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1) Queries for Creating, Altering and Dropping Tables, and Constraints.

Creating a table

SQL> create table students

2 (

3 rollno varchar2(30),

4 name varchar2(30),

5 branch varchar2(15)

6);

Table created.

To View Schema

SQL> describe students

Name	Null?	Type

ROLLNO		VARCHAR2(30)
NAME		VARCHAR2(30)
BRANCH		VARCHAR2(15)

Altering the table

SQL> alter table students

2 add age integer;

Table altered.

SQL> alter table students

2 drop column branch;

Table altered.

SQL> desc students

Name	Null?	Type

ROLLNO		VARCHAR2(30)
NAME		VARCHAR2(30)
AGE		NUMBER(38)

Truncate

SQL> truncate table students;

Table truncated.

Rename a table

SQL> rename students to stu_details2 ;

Table renamed.

Dropping table

```
SQL> drop table stu_details;
```

Table dropped.

```
SQL> select * from tab;
```

TNAME	TABTYPE	CLUSTERID
-------	---------	-----------

STUDENT1	TABLE	
----------	-------	--

STUDENTS2	TABLE	
-----------	-------	--

STU	TABLE	
-----	-------	--

STU1	TABLE	
------	-------	--

STU2	TABLE	
------	-------	--

STUD	TABLE	
------	-------	--

STU3	TABLE	
------	-------	--

STU4	TABLE	
------	-------	--

STU5	TABLE	
------	-------	--

```
BIN$QdFqkisyT1CzNapxV9KqpW==$0 TABLE
```

```
BIN$OYWM4Kc6S3+WIMslmtnp/w==$0 TABLE
```

11 rows selected.

Constraints**Not null**

```
SQL> create table stu
```

```
2 (
```

```
3 rno integer not null,
```

```
4 name varchar2(20)
```

```
5 );
```

Table created.

```
SQL> insert into stu values(501,'rani');
```

1 row created.

```
SQL> insert into stu values(501,'rani');
```

1 row created.

```
SQL> insert into stu values(null,'kamala');
```

```
insert into stu values(null,'kamala')
```

*

ERROR at line 1:

```
ORA-01400: cannot insert NULL into ("CSE19517"."STU"."RNO")
```

Unique

SQL> create table stu1

2 (

3 rno integer,

4 name varchar2(20),

5 unique(rno)

6);

Table created.

SQL> insert into stu1 values(501,'rani');

1 row created.

SQL> insert into stu1 values(501,'rani');

insert into stu1 values(501,'rani')

*

ERROR at line 1:

ORA-00001: unique constraint (CSE19517.SYS_C005728) violated

SQL> insert into stu1 values(null,'kamala');

1 row created.

Primary key

SQL>create table stu2

(

rno integer,

name varchar2(20),

primary key(rno)

);

Table created.

SQL> insert into stu2 values(501,'rani');

1 row created.

SQL> insert into stu2 values(501,'rani');

insert into stu2 values(501,'rani')

*

ERROR at line 1:

ORA-00001: unique constraint (CSE19517.SYS_C005730) violated

SQL> insert into stu2 values(null,'kamala');

insert into stu2 values(null,'kamala')

*



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ERROR at line 1:

ORA-01400: cannot insert NULL into ("CSE19517"."STU2"."RNO")

SQL> create table stu5

2 (

3 rno integer,

4 name varchar2(20)

5);

Table created.

SQL> alter table stu5

2 add primary key(rno);

Table altered.

SQL> desc stu5

Name	Null?	Type
------	-------	------

RNO	NOT NULL	NUMBER(38)
-----	----------	------------

NAME		VARCHAR2(20)
------	--	--------------

Foreign key

SQL> create table stud

2 (

3 rno integer,

4 fee integer,

5 foreign key(rno) references stu2(rno)

6);

Table created.

SQL> insert into stud values(501,6000);

1 row created.

SQL> insert into stud values(502,8000);

insert into stud values(502,8000)

*

ERROR at line 1:

ORA-02291: integrity constraint (CSE19517.SYS_C005731) violated - parent key not found

SQL> delete from stud where rno=501;

1 row deleted.

SQL> delete from stu2 where rno=501;

1 row deleted.

