

SQL> DECLARE

```
2 total_age NUMBER := 0;
3 num_players NUMBER := 0;
4 avg_age NUMBER := 0;
5 BEGIN
6 FOR player_rec IN (SELECT Age FROM Player) LOOP
7 total_age := total_age + player_rec.Age; -- Summing up the ages
8 num_players := num_players + 1; -- Counting the number of players
9 END LOOP;
10 IF num_players > 0 THEN
11 avg_age := total_age / num_players;
12 END IF;
13 DBMS_OUTPUT.PUT_LINE('Total Players: ' || num_players);
14 DBMS_OUTPUT.PUT_LINE('Total Age: ' || total_age);
15 DBMS_OUTPUT.PUT_LINE('Average Age: ' || avg_age);
16 END;
17 /
```

PL/SQL procedure successfully completed.

SQL> set serveroutput on;

SQL> DECLARE

```
2 v_playerid player.playerid%TYPE := 'p3';
3 v_fname player.fname%TYPE := 'sai';
4 v_lname player.lname%TYPE := 'S';
5 v_age player.age%TYPE := 25;
6 v_dob player.dob%TYPE := TO_DATE('24 14-APR-01', 'DD-MON-YYYY');
```

```

7  v_role    player.role%TYPE    := 'WICKETKEEPER';
8 BEGIN
9  INSERT INTO player (playerid, fname, lname, age, dob, role)
10 VALUES (v_playerid, v_fname, v_lname, v_age, v_dob, v_role);
11
12  DBMS_OUTPUT.PUT_LINE('Player record inserted successfully.');
```

```

13 EXCEPTION
14  WHEN OTHERS THEN
15      DBMS_OUTPUT.PUT_LINE('Error inserting player: ' || SQLERRM);
16 END;
17 /
```

```

SQL> create table pmatch(playerid varchar2(25) references player(playerid), matchid
varchar2(25) references match(matchid));
```

Table created.

```

SQL> CREATE OR REPLACE FUNCTION total_matches_played (
2  p_playerid IN VARCHAR2
3 )
4 RETURN NUMBER
5 IS
6  v_count NUMBER;
7 BEGIN
8  SELECT COUNT(*)
9  INTO v_count
```

```

10  FROM pmatch
11  WHERE playerid = p_playerid;
12
13  RETURN v_count;
14
15 EXCEPTION
16  WHEN NO_DATA_FOUND THEN
17      RETURN 0;
18  WHEN OTHERS THEN
19      RETURN -1;
20 END total_matches_played;
21 /

```

Function created.

SQL> select location from ground WHERE matchid='m1';

LOCATION

chennai

SQL> select *from player where name LIKE 'v%';

PLAYERID NAME

| PLAYINGROLE | DOB |
|-------------|-----------|
| P102 | virat |
| batsman | 28-DEC-23 |

SQL> select *from player where name LIKE 'r%';

| PLAYERID | NAME |
|----------|-----------|
| P101 | rohit |
| cricket | 14-AUG-94 |
| P104 | ram |
| football | 12-APR-84 |

SQL> alter table player add batting varchar2(20);

Table altered.

SQL> alter table player add bowling varchar2(20);

Table altered.

```
SQL> select count(*) from player where batsman='right-hand bat';
```

no rows selected

```
SQL> select *from cricketboard where boardid IN('BID01','BID03','BID09');
```

| BOARDID | NAME |
|----------------|------------|
| ----- | |
| ADDRESS | CONTACTNO |
| ----- | |
| BID01 | ajay |
| sree ram nagar | 9232645810 |
| BID03 | ram |
| vidyanagar | 9623458210 |
| BID09 | sai |
| kurnool | 7864442804 |

```
SQL> select playerid,name from player where bowling='left-hand bowling';
```

no rows selected

```
SQL> select umpireid,fname from umpire where umpireid NOT IN(select umpireid from umpire);
```

no rows selected

```
SQL> create table universitypersons(personid int PRIMARY KEY, name varchar(50), dob  
DATE);
```

Table created.

```
SQL> create table universitystudents(studentid int PRIMARY KEY, personid int, degree  
varchar(10) CHECK (degree IN('BE','ME','PHD')), batch DATE, FOREIGN KEY (personid)  
REFERENCES universitypersons(personid));
```

Table created.

```
SQL> create table dept(deptid int PRIMARY KEY, deptname varchar(20));
```

Table created.

```
SQL> create table faculty(facultyid int PRIMARY KEY, personid int, deptid int, position  
varchar(20), FOREIGN KEY (personid) REFERENCES universitypersons(personid));
```

Table created.

```
SQL> create table course(courseid int PRIMARY KEY, coursename varchar(25), credits  
int CHECK (credits BETWEEN 1 and 4), deptid int, FOREIGN KEY (deptid) REFERENCES  
dept(deptid));
```

Table created.

