1>

select * from classroom
where capacity>50;

```
select * from classroom
  2  where capacity>50;

BUILDING        ROOM_NU   CAPACITY
--------------- ------- ----------
cids            A23             52
macs            A37             92
main            103             60

SQL>
```

2>
select * from instructor
where debt_name='Computer Science';

```
select * from instructor
  2  where debt_name='Computer Science';

ID    NAME                 DEBT_NAME                SALARY
----- -------------------- -------------------- ----------
I001  Dr. Pushpajit Khaire Computer Science          75000
I002  Dr. Hamsa Ajay Bhat  Computer Science          75000
I004  Mr. Karuppasamy S    Computer Science          75000
I005  Bibekananda Sitha    Computer Science          75000
I006  Dr. Mahima           Computer Science          75000

SQL>
```

3>
select * from course
natural join takes ;

```
select * from course
  2  natural join takes ;

COURSE_I TITLE                                              DEBT_NAME            CREDITS ID    SEC_ID   SEMEST       YEAR GR
-------- -------------------------------------------------- -------------------- ---------- ----- -------- ------ ---------- --
MA607    Database Management Systems                        Computer Science              3 S001  001      Fall         2025 A
MA609    Object Oriented Programming                        Computer Science              3 S002  002      Spring       2025 B
MA649    Machine Learning                                   AI                            3 S003  003      Fall         2025 A
MA610    DSA Lab using OOP Concept                          Computer Science              2 S004  004      Winter       2025 B
MA611    Database Management Systems Lab                    Computer Science              2 S005  005      Spring       2025 C
MA606    Data Structures and Algorithms                     Computer Science              3 S006  006      Fall         2025 A
MA608    Computational Mathematics                          Mathematics                   3 S007  007      Spring       2025 A
MA700    Advanced Databases                                 Computer Science              3 S008  008      Fall         2025 A
MA702    Artificial Intelligence                            AI                            3 S009  009      Spring       2025 B
MA705    Advanced Mathematics for Computing                 Mathematics                   3 S010  010      Winter       2025 C

10 rows selected.
```

```
select * from course
  natural join takes
  where semester='Spring' and year=2025 ;
```

```
select * from course
  natural join takes
  3    where semester='Spring' and year=2025 ;

COURSE_I TITLE                                              DEBT_NAME              CREDITS ID    SEC_ID   SEMEST       YEAR GR
-------- -------------------------------------------------- -------------------- ---------- ----- -------- ------ ---------- --
MA609    Object Oriented Programming                        Computer Science              3 S002  002      Spring       2025 B
MA611    Database Management Systems Lab                    Computer Science              2 S005  005      Spring       2025 C
MA608    Computational Mathematics                          Mathematics                   3 S007  007      Spring       2025 A
MA702    Artificial Intelligence                            AI                            3 S009  009      Spring       2025 B
```

4->

```
select * from student
where tot_cred >10;
```

```
select * from student
  2  where tot_cred >10;

ID    NAME                 DEBT_NAME               TOT_CRED
----- -------------------- -------------------- ----------
S001  Satish               Computer Science             15
S002  Harsh                Computer Science             12
S004  Deeksha              Computer Science             18
S006  Shruti               Computer Science             20
S007  Apurv                Computer Science             14
S008  Ravi                 AI                           17
S009  Anjali               Mathematics                  22

7 rows selected.
```

5->

```
select debt_name from department
 where budget>300000;
```

```
SQL> select debt_name from department
  2  where budget>300000;

DEBT_NAME
--------------------
Computer Science
Electrical
Mechanical
Civil

SQL>
```

6->
select debt_name,building from department;

```
SQL> select debt_name,building from department;

DEBT_NAME            BUILDING
-------------------- --------------
Computer Science     Main
Mathematics          East
AI                   East
Physics              Main
Chemistry            East
Biology              East
Electrical           Main
Mechanical           Main
Civil                East
Environmental        Main

10 rows selected.

SQL>
```

7->
select name from student
where debt_name='Computer Science';

```
SQL> select name  from student
  2  where debt_name='Computer Science';

NAME
--------------------
Satish
Harsh
Deeksha
Shruti
Apurv

SQL>
```

8->

select title from course
where credits=3;

```
select title from course
  2  where credits=3;

TITLE
--------------------------------------------------
Database Management Systems
Object Oriented Programming
Machine Learning
Data Structures and Algorithms
Computational Mathematics
Advanced Databases
Artificial Intelligence
Advanced Mathematics for Computing

8 rows selected.
```

9->
select * from instructor
where debt_name IS NULL;

```
  2
select * from instructor
  2     where debt_name IS NULL;

ID    NAME                 DEBT_NAME               SALARY
----- -------------------- -------------------- ----------
I011  Satish                                     200000
```

10->
select Building ,count(*) AS total_classroom from classroom
group by building;

```
select Building ,count(*) AS total_classroom from classroom
  2  group by building;

BUILDING        TOTAL_CLASSROOM
--------------- ---------------
East                          4
main                          6

SQL>
```

