

# **DATABASE MANAGEMENT SYSTEMS SQL PRACTICE -4**

**NAME: HARINI.R**

**REGISTER NO: 192324108**

**COURSE CODE: CSA0564**

INSERT INTO employee12 VALUES(101,'Stefan','Salvatore',90000);

INSERT INTO employee12 VALUES(102,'Caroline','Forbes',80000);

INSERT INTO employee12 VALUES(103,'Elena','Gilbert',40000);

INSERT INTO employee12 VALUES(104,'Katherine','Pierce',70000);

INSERT INTO employee12 VALUES(105,'Bonnie','Bennet',50000);






INSERT INTO bonuses VALUES(101,0);

INSERT INTO bonuses VALUES(102,0);

INSERT INTO bonuses VALUES(103,0);

INSERT INTO bonuses VALUES(104,0);

INSERT INTO bonuses VALUES(105,0);

EMPLOYEE12					+ ▾	
Table	Data	Indexes	Model	Constraints	Grants	Statistics
<div>Query</div> <div>Count Rows</div> <div>Insert Row</div> <div>Load Data</div>						
EDIT	EMP_ID	FIRSTNAME	LASTNAME	SALARY		
	101	Stefan	Salvatore	90000		
	102	Caroline	Forbes	80000		
	103	Elena	Gilbert	40000		
	104	Katherine	Pierce	70000		
	105	Bonnie	Bennet	50000		

```

MERGE INTO bonuses b
USING employee12 e
ON (b.emp_id = e.emp_id)
WHEN MATCHED THEN
UPDATE SET b.bonus = e.salary * .05;

```

BONUSES

+ ▼

Table

Data

Indexes

Model

Constraints

Grants






Statistics

Query

Count Rows

Insert Row

Load Data

EDIT	EMP_ID	BONUS
	101	4500
	102	4000
	103	2000
	104	3500
	105	2500

```

DECLARE
v_emp_lname employee.lastName%TYPE;
BEGIN
SELECT lastName
INTO v_emp_lname
FROM employee
WHERE emp_id = 106;
DBMS_OUTPUT.PUT_LINE('His last name is ' || v_emp_lname);
END;

```

```

DECLARE v_emp_lname employee.lastName%TYPE; BEGIN SELECT lastName INTO v_emp_lname FROM employee
WHERE emp_id = 106; DBMS_OUTPUT.PUT_LINE('His last name is ' || v_emp_lname); END;

```

His last name is Malfoy

Statement processed. 0.01 seconds

```

DECLARE

v_emp_lname employee.lastName%TYPE;

v_emp_salary employee.salary%TYPE;

BEGIN

SELECT lastName, salary

INTO v_emp_lname, v_emp_salary

FROM employee

WHERE emp_id = 106;

DBMS_OUTPUT.PUT_LINE('Last name: ' || v_emp_lname);

DBMS_OUTPUT.PUT_LINE('Salary: ' || v_emp_salary);

END;

```

```

DECLARE v_emp_lname employee.lastName%TYPE; v_emp_salary employee.salary%TYPE; BEGIN SELECT lastName, salary INTO v_emp_lname, v_emp_salary FROM employee WHERE emp_id = 106; DBMS_OUTPUT.PUT_LINE('Last name: ' || v_emp_lname); DBMS_OUTPUT.PUT_LINE('Salary: ' || v_emp_salary); END;

```

```

Last name: Malfoy
Salary: 75000

```

```

Statement processed. 0.01 seconds

```

```

DECLARE

v_sum_sal NUMBER(10,2);

v_deptno NUMBER NOT NULL := 90;

BEGIN

SELECT SUM(salary)

INTO v_sum_sal FROM employee123

WHERE dept_id = v_deptno;

DBMS_OUTPUT.PUT_LINE('Department #90 Salary Total: ' || v_sum_sal);

END;

```

```

DECLARE v_sum_sal NUMBER(10,2); v_deptno NUMBER NOT NULL := 90; BEGIN SELECT SUM(salary) INTO v_sum_sal FROM employee123 WHERE dept_id = v_deptno; DBMS_OUTPUT.PUT_LINE('Department #90 Salary Total: ' || v_sum_sal); END;

```

```

Department #90 Salary Total: 190000

```

```













Statement processed. 0.01 seconds

```

```
CREATE TABLE copy_emp1
```

```
AS SELECT *
```

```
FROM employee123;
```

