SQL Queries

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Creating database

1. Create database venky ---------- **Creating Database**
2. Use venky ---------- **using Database**

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Creating table

1. **Creating simple table without constraints**

```
create table p2(p_id int ,LastName varchar(50),FirstName varchar(50),address
varchar(50),City varchar(50))
```

2. **Creating table with constraints**

```
create table practice( fname varchar(50)not null,lname varchar(50)not
null,hire_date smalldatetime null,ssn char(11)not null)
```

3. **Creating table using primary key**

```
create table p2(p_id int primary key ,LastName varchar(50),FirstName
varchar(50),address varchar(50),City varchar(50))
```

4. **Creating table using foreign key**

```
create table o2(o_id int ,orderno int,p_id int foreign key references p2(p_id)
)
```

5. **Creating table using foreign key and using commands ondelete cascade , onupdate cascade**

```
create table dept(id int,dname varchar(50),eid int foreign key references persons(eid) on update
cascade on delete cascade)
```

Note: Cascade constraints removes constraint of other tables that depend on the table being dropped

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Forget to keep primary key and foreign key in table …… use this query

Step1: First not null the field

```
alter table city alter column ctid varchar(40) not null
alter table city add primary key (ctid)
```

Step2: Adding Foregin key

```
alter table state ADD FOREIGN KEY (cid) REFERENCES country(cid)
alter table city ADD FOREIGN KEY (sid) REFERENCES state(sid)
alter table city ADD FOREIGN KEY (sid) REFERENCES state(sid)
```

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Alter Commands

1. **Adding Column**

```
Alter table emp ADD addresss varchar(50)
```

2. **Droping Column**

```
Alter table emp drop column doj
```

3. **Modifying a single column**

```
Alter table emp modify/Alter column address varchar(100)
```

4. **Modifying a multiple columns using a single modify clause**

```
Alter table emp modify/alter
(
address varchar(150)
eid varchar(50)
ename varchar(100)
)
```

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Insert Command

```
insert into p2 values(1,'venky','yknev','bangalore','ks')
insert into p2 values(2,'venkatesh','hsetaknev','btm','bangalore')
insert into p2 values(3,'kvr','rvk','silkboard','bangalore')
```

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Update Command

```
Update emp set ename='venkat' where  eid =1
Update emp set ename='venky' where  eid =2
Update emp set ename='venkatesh' where  eid =3
```

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Delete Command

```
delete from p2 where empid='s403'
delete from p2 where empid='s403'
delete from p2 where empid='s403'
```

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Select Command

```
Select * from employee
```

```
Select * from  p2 where LastName='kvr'
```

Note: The WHERE clause is used to extract only those records that fulfill a specified criterion

```
Select * distinct  p2
```

Note: The DISTINCT keyword can be used to return only distinct (different) values

Grouping ,Ordering and Having functions

```
select eid,ename from emp groupby eid
```

Note: Group by clause is used to group the data on the specified column

```
select eid,ename from emp where having price>50
```

Note : Having by is used to filter groups based on group condition

```
select eid ,ename from emp orderby eid
```

Note: order by is used to keep in order according to the condition

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Sql functions

select ceiling(21.121) output : 22

select ceiling(21.00) ouptut :22
select floor(21.121) ouptut :21
select floor(21.10) ouptut :21
select len('venky') ouptut : 5
select upper('venky') ouptut :VENKY
select lower('vEnKy') ouptut :venky
select reverse('venky') ouptut :yknev

select ascii('a') ouptut :97

select ascii('venky') ouptut : 118
select char(114) ouptut :r
select char(65) ouptut :A
select left('venkatesh',2) ouptut :ve
select right('venkatesh',2) ouptut : ky
select * from emp where left(ename,1)='s' ouptut : displaying record with name “s”
select ltrim(' venky') ouptut : venky(it clear left values)
select rtrim('venky ') ouptut :venky(it clear right values)

select substring('venkatesh',2,3) ouptut :enk (it starts from 2 character and ending third charter from second)

select * from emp where soundex(empname)=soundex('venky')