11->
select course_ID from teaches
where ID='I002';

```
select course_ID from teaches
  2  where ID='I002';

COURSE_I
--------
MA609

SQL>
```

12->
select debt_name,count(*) as Total_enrolled_student from student
group by debt_name;

```
select debt_name,count(*) as Total_enrolled_student from student
  2   group by debt_name;

DEBT_NAME            TOTAL_ENROLLED_STUDENT
-------------------- ----------------------
Mathematics                               2
Physics                                   1
Computer Science                          6
AI                                        2

SQL>
```

13->
select * from student natural join takes ;

```
SQL> select * from student natural join takes;

ID    NAME                 DEBT_NAME             TOT_CRED COURSE_I SEC_ID   SEMEST       YEAR GR
----- -------------------- -------------------- ---------- -------- -------- ------ ---------- --
S001  Satish               Computer Science             15 MA607    001      Fall         2025 A
S002  Harsh                Computer Science             12 MA609    002      Spring       2025 B
S003  Sourav               AI                           10 MA649    003      Fall         2025 A
S004  Deeksha              Computer Science             18 MA610    004      Winter       2025 B
S005  Sunil                Mathematics                   6 MA611    005      Spring       2025 C
S006  Shruti               Computer Science             20 MA606    006      Fall         2025 A
S007  Apurv                Computer Science             14 MA608    007      Spring       2025 A
S008  Ravi                 AI                           17 MA700    008      Fall         2025 A
S009  Anjali               Mathematics                  22 MA702    009      Spring       2025 B
S010  Priya                Physics                       8 MA705    010      Winter       2025 C

10 rows selected.

SQL>
```

select * from student natural join takes where Course_id='MA606' and Grade='A';

```
SQL> select name from student natural join takes where Course_id='MA606' and Grade='A';

NAME
--------------------
Shruti

SQL>
```

14->
select NAME from instructor
where salary>50000;

```
select NAME from instructor
  2  where salary>50000;

NAME
--------------------
Satish
Dr. Pushpajit Khaire
Dr. Hamsa Ajay Bhat
Nandagopal S. A
Mr. Karuppasamy S
Bibekananda Sitha
Dr. Mahima
Dr. Amit Kumar
Dr. Neelam Singh
Dr. Sandeep Sharma
Dr. Priya Chatterjee

11 rows selected.

SQL>
```

15->
select debt_name,avg(salary) as avg_salary from instructor
  group by debt_name;

```
11 rows selected.

select debt_name,avg(salary) as avg_salary from instructor
  2    group by debt_name;

DEBT_NAME            AVG_SALARY
-------------------- ----------
                         200000
Mathematics               75000
Physics                   75000
Chemistry                 75000
Computer Science          75000
AI                        75000

6 rows selected.

SQL>
```

17->
select name from student natural join advisor
  where I_ID is null;

```
select name from student natural join advisor
  2     where I_ID is null;

NAME
--------------------
Harsh

SQL>
```

18->
select building ,count(*) as total_section from section
group by building;

```
select building ,count(*) as total_section from section
  2  group by building;

BUILDING        TOTAL_SECTION
--------------- -------------
main                        6
East                        4

SQL>
```

19->
select * from student natural join takes;

```
SQL> select * from student natural join takes;

ID    NAME                 DEBT_NAME             TOT_CRED COURSE_I SEC_ID   SEMEST       YEAR GR
----- -------------------- -------------------- ---------- -------- -------- ------ ---------- --
S001  Satish               Computer Science             15 MA607    001      Fall         2025 A
S002  Harsh                Computer Science             12 MA609    002      Spring       2025 B
S003  Sourav               AI                           10 MA649    003      Fall         2025 A
S004  Deeksha              Computer Science             18 MA610    004      Winter       2025 B
S005  Sunil                Mathematics                   6 MA611    005      Spring       2025 C
S006  Shruti               Computer Science             20 MA606    006      Fall         2025 A
S007  Apurv                Computer Science             14 MA608    007      Spring       2025 A
S008  Ravi                 AI                           17 MA700    008      Fall         2025 A
S009  Anjali               Mathematics                  22 MA702    009      Spring       2025 B
S010  Priya                Physics                       8 MA705    010      Winter       2025 C

10 rows selected.

SQL>
```

select name from student natural join takes
where semester='Fall' and year='2025';

```
select name from student natural join takes
  2  where semester='Fall' and year='2025';

NAME
--------------------
Satish
Sourav
Shruti
Ravi

SQL>
```

20->
select room_number,building from classroom minus select room_number,building from section;

```
SQL> select room_number,building from classroom minus select room_number,building from section

ROOM_NU BUILDING
------- ---------------
106     main

SQL>
```

21>
select title from course
where debt_name='Mathematics';

```
select title from course
  2  where  debt_name='Mathematics';

TITLE
--------------------------------------------------
Computational Mathematics
Advanced Mathematics for Computing

SQL>
```

22->>select name from student join takes on student.id=takes.id where takes.semester in ('Fall','Spring') group by student.id,student.name having count(distinct takes.semester) =2