COPY_EMP1					
EDIT	EMP_ID	FIRSTNAME	LASTNAME	DEPT_ID	SALARY
	1001	Harry	Styles	90	50000
	1002	Taylor	Swift	90	90000
	1003	Olivia	Rodrigo	80	40000
	1004	Sabrina	Carpenter	80	60000
	1005	Shawn	Mendes	60	55000
	1006	Camilla	Cabello	70	56000
	1007	Megan	Trainor	50	35000
	1008	Ariana	Grande	60	40000
	1009	Billie	Eilish	70	45000
	1010	Paris	Paloma	80	60000
	1011	Beyonce	Knowles	90	50000
	1012	Madison	Beer	40	45000














```
BEGIN
```

```
INSERT INTO copy_emp1
```

```
(emp_id, firstName, lastName, dept_id, salary)
```

```
VALUES (1013, 'Charlie', 'Puth', 40, 45000);
```

```
END;
```

COPY_EMP1						+ ▾
EDIT	EMP_ID	FIRSTNAME	LASTNAME	DEPT_ID	SALARY	
	1001	Harry	Styles	90	50000	
	1002	Taylor	Swift	90	90000	
	1003	Olivia	Rodrigo	80	40000	
	1004	Sabrina	Carpenter	80	60000	
	1005	Shawn	Mendes	60	55000	
	1006	Camilla	Cabello	70	56000	
	1007	Megan	Trainor	50	35000	
	1008	Ariana	Grande	60	40000	
	1009	Billie	Eilish	70	45000	
	1010	Paris	Paloma	80	60000	
	1011	Beyonce	Knowles	90	50000	
	1012	Madison	Beer	40	45000	
	1013	Charlie	Puth	40	45000	

```

DECLARE

v_sal_increase employee123.salary%TYPE := 800;














BEGIN

UPDATE copy_emp1

SET salary = salary + v_sal_increase

WHERE dept_id = 90;

END;
```












COPY_EMP1					
+ ▾					
EDIT	EMP_ID	FIRSTNAME	LASTNAME	DEPT_ID	SALARY
	1001	Harry	Styles	90	50800
	1002	Taylor	Swift	90	90800
	1003	Olivia	Rodrigo	80	40000
	1004	Sabrina	Carpenter	80	60000
	1005	Shawn	Mendes	60	55000
	1006	Camilla	Cabello	70	56000
	1007	Megan	Trainor	50	35000
	1008	Ariana	Grande	60	40000
	1009	Billie	Eilish	70	45000
	1010	Paris	Paloma	80	60000
	1011	Beyonce	Knowles	90	50800
	1012	Madison	Beer	40	45000
	1013	Charlie	Puth	40	45000

```

DECLARE
v_deptno employee123.dept_id%TYPE := 60;

BEGIN
DELETE FROM copy_emp1
WHERE dept_id = v_deptno;

END;
```

COPY_EMP1					
<div> <div>+</div> <div>▼</div> </div>					
<div> <div>Query</div> <div>Count Rows</div> <div>Insert Row</div> <div>Load Data</div> </div>					
EDIT	EMP_ID	FIRSTNAME	LASTNAME	DEPT_ID	SALARY
	1001	Harry	Styles	90	50800
	1002	Taylor	Swift	90	90800
	1003	Olivia	Rodrigo	80	40000
	1004	Sabrina	Carpenter	80	60000
	1006	Camilla	Cabello	70	56000
	1007	Megan	Trainor	50	35000
	1009	Billie	Eilish	70	45000
	1010	Paris	Paloma	80	60000
	1011	Beyonce	Knowles	90	50800
	1012	Madison	Beer	40	45000
	1013	Charlie	Puth	40	45000

```

BEGIN
MERGE INTO copy_emp1 c
USING employee123 e
ON (e.emp_id = c.emp_id)
WHEN MATCHED THEN
UPDATE SET
    c.firstName = e.firstName,
    c.lastName = e.lastName,

```



c.dept\_id = e.dept\_id,














c.salary = e.salary

WHEN NOT MATCHED THEN

INSERT (c.emp\_id, c.firstName, c.lastName, c.dept\_id, c.salary)

VALUES (e.emp\_id, e.firstName, e.lastName, e.dept\_id, e.salary);

END;

COPY_EMP1						+ v
	1001	Harry	Styles	90	50000	
	1002	Taylor	Swift	90	90000	
	1003	Olivia	Rodrigo	80	40000	
	1004	Sabrina	Carpenter	80	60000	
	1006	Camilla	Cabello	70	56000	
	1007	Megan	Trainor	50	35000	
	1009	Billie	Eilish	70	45000	
	1010	Paris	Paloma	80	60000	
	1011	Beyonce	Knowles	90	50000	
	1012	Madison	Beer	40	45000	
	1008	Ariana	Grande	60	40000	
	1005	Shawn	Mendes	60	55000	
	1013	Charlie	Puth	40	45000	

