Web Application Homework 1

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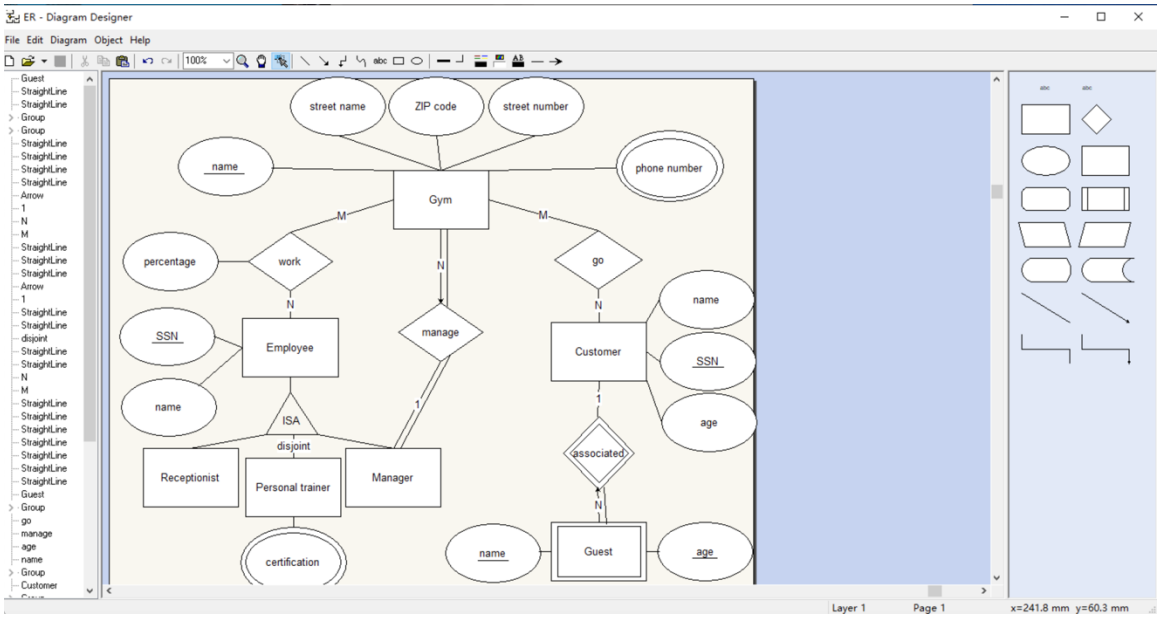
1.

(1)



(2)

Create table Gym
(name varchar(15),
street_name varchar(15),
ZIP_code int(5),
street_number varchar(10),
manager varchar(15),
primary key(name)
foreign key(manager) references employee(ssn))

create table phone_number
(phone_number int,
Gym varchar(15),
Primary key(phone_number,gym),
Foreign key(gym) references gym(name)
)

create table work
(work_place varchar(15),
Worker varchar(15),
Percentage float,

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Primary key(work_place,worker),
Foreign key(work_place) references gym(name),
Foreign key(worker) references employee(ssn))

Create table employee
(ssn varchar(15),
Name varchar(15),
Speciality varchar(15),
Primary key(ssn))

Create table certification
(certification varchar(15),
Personal_trainer varchar(15),
Primary key(certification,personal_trainer),
Foreign key(personal_trainer) references employee(ssn))

Create table customer
(ssn varchar(15) not null,
Name varchar(15),
Age int,
Primary key(ssn))

Create table go
(customer varchar(15),
Gym varchar(15),
Primary key(customer,gym),
Foreign key(customer) references customer(ssn),
Foreign key(gym) references gym(name))

Create table guest
(name varchar(15) not null,
Age int not null,
Customer varchar(15) not null,
Primary key(name,age,customer),
Foreign key(customer) references customer(ssn))
```

2.

(1)