Default

SQL> create table stu3

2 (

3 rno integer,

4 name varchar2(20),

5 gender char(1) default 'F'

6);

Table created.

SQL> insert into stu3 values(501,'ravi','M');

1 row created.

SQL> insert into stu3 values(501,'suma',default);

1 row created.

Check

SQL> create table stu4

2 (

3 rno integer,

4 name varchar2(20),

5 marks integer,

6 check (marks<101)

7);

Table created.

SQL> insert into stu4 values(501,'ravi',101);

insert into stu4 values(501,'ravi',101)

*

ERROR at line 1:

ORA-02290: check constraint (CSE19517.SYS_C005733) violated





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2) Queries to Retrieve and Change Data: Select, Insert, Delete and Update.

Creating table

SQL> create table students

2 (

3 rollno varchar2(30),

4 name varchar2(30)

5);

Table created.

Inserting Data into the table

SQL> insert into students values('19A91A0501','Ravi');

1 row created.

SQL> insert into students values('19A91A0502','Suma');

1 row created.

Displaying Data from the table

SQL> select * from students;

ROLLNO	NAME
--------	------

19A91A0501	Ravi
------------	------

19A91A0502	Suma
------------	------

SQL> select name from students;

NAME

Ravi

Suma

SQL> select * from students where rollno='19A91A0501';

ROLLNO	NAME
--------	------

19A91A0501	Ravi
------------	------

Deleting a row from the table

SQL> delete from students where rollno='19A91A0501';

1 row deleted.

Updating a row in the table

SQL> update students

2 set name='Rose'

3 whererollno='19A91A0502';

1 row updated.



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```
SQL> insert into students values(&rollno,&name');
```

Enter value for rollno: 501

Enter value for name: sai

```
old 1: insert into students values(&rollno,&name')
```

```
new 1: insert into students values(501,'sai')
```

1 row created.

```
SQL> /
```

Enter value for rollno: 517

Enter value for name: sree

```
old 1: insert into students values(&rollno,&name')
```

```
new 1: insert into students values(517,'sree')
```

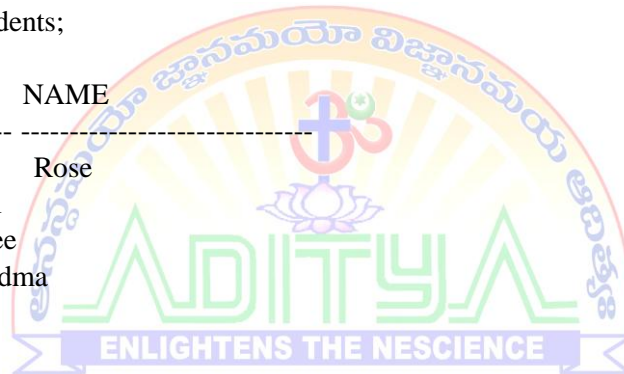
1 row created.

```
SQL> insert into students(name,rollno) values('padma',503);
```

1 row created.

```
SQL> select * from students;
```

ROLLNO	NAME
19A91A0502	Rose
501	sai
517	sree
503	padma



3.1) Queries to facilitate acquaintance of Built-in Functions: String Functions, Numeric Functions, Date Functions and Conversion Functions.

STRING FUNCTIONS:

SQL> select concat('aditya','engg') from dual;

CONCAT('AD

adityaengg

SQL> select concat(concat('aditya','engg'),'college') from dual;

CONCAT(CONCAT('AD

adityaenggcollege

SQL> select 'aditya' || 'engg' from dual;

'ADITYA' ||

adityaengg

SQL> select lpad('aditya',15,'*') as lpad from dual;

LPAD

*****aditya

SQL> select rpad('aditya',15,'*') as rpad from dual;

RPAD

aditya*****

SQL> select ltrim('123123123rama123','123') from dual;

LTRIM('

rama123

SQL> select rtrim('123123123rama123','123') from dual;

RTRIM('123123

123123123rama

SQL> select upper('aditya') from dual;

UPPER(



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ADITYA

SQL> select lower('ADITYA') from dual;

LOWER(

aditya

SQL> select length('aditya') from dual;

LENGTH('ADITYA')

6

SQL> select substr('abcdefg',-3,2)from dual;

SU
--
ef

SQL> select instr('abab','b')from dual;

INSTR('ABAB','B')

2

SQL> select instr('abab','b',3)from dual;

INSTR('ABAB','B',3)

4

SQL> select ASCII('A') from dual;

ASCII('A')

65

SQL> select chr(97) from dual;

C
-
a

SQL> select reverse('aditya') from dual;

REVERS

aytida



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```
SQL> select initcap('adityaengg') from dual;
```

```
INITCAP('AD
```

```
-----
```

```
AdityaEngg
```

```
SQL> CREATE TABLE student(rollno varchar2(30),name varchar2(30),branch varchar2(15));
```

```
Table created.
```

```
SQL> insert into student values('19A91A0501','Ravi','cse');
```

```
1 row created.
```

```
SQL> insert into student values('19A91A0502','Suma','cse');
```

```
1 row created.
```

```
SQL> select * from student;
```