DECLARE

v\_deptno copy\_emp1.dept\_id%TYPE := 60;

BEGIN

```
DELETE FROM copy_emp1

WHERE dept_id = v_deptno;












DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT || ' rows deleted');

END;
```

```
DECLARE v_deptno copy_emp1.dept_id%TYPE := 60; BEGIN DELETE FROM copy_emp1 WHERE dept_id = v_deptno;
DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT || ' rows deleted'); END;
```

2 rows deleted

1 row(s) deleted. 0.01 seconds

COPY_EMP1					
EDIT	EMP_ID	FIRSTNAME	LASTNAME	DEPT_ID	SALARY
	1001	Harry	Styles	90	50000
	1002	Taylor	Swift	90	90000
	1003	Olivia	Rodrigo	80	40000
	1004	Sabrina	Carpenter	80	60000
	1006	Camilla	Cabello	70	56000
	1007	Megan	Trainor	50	35000
	1009	Billie	Eilish	70	45000
	1010	Paris	Paloma	80	60000
	1011	Beyonce	Knowles	90	50000
	1012	Madison	Beer	40	45000
	1013	Charlie	Puth	40	45000

```
DECLARE

v_sal_increase employee123.salary%TYPE := 200;

BEGIN

UPDATE copy_emp1

SET salary = salary + v_sal_increase

WHERE dept_id = 80;

DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT || ' rows updated.');
```

END;

```
DECLARE v_sal_increase employee123.salary%TYPE := 200; BEGIN UPDATE copy_emp1 SET salary = salary +
v_sal_increase WHERE dept_id = 80; DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT || ' rows updated.');
```

3 rows updated.

1 row(s) updated. 0.00 seconds

```
DECLARE

v_sal_increase employee123.salary%TYPE := 200;

BEGIN












UPDATE copy_emp1

SET salary = salary + v_sal_increase

WHERE dept_id = 80;

DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT || ' rows updated.');
```

END;

COPY_EMP1					
+ ▾					
EDIT	EMP_ID	FIRSTNAME	LASTNAME	DEPT_ID	SALARY
	1001	Harry	Styles	90	50000
	1002	Taylor	Swift	90	90000
	1003	Olivia	Rodrigo	80	40200
	1004	Sabrina	Carpenter	80	60200
	1006	Camilla	Cabello	70	56000
	1007	Megan	Trainor	50	35000
	1009	Billie	Eilish	70	45000
	1010	Paris	Paloma	80	60200
	1011	Beyonce	Knowles	90	50000
	1012	Madison	Beer	40	45000
	1013	Charlie	Puth	40	45000

```
CREATE TABLE results (num_rows NUMBER(4));
```

```
BEGIN
```

```
UPDATE copy_emp1
```

```
SET salary = salary + 100
```

```
WHERE dept_id = 90;
```

```
INSERT INTO results (num_rows)
```

```
VALUES (SQL%ROWCOUNT);
```

```
END;
```

Number ↑≡	Elapsed	Statement	Feedback	Rows
1	0.01	CREATE TABLE results (num_rows NUMBER(4))	Table created.	0

DECLARE

v\_rowcount INTEGER;

BEGIN

UPDATE copy\_emp1

SET salary = salary + 100

WHERE dept\_id = 90;

DBMS\_OUTPUT.PUT\_LINE(SQL%ROWCOUNT || ' rows in COPY\_EMP1 updated.');

v\_rowcount := SQL%ROWCOUNT;

INSERT INTO results (num\_rows)

VALUES (v\_rowcount);

DBMS\_OUTPUT.PUT\_LINE(SQL%ROWCOUNT || ' rows in RESULTS updated.');












END;

```
DECLARE v_rowcount INTEGER; BEGIN UPDATE copy_emp1 SET salary = salary + 100 WHERE dept_id = 90;
DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT || ' rows in COPY_EMP1 updated. '); v_rowcount := SQL%ROWCOUNT;
INSERT INTO results (num_rows) VALUES (v_rowcount); DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT || ' rows in
RESULTS updated. '); END;
```

3 rows in COPY\_EMP1 updated.

1 rows in RESULTS updated.

