1) Select the author firstname and last name

select au\_fname, au\_lname from authors

2) Sort the titles by the title name in descending order and print all the details

select \* from titles order by title

3) Print the number of titlespublished by every author

select count(title\_id), au\_id from titleauthor group by au\_id

4) print the author name and title name

select Concat(au\_lname, ' ', au\_fname)'Author', title from authors a

join titleauthor ta

on a.au\_id = ta.au\_id

left join titles t

on t.title\_id = ta.title\_id

5) print the publisher name and the average advance for every publisher

select pub\_name, avg(advance)'Avg Advance' from publishers p

left join titles t

on p.pub\_id = t.pub\_id

group by pub\_name

6) print the publishername, author name, title name and the sale amount(qty\*price)

select title, Concat(au\_lname, ' ', au\_fname)'Author', qty \* price,

pub\_name from titles t

left join publishers p

on t.pub\_id = p.pub\_id

left join titleauthor ta

on ta.title\_id = t.title\_id

join authors a

on a.au\_id = ta.au\_id

left join sales s

on s.title\_id = t.title\_id

7) print the price of all that titles that have name that ends with s

select price, title from titles where title like '%s'

8) print the title names that contain and in it

select title from titles where title like '%and%'

9) print the employee name and the publisher name

select Concat(fname, ' ', lname)'Employee Name', pub\_name from employee e

join publishers p

on p.pub\_id = e.pub\_id

10) print the publisher name and number of employees woking in it if the publisher has more than 2 employees

select pub\_name, count(emp\_id)'Total Employee' from employee e

join publishers p

on p.pub\_id = e.pub\_id

group by pub\_name having count(emp\_id)>2

11) Print the author names who have published using teh publisher name 'Algodata Infosystems'

select Concat(au\_lname, ' ', au\_fname)'Author Name' from authors a

join titleauthor ta

on ta.au\_id = a.au\_id

left join titles t

on t.title\_id = ta.title\_id

where t.pub\_id = (select pub\_id from publishers p where pub\_name = 'Algodata Infosystems'

)

12) Print the employees of the publisher 'Algodata Infosystems'

select concat(lname,' ', fname)'Employee Name' from employee e

join publishers p

on p.pub\_id = e.pub\_id

where p.pub\_name = 'Algodata Infosystems'

14)Create the following tables

Employee(id-identity starts in 100 inc by 1,

Name,age, phone cannot be null, gender)

create table tblEmployee(

empID int identity(100,1) primary key,

empName varchar(100),

empAge int,

empPhone varchar(15) not null,

empGender varchar(10)

)

Salary(id-identity starts at 1 increments by 100,

Basic,HRA,DA,deductions)

create table tblSalary(

salID int identity(1,100) primary key,

salBasic float,

salHRA float,

salDA float,

salDeduction float

)

EmployeeSalary(transaction\_number int,

employee\_id-reference Employee's Id

Salary\_id reference Salary Id,

Date)

create table tblEmpSalary(

transNo int primary key,

empID int constraint fk\_empSal references tblEmployee(empID),

salID int constraint fl\_empSal\_1 references tblSalary(salID),

transDate datetime

)

PS - In the emeployee salary table transaction number is the primary key

the combination of employee\_id, salary\_id and date should always be unique

Add a column email-varchar(100) to the employee table

alter table tblEmployee

add email varchar(100)

Insert few records in all the tables

insert into tblEmployee values ('Ester Ding','30','9352008','female','esterding@yahoo.com')

insert into tblEmployee values ('Koh Meng Hu','25','9865889','male','menghu@hotmail.com')

insert into tblEmployee values ('Loqman Abdul','22','9877587','male','abdul@yahoo.com')

insert into tblEmployee values ('Dywah','20','9111452','female','dyway@gmail.com') insert into tblEmployee values ('David Frankton','28','9543210','male','franktond@gmail.com')

insert into tblSalary values(2000,1000,1000,200)

insert into tblSalary values(5000,1500,800,500)

insert into tblSalary values(10000,800,2000,100)

insert into tblSalary values(3500,200,600,500)

insert into tblEmpSalary values(1,101,1,'2021-06-20')

insert into tblEmpSalary values(2,102,101,'2021-06-18')

insert into tblEmpSalary values(3,103,201,'2021-06-15')

insert into tblEmpSalary values(4,100,301,'2021-06-21')

insert into tblEmpSalary values(5,100,201,'2021-07-21')