SQL> desc universitypersons;

| Name | Null? | Type |
|----------|----------|--------------|
| ----- | | |
| PERSONID | NOT NULL | NUMBER(38) |
| NAME | | VARCHAR2(50) |
| DOB | | DATE |

SQL> desc universitystudents;

| Name | Null? | Type |
|-----------|----------|--------------|
| ----- | | |
| STUDENTID | NOT NULL | NUMBER(38) |
| PERSONID | | NUMBER(38) |
| DEGREE | | VARCHAR2(10) |
| BATCH | | DATE |

SQL> desc faculty;

| Name | Null? | Type |
|-----------|----------|--------------|
| ----- | | |
| FACULTYID | NOT NULL | NUMBER(38) |
| PERSONID | | NUMBER(38) |
| DEPTID | | NUMBER(38) |
| POSITION | | VARCHAR2(20) |

SQL> desc dept;

| Name | Null? | Type |
|--------|----------|------------|
| ----- | | |
| DEPTID | NOT NULL | NUMBER(38) |

DEPTNAME VARCHAR2(20)

SQL> desc course;

| Name | Null? | Type |
|------------|----------|--------------|
| ----- | | |
| COURSEID | NOT NULL | NUMBER(38) |
| COURSENAME | | VARCHAR2(25) |
| CREDITS | | NUMBER(38) |
| DEPTID | | NUMBER(38) |

SQL> rename dept to deptdetails;

Table renamed.

SQL> desc deptdetails;

| Name | Null? | Type |
|----------|----------|--------------|
| ----- | | |
| DEPTID | NOT NULL | NUMBER(38) |
| DEPTNAME | | VARCHAR2(20) |

SQL>

SQL> alter table universitystudents ADD contact number(10);

Table altered.

SQL> alter table universitystudents ADD (gender char(1) CHECK (gender IN ('M','F')),
email varchar(50));

Table altered.

SQL> desc universitystudents;

| Name | Null? | Type |
|-----------|----------|--------------|
| ----- | | |
| STUDENTID | NOT NULL | NUMBER(38) |
| PERSONID | | NUMBER(38) |
| DEGREE | | VARCHAR2(10) |
| BATCH | | DATE |
| CONTACT | | NUMBER(10) |
| GENDER | | CHAR(1) |
| EMAIL | | VARCHAR2(50) |

SQL> drop table course;

Table dropped.

SQL> drop table deptdetails;

Table dropped.

SQL> drop table universitystudents;

Table dropped.

SQL> desc faculty;

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

| | |
|-----------|---------------------|
| FACULTYID | NOT NULL NUMBER(38) |
| PERSONID | NUMBER(38) |
| DEPTID | NUMBER(38) |
| POSITION | VARCHAR2(20) |

SQL> drop table faculty;

Table dropped.

SQL> create table person(personid varchar2(25) PRIMARY KEY, name varchar(50), dob DATE);

Table created.

SQL> create table dept(deptid varchar2(25) PRIMARY KEY, deptname varchar(20));

Table created.

SQL> create table student(studentid varchar2(25) PRIMARY KEY, personid varchar2(25), degree varchar(10) CHECK (degree IN('BE','ME','PHD')), batch DATE, FOREIGN KEY (personid) REFERENCES person(personid));

Table created.

SQL> create table faculty(facultyid varchar2(25) PRIMARY KEY, personid varchar2(25), deptid varchar2(25), position varchar(20), FOREIGN KEY (personid) REFERENCES person(personid));

Table created.

```
SQL> create table course(courseid varchar2(25) PRIMARY KEY, coursename  
varchar2(50), credits int CHECK (credits BETWEEN 1 and 4), deptid varchar2(25),  
FOREIGN KEY (deptid) REFERENCES dept(deptid));
```

Table created.

```
SQL> insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'));
```

Enter value for personid: p001

Enter value for name: sai

Enter value for dob: 24-09-2007

```
old 1: insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'))
```

```
new 1: insert into person values ('p001', 'sai',TO_DATE('24-09-2007','DD-MM-YYYY'))
```

1 row created.

```
SQL> insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'));
```

Enter value for personid: p002

Enter value for name: kalyani

Enter value for dob: 27-05-1998

```
old 1: insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'))
```

```
new 1: insert into person values ('p002', 'kalyani',TO_DATE('27-05-1998','DD-MM-YYYY'))
```

1 row created.

```
SQL> insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'));
```

Enter value for personid: p003

Enter value for name: srinu

Enter value for dob: 2-02-2005

old 1: insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'))

new 1: insert into person values ('p003', 'srinu',TO_DATE('2-02-2005','DD-MM-YYYY'))

1 row created.