```
select sname from suppliers where not exists
(select p.pid from parts as p )
except
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(select c.pid from catalog as c where c.pid=p.pid))
(2)
select sid from catalog as c where c.cost >
(select avg(cost) as avg_cost from catalog as r where c.pid=r.pid group by r.pid)
(3)
Select sid from catalog as c where c.cost >
(select max(cost) as max_cost from catalog as r where c.pid=r.pid group by r.pid)
(4)
Select sid from catalog as c where not exists
(Select pid from parts as p where p.pid=c.pid
And p.color<> 'red')
(5)
Select sid from catalog as c,parts as p where c.pid=p.pid
And p.color=' green' or p.color=' red'
(6)
Select max(cost),sname from suppliers as s,catalog as c,parts as p where c.pid=p.pid
And p.color in ('green' ,' red')

3.
(1)
Select moviename from movies as m,moviesupplier as ms,suppliers as s
Where s.suppliername=' bens' video' or s.suppliername=' video clubhouse
And m.moviesid=ms.moviesid and ms.supplierid=s.supplierid
(2)
Select moviename from movies as m,inventory as i,rentals as r
Where r.duration >= any(r.duration) and r.tapleid=i.tapleid and i.movieid=m.movieid
(3)
Select suppliername from supplier as s where s.supplierid not in
(select supplierid from moviesupplier as ms, inventory as I where not exists
(select * from moviesupplier as ms1,inventory as i1
Where ms1.movieid=i1.movieid and i1.movieid=i.movieid and ms1.supplierid=ms.supplierid))
(4)
Select s.suppliername,i.count(tapleid) as movienumber
From suppliers as s,moviesupplier as ms,inventory as I
Where s.supplierid=ms.supplierid and ms.movierid=i.movieid
Group by s.supplierid
(5)
Select moviename from movies as m,orders as o
Where m.movieid=o.movieid
Group by m.moviename
Having sum(o.copies)>4

(6)
Select lastname,firstname from customers as c,rentals as r,inventory as l,movies as m
Where ccustid=r.customerid and r.tapleid=i.tapleid and i.movieid=m.movieid
And m.moviename=’ kung fu panda’
Union
Select lastname,firstname from customers as c,rentals as r,inventory as l,moviesupplier as ms
Where ccustid=r.customerid and r.tapleid=i.tapleid and i.movieid=ms.movieid
And ms.supplierid in
(select supplierid from suppliers as s where s.suppliername=’ palm video’)
(7)
Select m.moviename from movie as m
Where m.movieid in
(select distinct o.movieid from orders as o where o.copies >1)
(8)
Select c.lastname,c.firstname from customers as c
Where c.custid in
(select r.customerid from rentals as r where r.duration >5)
(9)
Select s.suppliername from supplier as s
Where s.supplierid in
(select ms.supplierid from moviesupplier as ms,movies as m
Where ms.movieid=m.movieid and m.moviename=’ cinderella 2015
And price > all (select price from moviesupplier as ms1,movies as m1
Where ms1.movieid=m1.movieid and m.moviename=’ cinderella 2015’))
(10)
Select m.moviename from movies as m
Where m.movieid not in
(select distinct i.movieid from inventory as l)

4.
(a)
Because this is a trigger which does action before the real modification, the database would firstly run the SQL query in the trigger and then set the tuple back to (111,3)
Update purchase
Set price=newtuple.price/2
Where purchaseid=newtuple.puerchaseid
End
(111,1.5)
Update purchase
Set price=3
Where purchaseid=111

(111,3) as our final result

(b)

Because this is a trigger which does action after the real modification, the database would firstly change the value to(111,3) and then run the SQL query in the trigger to set the value to (111,1.5)

Update purchase

Set price=3

Where purchaseid=111

(111,3)

Update purchase

Set price=newtuple.price/2 /* newtuple.price=3 */

Where purchaseid=newtuple.puerchaseid /* newtuple.purchaseid=111 */

End

(111,1.5) as our final result

(c)

Because this is a trigger which does action from SQL query from the trigger instead of does the real modification the trigger would run the SQL query only which results in (111,1.5)

Update purchase

Set price=newtuple.price/2 /* newtuple.price=3 */

Where purchaseid=newtuple.puerchaseid /* newtuple.purchaseid=111 */

End

(111,1.5). as our final result