Create a procedure which will print the total salary of employee by taking the employee id and the date

total = Basic+HRA+DA-deductions

create proc proc\_printTotalSal(@empId int, @date datetime)

as

begin

print 'employee id : ' + cast(@empId as varchar(10))

declare

@count int

set @count = (select count(transNo) from tblSalary s

inner join tblEmpSalary es on es.salID = s.salID

where es.empID = @empId and es.transDate = @date)

if(@count >0)

begin

declare

@total float,

@basic float,

@hra float,

@da float,

@deduction float

set @basic = (select salBasic from tblSalary s

inner join tblEmpSalary es on es.salID = s.salID

where es.empID = @empId and es.transDate = @date)

set @hra = (select salHRA from tblSalary s

inner join tblEmpSalary es on es.salID = s.salID

where es.empID = @empId and es.transDate = @date)

set @da = (select salDA from tblSalary s

inner join tblEmpSalary es on es.salID = s.salID

where es.empID = @empId and es.transDate = @date)

set @deduction = (select salDeduction from tblSalary s

inner join tblEmpSalary es on es.salID = s.salID

where es.empID = @empId and es.transDate = @date)

set @total = @basic + @hra + @da - @deduction

print ' salary : ' + cast(@total as varchar(10))

end

else

print ' salary : -'

end

Create a procudure which will calculate the average salary of an employee taking his ID

create proc proc\_calAvgSalary(@empID int)

as

begin

declare

@avgSalary float,

@numOfMonths int

set @numOfMonths = (select count(transNo) from tblEmpSalary

where empID = @empID)

if(@numOfMonths>0)

begin

declare

@totalBasic float,

@totalDeduction float,

@totalhra float,

@totalda float

set @totalBasic = (select sum(s.salBasic) from tblSalary s

inner join tblEmpSalary es

on s.salID = es.salID

and empID = @empID)

set @totalDeduction = (select sum(saldeduction) from tblEmpSalary es

join tblSalary s

on s.salID = es.salID

where empID = @empID)

set @totalhra = (select sum(salHRA) from tblEmpSalary es

join tblSalary s

on s.salID = es.salID

where empID = @empID)

set @totalda = (select sum(salDA) from tblEmpSalary es

join tblSalary s

on s.salID = es.salID

where empID = @empID)

set @avgSalary = (@totalBasic - @totalDeduction + @totalhra + @totalda)/@numOfMonths

print 'Average salary per month is : ' + cast(@avgSalary as varchar(10))

end

else

print 'Average salary per month is : -'

end

Create a procedure which will catculate tax payable by employee

Slabs as follows

total - 100000 - 0%

100000 > total < 200000 - 5%

200000 > total < 350000 - 6%

total > 350000 - 7.5%

create proc proc\_calTax(@empID int)

as

begin

declare

@count int

set @count = (select count(transNo) from tblEmpSalary

where empID = @empID)

if(@count > 0)

begin

declare

@totalSalary float,

@totalBasic float,

@totalDeduction float,

@totalhra float,

@totalda float

set @totalBasic = (select sum(s.salBasic) from tblSalary s

inner join tblEmpSalary es

on s.salID = es.salID

and empID = @empID)

set @totalDeduction = (select sum(saldeduction) from tblEmpSalary es

join tblSalary s

on s.salID = es.salID

where empID = @empID)

set @totalhra = (select sum(salHRA) from tblEmpSalary es

join tblSalary s

on s.salID = es.salID

where empID = @empID)

set @totalda = (select sum(salDA) from tblEmpSalary es

join tblSalary s

on s.salID = es.salID

where empID = @empID)

set @totalSalary = (@totalBasic - @totalDeduction + @totalhra + @totalda)

print cast(@totalSalary as varchar(10))

if(@totalSalary <= 100000)

print 'Payable tax is : 0'

else if(@totalSalary > 100000 and @totalSalary <= 200000)

print 'Payable tax is : ' + cast(@totalSalary \* 0.05 as varchar(10))

else if(@totalSalary > 200000 and @totalSalary <= 350000 )

print 'Payable tax is : ' + cast(@totalSalary \* 0.06 as varchar(10))

else if(@totalSalary > 350000 )

print 'Payable tax is : ' + cast(@totalSalary \* 0.075 as varchar(10))

end

else

print 'Payable tax is : 0'

end

15) Create a function that will take the basic,HRA and da returns the sum of the three

create function fn\_newSum(@empID int, @date datetime)

returns float

as

begin

declare

@sum float,

@basic float,

@hra float,

@da float

set @basic = (select salbasic from tblSalary s

join tblEmpSalary es

on es.salID = s.salID

where es.transDate =@date and empID = @empID)

set @hra = (select salHRA from tblSalary s

join tblEmpSalary es

on es.salID = s.salID

where es.transDate = @date and empID = @empID)

set @da = (select salDA from tblSalary s

join tblEmpSalary es

on es.salID = s.salID

where es.transDate = @date and empID = @empID)

set @sum = @basic + @hra + @da

return @sum

end

16) Create a cursor that will pick up every employee and print his details

then print all the entries for his salary in the employeesalary table.

Also show the salary splitt up(Hint-> use the salary table)

17) https://www.hackerrank.com/challenges/maximum-element/problem

18) https://www.geeksforgeeks.org/find-if-there-is-a-subarray-with-0-sum/