select AVG(Salary) FROM EMP;

1. WAQ to display number of emp havin ‘a’ as first char

>> SELECT COUNT(EMP\_NAME) FROM EMP WHERE EMP\_NAME LIKE ‘A%’;

1. WAQ to display number of emp working as clerk or manager

>> SELECT COUNT(EMP\_NAME) FROM EMP WHERE DESIGNATION (‘CLERK’, ‘MANAGER’);

1. WAQ to display total salary needed to pay empl hired in feb

>> SELECT SUM(SALARY) FROM EMP WHERE HIRE\_DATE IN(FEB)

1. WAQ to display avg sal, total sal, number of emp and max salary given to emp who is working as president.

>> SELCT AVG(SALARY), SUM(SALARY), COUNT(EMP\_NAME), MAX(SALARY) FROM EMP WHERE DEIGNATION IN PRESIDENT;

1. WAQ to display number of emp’s having ‘a’ in their names.

>> SELECT COUNT(EMP\_NAME) FROM EMP WHERE EMP\_NAME LIKE “%A%”

GROUP BY

Group the data

HAVING

Filters the group

ORDER BY

Order in asc or dsc, by default asc.

1. WAQ to Display number of employees hired on same day into the same department.

>> SELECT COUNT(EMP\_NAME) FROM EMP

WHERE HIRE\_DATE

GROUP BY DEPARTMENT

1. WAQ to Display maximum salary given to an emp working in each department.

>> SELECT MAX(SAL) FROM EMP GROUP BY DEPARTMENT;

1. WAQ to Display total sal needed to pay and number of salesman in each department

>> SELECT SUM(SAL), COUNT(EMP\_NAME) FROM EMP GROUP BY ‘DEPARTMENT\_NAME’ HAVING ‘SALESMAN’

1. WAQ to Display name of the job if there are atleast 3 employees working in each job.

>> SELECT DEPARTMENT, ENAME FROM EMP GROUP BY DEPARTMENT HAVING COUNT(ENAME) > 3

1. WAQ to Display dept num and num of emp working only if there are 2 emp in each dept as manager

>> SELECT DEPARTMENT\_NAME, COUNT(ENAME) FROM EMP GROUP BY JOB HAVING

1. WAQ to Display dept num which has more than 2 employees and the total amount required to pay the monthly sal of all the employees in that dept and salary should be more than 9000.

>> SELECT DEPT\_ID, COUNT(EMP\_NAME), TOTAL(SAL) FROM EMP WHERE SAL>9000 GROUP BY DEPT\_ID HAVING COUNT(EMP\_NAME)>2;

1. WAQ to Display number of employees working in each dpt and its avg salary by excluding all the employees whose salary is less than their commission.

>> SELECT COUNT(EMP), DEPT\_NAME, AVG(SALARY) FROM EMP WHERE SALARY > COMMISSION GROUP BY DEPT\_NAME.

SUB QUERIES

OPERATORS

1. ALL (COL\_NAME > ALL(V1,V2,V3))
2. ANY
3. WAQ to display all the employees getting salary more than scott and hired before james.

>> SELECT(SELECT HIRE\_DATE FROM EMP WHERE ENAME=’SCOTT’ AND ENAME = ‘JAMES’)

1. WAQ to display manager name of Turner

>>

1. WAQ to display names of all employees working in accounting department.

>> SELECT ENAME FROM EMP WHERE (SELECT DEPT\_NAME FROM EMP WHER DEPT\_NAME = ‘ACCOUNTING’)

1. WAQ to display name and annual salary of all the employees if their annual salary is more than james

>> SELECT ENAME, SALARY FROM EMP WHERE SALARY > (SELECT SAL FROM EMP WHERE ENAME = ‘JAMES’)

1. WAQ to display number of employees working in location “dallas”

>> SELECT COUNT(EMP\_id) FROM EMP WHERE LOCATION = ‘DALLAS’.

1. WAQ to display name, sal and dept number of an employee who is working in ny and earns salary more than Ford

>> SELECT NAME, SAL, DEPT\_ID FROM EMP WHERE LOCATION = ‘NEW-YORK’ AND SALARY> (SELECT SAL FROM EMP WHERE ENAME=’FORD’);

1. Write a query to display number of employees working in accounts department

>> SELECT COUNT(ENAME) FROM EMP WHERE DEPT\_NAME IS (SELECT ENAME FROM EMP WHERE DEPT\_NAME = ‘ACCOUNTING’)

1. List the dept name having atleast 3 salesman in it.

>> SELECT COUNT(ENAME) FROM EMP WHERE

1. Display the dname of the employees who has no reporting manager

>> SELECT DEPT\_NAME FROM DEPT WHERE (SELECT MGR FROM MANGER WEHRE MGR = ‘NULL’)

1. Display all the employees who is having the location same as adam’s manager

>>

1. WAQ to display the employee names whose deptname has second character as O.
2. WAQ to display all the employees in operation and accounting dept.
3. WAQ to display DETAILS OF EMP IF EMP EARNING MORE THAN ATLEAST ONE OF THE MAN
4. WAQ to display list of emp’s hired after all the clerk
5. WAQ to display names of employee whose sal is 4TH max salary

JOINS

* Cartesian join
* Inner join
* Outer join – left, right, full
* Self join

1. WAQ to display emp name and dept name for all the employees

>> Select emp.emp\_name, dept.dept\_name from emp e inner join department ON emp.dept\_id=dept.dept\_id

1. WAQ to display empname deptname and location for all the employees who were hired during 1987

>> select emp.ename, dept.dname, emp.location from emp where HIRE\_DATE between ’01-01-1987’ and ’31-12-1987’

inner join dept on emp.dept\_id = dept. dept\_id;

1. WAQ to display dname and job for the employees who work in dept 20 or 30

>> select dept.dname, emp.job from emp where dept\_id between 20 and 30 inner join emp.dept\_id =dept.dept\_id

Select \* from tn1, tn2 where (condition) tn1.col=tn2.col

LOJ – (tn1.cn=tn2.cn(+))

ROJ – (tn1.col(+)=tn.col)

Self join – select \* from tn1, tn2 where (join condition)

1. WAQ to display name of emp and his managers name if emp is working as clerk

>> select e1.ename Emp, e2.ename Mgr

from employeese1

inner join employees e2

on e1.mgr = e2.empid

1. WAQ to display emp\_name and manager name and their salaries if emp earns more than manager
2. WAQ to query display employee name, managers commission if employee works as salesman and manager works in dept 30

>> select emp.ename e1, comm..manager, emp.job from employees

1. WAQ to display Scott’s manager’s manager name
2. WAQ to display emp name and manager name if manager is working as actual manager