0/p: displaying record which sounds name venky

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Date functions

select getdate() o/p: displaying current date and time

select datepart(yy,getdate()) o/p: displays only current year

select datepart(yyyy,getdate())o/p: displaying only current year
select datepart(mm,getdate()) o/p: displaying only current month
select datepart(m,getdate()) o/p: displaying only current month

Get weak of year

select datepart(ww,getdate())
select datepart(wk,getdate())

Get day of year

select datepart(y,getdate())
select datepart(dy,getdate())

Get day of month

select datepart(d,getdate())
select datepart(dd,getdate())

Get day of weak

select datepart(w,getdate())
select datepart(dw,getdate())
select datepart(hh,getdate()) O/p: get how many hours completed
select datepart(ss,getdate()) o/p : get how many seconds completed
select datepart(s,getdate()) o/p: get how many hours completed
select datepart(ms,getdate()) o/p: get how many milliseconds completed

Get quarter of year

```
select datepart(qq,getdate())          o/p: get how many days completed
select datename(m,getdate())           o/p: get  current month in alphabetical form
select datename(yy,getdate())          o/p: get current year
select year(getdate())                 o/p: get current year
select month(getdate())                o/p: get current month
select day(getdate())                  o/p: get current date
```

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Searching and Finding

1. **Finding the values in table**

```
Select  * from emp where eid=1
```

2. **Using like operator**

```
select empid ,empname from emp where empname like 'r%'  –  displays names with r
select empid ,empname from emp where empname like '_a%'  -   displays name with second
letter ‘a’
select empid ,empname from emp where empname like '%k'   - displays names ending with ‘k’
select empid ,empname from emp where empname like 'ven%'   —   displays names with ‘ven’

select empname from emp where salary like '_5_%'
select empname from emp where empname like '__n%'
select empname from emp where empname like '%y'
select empname from emp where empname like '__n%y'
select empname from emp where empname like '__n%' and empname  not like '%a'
select empname from emp where salary not like '1%'
select * from emp where empname in(select empname from emp where empname!='venky');
select empname from emp where empname like 'v%' and salary like '2%'
select empname from emp  where  salary  is  null
select empname from emp  where  salary  is not  null
select empname  from emp where empname like '[a-z]%[A-Z]%[%]'
select empname  from emp where empname like '[a-z][A-Z]%[%]'
select empname  from emp where empname like '[a-z,A-Z]%[%]'
select empname  from emp where empname like '[ASCII48-ASCII 73, ASCII 7
ASCII100]%[%]'
```

3. **Without using Like Operator**

a. Find also name for specific location char

```
select empname from emp where charindex('V',empname)=1
```

b. Find position of char by charindex

```
select empname,charindex('v',empname) from emp
```

c. patindex.....same as charindex.....

```
select empname from emp where patindex('s%',empname)=1
select empname,patindex('v%',empname) from emp
```

4. **Find column in table**

```
select column_name  from information_schema.columns where table_name='emp'
```

5. **Displaying table in inserted form:**

```
select * from emp e where 0=(select count(distinct sal) from emp where sal>e.sal)
```

6. **Max salary without using max()**

```
select * from emp e where 0=(select count(distinct salary) from emp where salary>e.salary)
```

7. **Using keyword "Not in" …….. it does not show records which having sal 10000 and 50000**

```
select sal from rec where sal not in(10000,50000)
```

8. **Using keyword "not between" ---------** not displays the records which in between 1 and 3 and also not display 1,3 records

```
select * from emp  where empid not  between 1 and 3
```

9. **Count No of Record For the same ID and Show the total quantity**

```
select empname,count(*) as quantity  from emp  group by empname having count(*)>1
```

10. **Query to count no. Of columns in a table....**

```
select Count(*) AS COLUMNCOUNT  from sys.columns where object_id = object_id('emp')
```

```
select  count(*) from information_schema.columns where table_name = 'emp'
```