SQL> insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'));

Enter value for personid: p004

Enter value for name: seetha

Enter value for dob: 12-08-1990

old 1: insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'))

new 1: insert into person values ('p004', 'seetha',TO_DATE('12-08-1990','DD-MM-YYYY'))

1 row created.

SQL> insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'));

Enter value for personid: p005

Enter value for name: kumaran

Enter value for dob: 24-07-2007

old 1: insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'))

new 1: insert into person values ('p005', 'kumaran',TO_DATE('24-07-2007','DD-MM-YYYY'))

1 row created.

SQL> insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'));

Enter value for personid: p006

Enter value for name: aasritha

Enter value for dob: 08-11-2008

old 1: insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'))

new 1: insert into person values ('p006', 'aasritha',TO_DATE('08-11-2008','DD-MM-YYYY'))

1 row created.

SQL> select * from person;

| PERSONID | NAME |
|-----------|---------|
| ----- | |
| DOB | |
| ----- | |
| p001 | sai |
| 24-SEP-07 | |
| p002 | kalyani |
| 27-MAY-98 | |
| p003 | srinu |
| 02-FEB-05 | |

| PERSONID | NAME |
|----------|------|
| ----- | |
| DOB | |
| ----- | |

p004 seetha

12-AUG-90

p005 kumaran

24-JUL-07

p006 aasritha

08-NOV-08

6 rows selected.

SQL> alter table student modify batch number;

Table altered.

SQL> desc student;

| Name | Null? | Type |
|-----------|----------|--------------|
| ----- | | |
| STUDENTID | NOT NULL | VARCHAR2(25) |
| PERSONID | | VARCHAR2(25) |
| DEGREE | | VARCHAR2(10) |
| BATCH | | NUMBER |

SQL> alter table student add (gender char(1) CHECK (gender IN ('M','F')), email
varchar(50));

Table altered.

SQL> desc student;

| Name | Null? | Type |
|-----------|----------|--------------|
| ----- | | |
| STUDENTID | NOT NULL | VARCHAR2(25) |
| PERSONID | | VARCHAR2(25) |
| DEGREE | | VARCHAR2(10) |
| BATCH | | NUMBER |
| GENDER | | CHAR(1) |
| EMAIL | | VARCHAR2(50) |

SQL> insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email');

Enter value for studentid: s1

Enter value for personid: p001

Enter value for degree: BE

Enter value for batch: 2024

Enter value for gender: M

Enter value for email: sai@gmail.com

old 1: insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email')

new 1: insert into student values ('s1','p001','BE','2024','M','sai@gmail.com')

1 row created.

SQL> insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email');

Enter value for studentid: s2

Enter value for personid: p002

Enter value for degree: BE

Enter value for batch: 2024

Enter value for gender: F

Enter value for email: kalyani@gmail.com

old 1: insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email')

new 1: insert into student values ('s2','p002','BE',2024,'F','kalyani@gmail.com')

1 row created.

SQL> insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email');

Enter value for studentid: s3

Enter value for personid: p003

Enter value for degree: ME

Enter value for batch: 2024

Enter value for gender: M

Enter value for email: srinu@gmail.com

old 1: insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email')

new 1: insert into student values ('s3','p003','ME',2024,'M','srinu@gmail.com')

1 row created.

SQL> insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email');

Enter value for studentid: s4

Enter value for personid: p004

Enter value for degree: ME

Enter value for batch: 2024

Enter value for gender: F

Enter value for email: seetha@gmail.com

old 1: insert into student values

('&studentid','&personid','°ree','&batch','&gender','&email')

new 1: insert into student values ('s4','p004','ME',2024,'F','seetha@gmail.com')

1 row created.