ROLLNO	NAME	BRANCH
19A91A0501	Ravi	cse
19A91A0502	Suma	cse

```
-----
```

```
19A91A0501
```

```
Ravi
```

```
cse
```

```
19A91A0502
```

```
Suma
```

```
cse
```

```
SQL> select reverse(name) from student;
```

```
REVERSE(NAME)
```

```
-----
```

```
ivaR
```

```
amuS
```

```
SQL> select initcap(name) from student;
```

```
INITCAP(NAME)
```

```
-----
```

```
Ravi
```

```
Suma
```

NUMERIC FUNCTIONS:

```
SQL> select abs(19) from dual;
```

```
ABS(19)
```

```
-----
```

```
19
```

```
SQL> select abs(-19) from dual;
```

```
ABS(-19)
```

```
-----
```

```
19
```



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SQL> select sign(19) from dual;

SIGN(19)

1

SQL> select sign(-19) from dual;

SIGN(-19)

-1

SQL> select power(3,2) from dual;

POWER(3,2)

9

SQL> select sqrt(9) from dual;

SQRT(9)

3

SQL> select ceil(2.2) from dual;

CEIL(2.2)

3

SQL> select ceil(-2.2) from dual;

CEIL(-2.2)

-2

SQL> select floor(2.2) from dual;

FLOOR(2.2)

2

SQL> select floor(-2.2) from dual;

FLOOR(-2.2)

-3

SQL> select mod(150,7) from dual;





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MOD(150,7)

3

SQL> select round(66.666,2) from dual;

ROUND(66.666,2)

66.67

SQL> select trunc(66.666,2) from dual;

TRUNC(66.666,2)

66.66

SQL> select exp(3) from dual;

EXP(3)

20.0855369

SQL> select log(2,2) from dual;

LOG(2,2)

1

DATE FUNCTIONS:

SQL> select sysdate from dual;

SYSDATE

07-OCT-21

SQL> select sysdate+1 from dual;

SYSDATE+1

08-OCT-21

SQL> select sysdate-1 from dual;

SYSDATE-1

06-OCT-21

SQL> select extract(year from sysdate) from dual;

EXTRACT(YEARFROMSYSDATE)



2021

SQL> select extract(month from sysdate) from dual;

EXTRACT(MONTHFROMSYSDATE)

10

SQL> select extract(day from sysdate) from dual;

EXTRACT(DAYFROMSYSDATE)

7

SQL> select to_char(sysdate,'yyyy/mm/dd') from dual;

TO_CHAR(SY

2021/10/07

SQL> select to_char(sysdate,'HH:MM:SS') from dual;

TO_CHAR(

05:10:24

SQL> select add_months(sysdate,2) from dual;

ADD_MONTH

07-DEC-21

SQL> select next_day(sysdate,'Thursday') from dual;

NEXT_DAY(

14-OCT-21

SQL> select next_day('10-dec-2019','Tuesday') from dual;

NEXT_DAY(

17-DEC-19

SQL> select last_day(sysdate) from dual;

LAST_DAY(

31-OCT-21



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```
SQL> select months_between(to_date('09-dec-2020','dd-mm-yyyy'),to_date('09-dec-2019','dd-mm-yyyy'))  
from dual;
```

```
MONTHS_BETWEEN(TO_DATE('09-DEC-2020','DD-MM-YYYY'),TO_DATE('09-DEC-2019','DD-MM-
```

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