11. **Find 3rd,4th,5th highest salary from emp without using top function**

```
select * from emp e where 2=(select count(distinct salary) from emp where salary>e.salary)
union
 select * from emp e where 3=(select count(distinct salary) from emp where salary>e.salary)
union
 select * from emp e where 4=(select count(distinct salary) from emp where salary>e.salary)
order by salary desc
declare @i int
set @i=1
while @i<=2
while @i<=3
begin
set @i=@i+1
select * from emp e where @i=(select count(distinct salary) from emp where salary>e.salary)
print @i
end
```

12. **Find the 5th record from emp without using top function**

```
select * from emp e where 4=(select count(distinct salary) from emp where salary>e.salary)
```

13. **How to delete alternative columns in table**

```
Select * from emp where eid%2< >1/0
```

14. **Query to display only the duplicate records in a table**

```
select * from emp


select  * from emp where empname  in (select  empname  from emp group by  empname having
count (empname)> 1)


select distinct empname,designation,address,salary from emp
 where empname in (select empname from emp group by empname having count (empname)>1)
```

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Merging the column in single column by id

```
create table Venky (id int, question varchar(20),answer varchar(20))
insert into Venky values(1,'Name','Venky')
insert into Venky values(1,'Qualification','BE')
insert into Venky values(1,'Nationality','Indian')
insert into Venky values(2,'Name','Venkatesh')
insert into Venky values(2,'Qualification','BE')
insert into Venky values(3,'Qualification','BE')
select * from Venky
```

Id	Question	Answer
1	Name	Venky
1	Qualification	BE
1	Nationality	Indian
2	Name	Venkatesh
2	Qualification	BE
3	Qualification	BE

```
SELECT id,
[Name]= (SELECT answer FROM Venky WHERE question = 'Name' and id=v.id),
[Qualification]= (SELECT answer FROM Venky WHERE question = 'Qualification' and
id=v.id) ,
[Nationality]= (SELECT answer FROM Venky WHERE question = 'Nationality' and id=v.id)
FROM Venky v
GROUP BY id
```

Select * from venky

Id	Name	Qualification	Nationality
1	Venky	BE	Indian
2	Venkatesh	BE	NULL
3	NULL	BE	NULL

drop table Venky

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Joins

Full Join

```
SELECT P2.LastName, P2.FirstName, O2.OrderNo
FROM P2
full JOIN O2
ON P2.P_Id=O2.P_Id
```

Output:

```
LastName            FirstName           OrderNo
venky               yknev               12345
venky               yknev               12345
venkatesh           hsetaknev           12345
venkatesh           hsetaknev           12345
kvr                 rvk                 NULL
NULL                NULL                12345
```

Inner Join

```
SELECT P2.LastName, P2.FirstName, O2.OrderNo
FROM P2
inner JOIN O2
ON P2.P_Id=O2.P_Id
```

Output:

LastName FirstName OrderNo

venky	yknev	12345
venky	yknev	12345
venkatesh	hsetaknev	12345
venkatesh	hsetaknev	12345

Right Join

```
SELECT P2.LastName, P2.FirstName, O2.OrderNo
FROM P2
RIGHT JOIN O2
ON P2.P_Id=O2.P_Id
```

Output:

LastName	FirstName	OrderNo
venky	yknev	12345
venky	yknev	12345
venkatesh	hsetaknev	12345
venkatesh	hsetaknev	12345
NULL	NULL	12345

Left Join

```
SELECT P2.LastName, P2.FirstName, O2.OrderNo
FROM P2
Left JOIN O2
ON P2.P_Id=O2.P_Id
```

Output:

LastName	FirstName	OrderNo
venky	yknev	12345
venky	yknev	12345
venkatesh	hsetaknev	12345
venkatesh	hsetaknev	12345
kvr	rvk	NULL