SQL> select * from student;

| STUDENTID | PERSONID | DEGREE | BATCH | G |
|-----------|----------|--------|-------|---|
|-----------|----------|--------|-------|---|

EMAIL

| | | | | |
|----|------|----|------|---|
| s1 | p001 | BE | 2024 | M |
|----|------|----|------|---|

sai@gmail.com

| | | | | |
|----|------|----|------|---|
| s2 | p002 | BE | 2024 | F |
|----|------|----|------|---|

kalyani@gmail.com

| | | | | |
|----|------|----|------|---|
| s3 | p003 | ME | 2024 | M |
|----|------|----|------|---|

srinu@gmail.com

| STUDENTID | PERSONID | DEGREE | BATCH | G |
|-----------|----------|--------|-------|---|
|-----------|----------|--------|-------|---|

EMAIL

s4 p004 ME 2024 F
seetha@gmail.com

SQL> insert into dept values ('&deptid','&deptname');

Enter value for deptid: cs101

Enter value for deptname: cs3

old 1: insert into dept values ('&deptid','&deptname')

new 1: insert into dept values ('cs101','cs3')

1 row created.

SQL> insert into dept values ('&deptid','&deptname');

Enter value for deptid: cs102

Enter value for deptname: cs

old 1: insert into dept values ('&deptid','&deptname')

new 1: insert into dept values ('cs102','cs')

1 row created.

SQL> insert into dept values ('&deptid','&deptname');

Enter value for deptid: me103

Enter value for deptname: mech

old 1: insert into dept values ('&deptid','&deptname')

new 1: insert into dept values ('me103','mech')

1 row created.

```
SQL> insert into dept values ('&deptid','&deptname');
```

```
Enter value for deptid: ec104
```

```
Enter value for deptname: electronics
```

```
old 1: insert into dept values ('&deptid','&deptname')
```

```
new 1: insert into dept values ('ec104','electronics')
```

```
1 row created.
```

```
SQL> select * from dept;
```

| DEPTID | DEPTNAME |
|--------|-------------|
| cs101 | cs3 |
| cs102 | cs |
| me103 | mech |
| ec104 | electronics |

```
SQL> insert into faculty values('&facultyid', '&personid', '&deptid','&position');
```

```
Enter value for facultyid: f1
```

```
Enter value for personid: p005
```

```
Enter value for deptid: cs101
```

```
Enter value for position: assistant professor
```

```
old 1: insert into faculty values('&facultyid', '&personid', '&deptid','&position')
```

```
new 1: insert into faculty values('f1', 'p005', 'cs101','assistant professor')
```

```
1 row created.
```

```
SQL> insert into faculty values('&facultyid', '&personid', '&deptid','&position');
```

```
Enter value for facultyid: f2
```

```
Enter value for personid: p006
```

```
Enter value for deptid: mech
```

```
Enter value for position: Associate professor
```

```
old 1: insert into faculty values('&facultyid', '&personid', '&deptid','&position')
```

```
new 1: insert into faculty values('f2', 'p006', 'mech','Associate professor')
```

```
1 row created.
```

```
SQL> select * from faculty;
```

| FACULTYID | PERSONID | DEPTID | POSITION |
|-----------|----------|--------|---------------------|
| f1 | p005 | cs101 | assistant professor |
| f2 | p006 | mech | Associate professor |

```
SQL> insert into course values ('&courseid','&coursename','&credits','&deptid');
```

```
Enter value for courseid: 1021CS207
```

```
Enter value for coursename: DBMS
```

```
Enter value for credits: 4
```

```
Enter value for deptid: cs101
```

old 1: insert into course values ('&courseid','&coursename','&credits','&deptid')

new 1: insert into course values ('1021CS207','DBMS',4,'cs101')

1 row created.

SQL> insert into course values ('&courseid','&coursename','&credits','&deptid');

Enter value for courseid: 1021CS306

Enter value for coursename: CODING-I

Enter value for credits: 2

Enter value for deptid: cs101

old 1: insert into course values ('&courseid','&coursename','&credits','&deptid')

new 1: insert into course values ('1021CS306','CODING-I',2,'cs101')

1 row created.

SQL> insert into course values ('&courseid','&coursename','&credits','&deptid');

Enter value for courseid: 1021ME103

Enter value for coursename: ENGINEERING DRAWING

Enter value for credits: 2

Enter value for deptid: me103

old 1: insert into course values ('&courseid','&coursename','&credits','&deptid')

new 1: insert into course values ('1021ME103','ENGINEERING DRAWING',2,'me103')

1 row created.

