**SQL STATEMENTS**

**Data Retrieval/Query Language (DRL/DQL):**

Creating table:

create table student(sno number(2),sname varchar2(20),age number(2),sec varchar2(3),address varchar2(20));

Table created.

|  |
| --- |
|  |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [STUDENT](javascript:ret_Column('MOUNIKA.STUDENT');) | [SNO](javascript:ret_Column('SNO');) | NUMBER | - | 2 | 0 | - | nullable | - | - |
|  | [SNAME](javascript:ret_Column('SNAME');) | VARCHAR2 | 20 | - | - | - | nullable | - | - |
|  | [AGE](javascript:ret_Column('AGE');) | NUMBER | - | 2 | 0 | - | nullable | - | - |
|  | [SEC](javascript:ret_Column('SEC');) | VARCHAR2 | 3 | - | - | - | nullable | - | - |
|  | [ADDRESS](javascript:ret_Column('ADDRESS');) | VARCHAR2 | 20 | - | - | - | nullable | - | - |
| |  |  |  |  | | --- | --- | --- | --- | |  |  | 1 - 5 |  | | | | | | | | | | | |

Inserting values into table:

insert into student values('1','ram','21','b','hyd');

insert into student values('3','tom','20','a','mum');

insert into student values('4','jerry','19','b','delhi');

insert into student values('2','sita','22','c','vij');

insert into student values('5','mary','23','c','bang');

insert into student values('6','jerry','21','b','vizag');

6 rows updated

select \* from student;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SNO** | **SNAME** | **AGE** | **SEC** | **ADDRESS** |
| 1 | ram | 21 | b | hyd |
| 2 | sita | 22 | c | vij |
| 4 | jerry | 19 | b | delhi |
| 2 | sita | 22 | c | vij |
| 5 | mary | 23 | c | bang |
| 6 | jerry | 21 | b | vizag |

SELECT sname,sec FROM student;

|  |  |
| --- | --- |
| **SNAME** | **SEC** |
| ram | b |
| sita | c |
| jerry | b |
| sita | c |
| mary | c |
| jerry | b |

select \* FROM student WHERE sname='ram';

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SNO** | **SNAME** | **AGE** | **SEC** | **ADDRESS** |
| 1 | ram | 21 | b | hyd |

select sno,age,address from student where sname='jerry';

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | **SNO** | **AGE** | **ADDRESS** | | 4 | 19 | delhi | | 6 | 21 | vizag | |  |  |  | |  |  |  | |  | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |

**ALTER:**

***ADD:***

alter table student add(phonenum number(10));

Table altered.

***MODIFY:***

alter table student modify (sno number(3));

Table altered.

***RENAME***

alter table student rename to std;

Table altered

***DROP:***

***drop table stu;***

Table dropped.

**TRUNCATE**

***truncate table stu;***

Table truncated.

**DELETE:**

***delete from student where sno=6;***

1 row(s) deleted.

**UPDATE:**

***UPDATE student SET sname ='sam' WHERE sno ='3';***

1 row(s) updated.

**Data Control Language:**

***SQL> SHOW USER;***

***USER is "MOUNIKA"***

***SQL> CONNECT system/tiger;***

***Connected.***

***SQL> show user;***

***USER is "SYSTEM"***

***SQL> GRANT CONNECT,RESOURCE TO mounika IDENTIFIED BY MASTER;***

***Grant succeeded.***

***SQL> CONNECT MOUNIKA/MASTER;***

***Connected.***

***SQL> SHOW USER;***

***USER is "MOUNIKA"***

**REVOKE:**

***SQL> revoke resource,connect from mounika;***

***Revoke succeeded.***

**SAVEPOINT:**

***SQL> savepoint student;***

***Savepoint created.***

**ROLLBACK:**

***SQL> Rollback to student;***

***Rollback complete.***

**COMMIT:**

***SQL> commit;***

***Commit complete.***

**Operator and Functions in SQL:**

**SQL Operators:**

1. **Arithmetic operators (+, - , \* , /):**

**SQL> select 5+5 from dual;**

**5+5**

**----------**

**10**

**SQL> select 10-6 from dual;**

**10-6**

**----------**

**4**

**SQL> select 10\*2 from dual;**

**10\*2**

**----------**

**20**

**SQL> select 5/2 from dual;**

**5/2**

**----------**

**2.5**

1. **Comparison / Relational operators (=, >, <, >=, <=, <>, !=):**

**SQL> select \* from employe where sal=3000;**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**SQL> select \* from employe where sal>2500;**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**7566 JONES MANAGER 7839 02-APR-81**

**2975 0 20**

**7698 BLAKE MANAGER 7839 01-MAY-81**

**2850 0 30**

**SQL> select \* from employe where sal<2000;**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7499 ALLEN SALESMAN 7698 20-FEB-81**

**1600 300 30**

**7521 WARD SALESMAN 7698 22-FEB-81**

**1250 500 30**

**SQL> select \* from employe where sal<=1800;**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7499 ALLEN SALESMAN 7698 20-FEB-81**

**1600 300 30**

**7521 WARD SALESMAN 7698 22-FEB-81**

**1250 500 30**

**SQL> select \* from employe where sal>=3000;**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**SQL> select \* from employe where sal!=2000;**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7499 ALLEN SALESMAN 7698 20-FEB-81**

**1600 300 30**

**7521 WARD SALESMAN 7698 22-FEB-81**

**1250 500 30**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7566 JONES MANAGER 7839 02-APR-81**

**2975 0 20**

**7698 BLAKE MANAGER 7839 01-MAY-81**

**2850 0 30**

**7782 CLARK MANAGER 7839 09-JUN-81**

**2450 0 10**

**SQL> select \* from employe where sal<>1000;**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7499 ALLEN SALESMAN 7698 20-FEB-81**