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Date Conversions

standard format
select convert(varchar,getdate(),100)
us standard format
select convert(varchar,getdate(),101)
french
select convert(varchar,getdate(),102)

spanish
select convert(varchar,getdate(),103)
select convert(varchar,getdate(),127)

Finding days,months,year between two dates

```
Select datediff(day/month/year/,startdate,enddate)
```

How to concatenate a column value with multiple rows

```
select cast(empname+''+address+''+designation as nvarchar(50)) from emp
```

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Sub queries

Displaying highest sal

```
select empid from emp where sal=(select max(sal) from emp)
```

Multiple Subqueries

```
Select * from emp where eid in (select eid from emp where sal>5000)
```

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Top n Analysis

```
Select * from (select * from empid order by sal desc) where rownum<=1
```

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Exists and Not Exists Operator

```
Select * emp where exists(select * from empname where emp.empid=empid
```

Store procedures

Creating a store procedure:

```
create proc myproc
@id int,
@name varchar(50)
as
begin
            sql command
end

exec myproc
```

Examples for store procedures:

```
create table country1(cid varchar(50),cname varchar(50))

create proc countrysp(@cid varchar(50),@cname varchar(50))
as
begin
```

```
declare @char1 varchar(50)
select @char1=cname from country1 where cname=@cname
if(@char1=@cname)
 print'value already exists'
else
      insert into country1 values(@cid,@cname)
end

exec countrysp '1','aus'
```

```
create table statesp(sid varchar(50),sname varchar(50),cid varchar(50))

alter proc stateinsp1(@sid varchar(50),@sname varchar(50),@cid varchar(50))
as
begin
declare @char1 varchar(50)
declare @char2 varchar(50)
select @char1=sname from statesp where sname=@sname
select @char2=cid from statesp where cid=@cid
if(@char1=@sname and @char2=@cid)
 print'value already exists'
else
      insert into statesp values(@sid,@sname,@cid)
end

exec stateinsp1 '2','india','1'
```

```
create table city1(ctid varchar(50),ctname varchar(50),sid varchar(50))

alter proc citysp(@ctid varchar(50),@ctname varchar(50),@sid varchar(50))
as
begin
declare @char1 varchar(50)
declare @char2 varchar(50)
select @char1=ctname from city1 where ctname=@ctname
select @char2=sid from city1 where sid=@sid
if(@char1=@ctname and @char2=@sid)
 print'value already exists'
else
      insert into city1 values(@ctid,@ctname,@sid)
end

exec citysp '3','bang','2'
```

```
create table supplierdetails(tos varchar(50),name varchar(50),supplier_id
varchar(50),address varchar(50),ctyid varchar(50),sid varchar(50),cnid
varchar(50),managment_details varchar(50),mobile bigint,phone bigint,fax
bigint,emailid varchar(50),website varchar(50),bankname varchar(50),branch
varchar(50),accno bigint)
alter proc suppliersp(@tos varchar(50),@name varchar(50),@supplier_id
varchar(50),@address varchar(50),@ctyid varchar(50),@sid varchar(50),@cnid
varchar(50),@managment_details varchar(50),@mobile bigint,@phone bigint,@fax
bigint,@emailid varchar(50),@website varchar(50),@bankname varchar(50),@branch
varchar(50),@accno bigint)
as
begin
insert into supplierdetails
values(@tos,@name,@supplier_id,@address,@ctyid,@sid,@cnid,@managment_details,@m
obile,@phone,@fax,@emailid,@website,@bankname,@branch,@accno)
end

exec suppliersp
'dom','balaji','s133','dpi','chennai','tn','india','bb','999522','54632633','45
646312','sdbb@bn.com','wee.cfk.com','axis','bang','45632163416'
```

Functions

Syntax for function

```
create function <funcname>(parameter)
returns <datatype>
as
begin
            <sql>
end

execution : select dbo.functionname(parameter)
```

Example of function to print 20 by passing value 10

```
create function myfunc(@id int)
returns int
```

```
as begin

@id =@id+10;
print @id;
return @id;
end



select dbo.myfunc(10)
```