SQL> select * from course;

| COURSEID | COURSENAME |
|----------|------------|
|----------|------------|

CREDITS DEPTID

1021CS207 DBMS

4 cs101

1021CS306 CODING-I

2 cs101

1021ME103 ENGINEERING DRAWING

2 me103

SQL> alter table student ADD CONSTRAINT uemail UNIQUE(email);

Table altered.

SQL> alter table person MODIFY name varchar2(25) NOT NULL;

Table altered.

SQL> insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'));

Enter value for personid: p007

Enter value for name: dinesh

Enter value for dob: 12-06-2006

old 1: insert into person values ('&personid', '&name',TO_DATE('&dob','DD-MM-YYYY'))

```
new 1: insert into person values ('p007', 'dinesh',TO_DATE('12-06-2006','DD-MM-YYYY'))
```

1 row created.

```
SQL> select DISTINCT name from person;
```

NAME

sai

kalyani

srinu

seetha

kumaran

aasritha

dinesh

7 rows selected.

```
SQL> CREATE OR REPLACE TRIGGER TRG-UPDATE-MATCHES
```

```
2 AFTER INSERT ON MATCH
```

```
3 FOR EACH ROW
```

```
4 BEGIN
```

```
5 INSERT INTO match_result (MatchID, TeamID, Result)
```

```
6 VALUES (:new.MatchID, :new.TeamID, 'Pending'); -- Assuming a default value of  
'Pending' for Result
```

```
7 END;
```

8 /

Trigger created.

```
SQL> CREATE VIEW playermatchdetails as
2 select
3 p.PlayerID,
4 p.PlayerName,
5 p.Age,
6 p.Country,
7 COUNT(mt.MatchID) AS TotalMatchesPlayed
8 FROM
9 Player p
10 LEFT JOIN
11 MatchTeam mt
12 ON
13 p.PlayerID = mt.PlayerID
14 GROUP BY
15 p.PlayerID, p.PlayerName, p.Age, p.Country;
```

View Created.

```
SQL> SELECT t.teamid, t.name AS teamname, t.Coach, t.Captain,(SELECT
COUNT(m.matchid)FROM match m WHERE t.teamid = SUBSTR(m.result, 1, 5)) AS
WinningMatchCount FROM team t;
```

no rows selected


```
SQL< SELECT t.TeamID, t.Name AS TeamName,(SELECT COUNT(*) FROM Match m
WHERE(t.TeamID = m.TeamID1 OR t.TeamID = m.TeamID2) AND INSTR(m.Result, 'Tie') >
0) AS TieCount FROM Team t group by t.teamid, t.name;
```

| TEAMID | TEAMNAME | TIECOUNT |
|--------|----------|----------|
|--------|----------|----------|

| | | |
|------|-------|---|
| 1001 | india | 0 |
|------|-------|---|

| | | |
|------|-----|---|
| 1003 | rcb | 0 |
|------|-----|---|

```
SQL> SELECT * FROM team t WHERE t.teamid IN (SELECT teamid1 FROM match
WHERE INSTR(result, teamid1) > 0 UNION SELECT teamid2 FROM match WHERE
INSTR(result, teamid2) >);
```

| TEAMID | NAME | COACH | CAPTAIN |
|--------|------|-------|---------|
|--------|------|-------|---------|

| | | | |
|------|-----|-------|-------|
| 1003 | rcb | varun | krian |
|------|-----|-------|-------|

| | | | |
|------|-----|---------|---------|
| 1004 | csk | arunrag | karthik |
|------|-----|---------|---------|

```
SQL> SELECT p.playerID,p.FName,p.LName,p.age,m.matchid,m.match_Date,
m.Time1,m.result FROM player p, match m WHERE p.age > 25 AND (p.teamid =
m.teamid1 OR p.teamid = m.teamid2);
```

no row selected

```
SQL> SELECT t.TeamID, t.Name AS TeamName, t.Coach, t.Captain FROM Team t
WHERE t.TeamID NOT IN (SELECT TeamID1 FROM Match UNION SELECT TeamID2
FROM Match);
```

no row selected

```
SQL>SELECT t.teamid, t.name AS team_name, COUNT(m.matchid) AS matches_played
FROM team t JOIN match m ON t.teamid = m.teamid1 OR t.teamid = m.teamid2 GROUP
BY t.teamid, t.name ORDER BY matches_played DESC
```

no row selected