**1600 300 30**

**7521 WARD SALESMAN 7698 22-FEB-81**

**1250 500 30**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7566 JONES MANAGER 7839 02-APR-81**

**2975 0 20**

**7698 BLAKE MANAGER 7839 01-MAY-81**

**2850 0 30**

**7782 CLARK MANAGER 7839 09-JUN-81**

**2450 0 10**

1. **Logical operators ( AND, OR, NOT):**

**SQL> select \* from employe where sal=3000 and job='ANALYST';**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**SQL> select \* from employe where sal=3000 and job='ANALYST';**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**SQL> select \* from employe where sal=3000 OR job='ANALYST';**

**EMPNO ENAME JOB MGR HIREDATE**

**---------- -------------------- -------------------- ---------- ---------**

**SAL COMM DEPTNO**

**---------- ---------- ----------**

**7788 SCOTT ANALYST 7566 19-APR-87**

**3000 0 20**

**SQL Star plus Operators:**

**BETWEEN … AND**

**SQL> Select ename,sal from employe where sal between 1000 and 2500;**

**ENAME SAL**

**-------------------- ----------**

**ALLEN 1600**

**WARD 1250**

**CLARK 2450**

**SQL> Select ename,sal from employe where sal not between 1000 and 2500;**

**ENAME SAL**

**-------------------- ----------**

**SCOTT 3000**

**JONES 2975**

**BLAKE 2850**

**IN**

**SQL> Select ename,sal from employe where job in ('MANAGER');**

**ENAME SAL**

**-------------------- ----------**

**JONES 2975**

**BLAKE 2850**

**CLARK 2450**

**NOTIN:**

**SQL> Select ename,sal from employe where job not in ('MANAGER');**

**ENAME SAL**

**-------------------- ----------**

**ALLEN 1600**

**WARD 1250**

**SCOTT 3000**

**IS NULL:**

**SQL> Select ename,sal from employe where job IS NULL;**

**no rows selected**

**NOT NULL:**

**SQL> Select ename,sal from employe where job IS NOT NULL;**

**ENAME SAL**

**-------------------- ----------**

**ALLEN 1600**

**WARD 1250**

**SCOTT 3000**

**JONES 2975**

**BLAKE 2850**

**CLARK 2450**

**LIKE:**

**SQL> Select ename,sal from employe where ename LIKE 'S%';**

**ENAME SAL**

**-------------------- ----------**

**SCOTT 3000**

**SQL> Select ename,sal from employe where ename LIKE '%%\\_%' ESCAPE '\';**

**no rows selected**

**SQL> Select ename,sal from employe where ename NOT LIKE 'S%';**

**ENAME SAL**

**-------------------- ----------**

**ALLEN 1600**

**WARD 1250**

**JONES 2975**

**BLAKE 2850**

**CLARK 2450**

**Functions in SQL:**

**SQL> Select lower ('HASZONE') from dual;**

**LOWER('**

**-------**

**Haszone**

**SQL> Select upper ('mounika')from dual;**

**UPPER('**

**-------**

**MOUNIKA**

**SQL> Select Initcap ('mounika')from dual;**

**INITCAP**

**-------**

**Mounika**

**SQL> select concat('Mounika','Golisetti')from dual;**

**CONCAT('MOUNIKA'**

**----------------**

**MounikaGolisetti**

**SQL> select length('Mounika')from dual;**

**LENGTH('MOUNIKA')**

**-----------------**

**7**

**Number Functions:**

**SQL> Select round(123.444,2) from dual;**

**ROUND(123.444,2)**

**----------------**

**123.44**

**SQL> Select trunc(123.444,2) from dual;**

**TRUNC(123.444,2)**

**----------------**

**123.44**

**SQL> Select mod(5,2) from dual;**

**MOD(5,2)**

**----------**

**1**

**SQL> Select power(2,3) from dual;**

**POWER(2,3)**

**----------**

**8**

**SQL> Select abs(-15) from dual;**

**ABS(-15)**

**----------**

**15**

**Date Functions:**

**SQL> select sysdate from dual;**

**SYSDATE**

**---------**

**12-MAY-21**

**To\_Char:**

**SQL> select to\_char(123456,'$9G99G999D99') from dual;**

**TO\_CHAR(12345**

**-------------**

**$1,23,456.00**

**SQL> select to\_char(sysdate,’d’) from dual;**

**T**

**-**

**4**

**SQL> select to\_char(sysdate,’dd’) from dual;**

**TO**

**--**

**12**

**SQL>**

**SQL> select to\_char(sysdate,’yy’) from dual;**

**TO**

**--**

**21**

**TO\_CHAR(SYSDATE,'DAY')**

**------------------------------------**

**wednesday**

**SQL> select to\_char(sysdate,’mm’) from dual;**

**TO**

**--**

**05**

**SQL> select to\_char(sysdate,’yyyy’) from dual;**

**TO\_C**

**----**

**2021**

***Group row functions:***

***SQL> Select sum(sal) from employe;***

***SUM(SAL)***

***----------***

***14125***

***SQL> Select avg(sal) from employe;***

***AVG(SAL)***

***----------***

***2354.16667***

***SQL> Select min(sal) from employe;***

***MIN(SAL)***

***----------***

***1250***

***SQL> Select max(sal) from employe;***

***MAX(SAL)***

***----------***

***3000***

***SQL> Select count(sal) from employe;***

***COUNT(SAL)***

***----------***

***6***