Database Management Systems II

SQL – Revision

Consider the following schema

Emp(*eid:* integer, *ename:* string, *age:* integer, *salary:* real)

Works (eid: integer, *did:* string, *pct-time:* integer)

Dept(did: string, *budget:* real, *managerid:* integer)

An employee can work in more than one department; the *pct-time* field of the Works relation shows the percentage of time that a given employee works in a given department. *Managerid* filed shows the employee id of the manager who manages the department.

Write SQL statements for the following

1. Create the Emp table with following conditions
    a. Name of the employees cannot be null
    b. Employee's salary should be greater than zero
2. Create the dept table as given in the schema
3. Create the work table with the required foreign key constraints
4. Insert the following row to the Emp table

eid	Ename	age	Salary
1000	Ruwan	33	40000

5. Add a column named *hireDate* to the employee table. Default value for t`he *hireDate* is the current date.
6. Update the hireDate of the above employee to 1st January 2010.
7. Delete the row inserted in question 4.
8. Delete the hire date column from the Emp table
9. Delete the Emp table from the database
10. Display the name and the salary of all employees
11. List the name and the salary of all employees in the descending order of his/her salary.
12. Display the name and the salary of all employees who obtain a salary greater than 50000.
13. Display the name of all employees whose name starts with a letter 'S'
14. Display the names of employees who work in a department.
15. Display the names of employees who are not assigned to any department yet.
16. Display the names and the ages of each employee who works in either 'ITSD' or 'Academic' departments.
17. Display the names and the ages of each employee who works in both 'ITSD' and 'Academic' departments.

18. For all departments, display the name of the department and the names of the employees working in it.
19. Display the minimum and maximum salary of employees.
20. Display the employees' name and the total percentage he/she has worked in total.
21. Display the department name and the number of employees in each department.
22. Display the names of the employee who work more than 90%.
23. Display the name of departments who have the total of salary exceeding 100000 LKR.
24. Display the name of each employee whose salary exceeds the budget of all departments that he or she work in.
25. Find the manager ids of managers who manage only departments with budgets greater than 1000000 LKR.
26. Find the name of the manager who manages the departments with the largest budget.
27. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the manager id of the managers who control more than 5,000,000 LKR.
28. Find the manager id of manager who controls the largest amount.

Emp

eid	ename	age	salary
1000	Lakmal	33	90000
1001	Nadeeka	24	28000
1002	Amila	26	35000
1003	Nishani	28	60000
1004	Krishan	36	95000
1005	Surangi	37	22000
1006	Shanika	24	18000
1007	Amali	21	20000
1008	Charith	28	35000
1009	Prasad	40	95000

Works

eid	did	Pct_time
1000	Admin	40
1000	ITSD	50
1001	Admin	100
1002	Academic	100
1003	Academic	20
1003	Admin	20
1003	ITSD	45
1004	Academic	60
1004	Finance	30
1006	Finance	30
1006	Maintenance	52
1008	Finance	35
1008	ITSD	30
1008	Maintenance	30
1009	Admin	100

Dept

did	budget	Manager id
Academic	900000	1002
Admin	120000	1000
Finance	3000000	1008
ITSD	4500000	1000
Maintenance	40000	1004
SESD	20000	1004
Marketing	90000	1008

```
create database sql3

use sql3
create table emp
(
	eid integer primary key,
	ename varchar(25),
	age int,
	salary float
)

insert into emp values(1000,'Lakmal',33,90000)
insert into emp values(1001,'Nadeeka',24,28000)
insert into emp values(1002,'Amila',26,35000)
insert into emp values(1003,'Nishani',28,60000)
insert into emp values(1004,'Krishan',36,95000)
insert into emp values(1005,'Surangi',37,22000)
insert into emp values(1006,'Shanika',24,18000)
insert into emp values(1007,'Amali',21,20000)
insert into emp values(1008,'Charith',28,35000)
insert into emp values(1000,'ruwan',33,40000)

create table dept
(
did char(12) primary key,
budget float,
managerId int foreign key references emp
)

insert into dept values('Academic',900000,1002)
insert into dept values('Admin',120000,1000)
insert into dept values('Finance',3000000,1008)
insert into dept values('ITSD',4500000,1000)
insert into dept values('Maintenance',40000,1004)
insert into dept values('SESD',20000,1004)
insert into dept values('Marketing',90000,1008)

create table works
(
eid int foreign key references emp,
did Char(12) foreign key references dept,
pct_time int,
primary key(eid,did)
)

insert into works values(1000,'Admin',40)
insert into works values(1000,'ITSD',50)
insert into works values(1001,'Admin',100)
insert into works values(1002,'Academic',100)
insert into works values(1003,'Admin',20)
insert into works values(1003,'Academic',30)
insert into works values(1003,'ITSD',45)
insert into works values(1004,'Admin',60)
insert into works values(1004,'Finance',30)
insert into works values(1006,'Finance',45)
insert into works values(1006,'Maintenance',52)
insert into works values(1008,'Maintenance',30)
insert into works values(1008,'ITSD',30)
```

```
insert into works values(1008,'Finance',35)
insert into works values(1009,'Admin',100)

--5
Alter table Emp add hireDate date default getdate()
--6
update Emp
set hireDate='1-Jan-2010'
where eid=1000

--7
delete Emp
where eid=1000

--8
drop table Emp

--10
select ename, salary
from Emp
--11
select ename, salary
from Emp
order by salary desc


--12
select ename, salary
from Emp
where salary >50000

--13
select ename
from Emp
where ename like 's%'

--14
select w.eid
from Emp e ,Works w
where e.eid =w.eid
group by w.eid

--16
select Distinct e.ename,e.age
from Emp e inner join Works w on w.eid=e.eid
where w.did='ITSD' or w.did='Academic'
--17
select Distinct e.ename,e.age
from Emp e inner join Works w on w.eid=e.eid
where w.did='ITSD' and w.did='Academic'
--18
select w.did,e.ename
from Works w, Emp e
where e.eid=w.eid
group by  w.did,e.ename

--19
select min(salary)
```

```
from Emp
select max(salary)
from Emp

--20
select e.ename ,sum(w.Pct_time)
from Emp e,Works w
where e.eid=w.eid
group by w.eid,e.ename

--21
select did,count(eid)
from works
group  by did

--22
select e.ename,sum(w.Pct_time) as Percentage
from Emp e, Works w
where e.eid=w.eid
group by w.eid,e.ename
having sum(w.Pct_time) >90
```