1 row(s) updated. 0.02 seconds

COPY_EMP1					
<div> <div>+</div> <div>▼</div> </div> <div> <div>Query</div> <div>Count Rows</div> <div>Insert Row</div> <div>Load Data</div> </div>					
EDIT	EMP_ID	FIRSTNAME	LASTNAME	DEPT_ID	SALARY
	1001	Harry	Styles	90	50100
	1002	Taylor	Swift	90	90100
	1003	Olivia	Rodrigo	80	40200
	1004	Sabrina	Carpenter	80	60200
	1006	Camilla	Cabello	70	56000
	1007	Megan	Trainor	50	35000
	1009	Billie	Eilish	70	45000
	1010	Paris	Paloma	80	60200
	1011	Beyonce	Knowles	90	50100
	1012	Madison	Beer	40	45000
	1013	Charlie	Puth	40	45000

```

DECLARE
CURSOR c_emp_cursor IS
SELECT emp_id, lastName FROM copy_emp1
WHERE dept_id = 70;
    v_empno copy_emp1.emp_id%TYPE;
    v_lname copy_emp1.lastName%TYPE;
BEGIN
OPEN c_emp_cursor;

```

```

LOOP

FETCH c_emp_cursor INTO v_empno, v_lname;

EXIT WHEN c_emp_cursor%NOTFOUND;

DBMS_OUTPUT.PUT_LINE (v_empno || ' ' || v_lname);

END LOOP;

CLOSE c_emp_cursor;

END;

```

```

DECLARE      CURSOR c_emp_cursor IS      SELECT emp_id, lastName FROM copy_emp1      WHERE dept_id = 70;
v_empno copy_emp1.emp_id%TYPE;      v_lname copy_emp1.lastName%TYPE;      BEGIN      OPEN
c_emp_cursor;      LOOP      FETCH c_emp_cursor INTO v_empno, v_lname;      EXIT WHEN
c_emp_cursor%NOTFOUND;      DBMS_OUTPUT.PUT_LINE (v_empno || ' ' || v_lname);      END LOOP;      CLOSE
c_emp_cursor; END;

```

```

1006 Cabello
1009 Eilish

```

```

Statement processed. 0.01 seconds

```

```

DECLARE

CURSOR c_emp_cursor IS

SELECT emp_id, lastName FROM copy_emp1

WHERE dept_id = 90;

      v_emp_record c_emp_cursor%ROWTYPE;

BEGIN

OPEN c_emp_cursor;

LOOP

FETCH c_emp_cursor INTO v_emp_record;

EXIT WHEN c_emp_cursor%NOTFOUND;

DBMS_OUTPUT.PUT_LINE (v_emp_record.emp_id || ' ' || v_emp_record.lastName);

END LOOP;

CLOSE c_emp_cursor;

END;

```

```

DECLARE      CURSOR c_emp_cursor IS      SELECT emp_id, lastName FROM copy_emp1      WHERE dept_id = 90;
v_emp_record c_emp_cursor%ROWTYPE;      BEGIN      OPEN c_emp_cursor;      LOOP      FETCH c_emp_cursor
INTO v_emp_record;      EXIT WHEN c_emp_cursor%NOTFOUND;      DBMS_OUTPUT.PUT_LINE (v_emp_record.emp_id
|| ' ' || v_emp_record.lastName);      END LOOP;      CLOSE c_emp_cursor; END;

```

```

1001 Styles
1002 Swift
1011 Knowles

```

Statement processed. 0.02 seconds

DECLARE

CURSOR c\_emp\_cursor IS

SELECT emp\_id, lastName FROM copy\_emp1

WHERE dept\_id = 80;

v\_emp\_record c\_emp\_cursor%ROWTYPE;

BEGIN

OPEN c\_emp\_cursor;

LOOP

FETCH c\_emp\_cursor INTO v\_emp\_record;

EXIT WHEN c\_emp\_cursor%ROWCOUNT > 10 OR c\_emp\_cursor%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE (v\_emp\_record.emp\_id || ' ' || v\_emp\_record.lastName);

END LOOP;

CLOSE c\_emp\_cursor;

END;

```

DECLARE      CURSOR c_emp_cursor IS      SELECT emp_id, lastName FROM copy_emp1      WHERE dept_id = 80;
v_emp_record c_emp_cursor%ROWTYPE;      BEGIN      OPEN c_emp_cursor;      LOOP      FETCH c_emp_cursor
INTO v_emp_record;      EXIT WHEN c_emp_cursor%ROWCOUNT > 10 OR c_emp_cursor%NOTFOUND;
DBMS_OUTPUT.PUT_LINE (v_emp_record.emp_id || ' ' || v_emp_record.lastName);      END LOOP;      CLOSE
c_emp_cursor; END;

```

```

1003 Rodrigo
1004 Carpenter
1010 Paloma

```

Statement processed. 0.01 seconds

DECLARE

CURSOR c\_emp\_cursor IS

SELECT emp\_id, lastName FROM copy\_emp1

WHERE dept\_id = 90;

BEGIN



```

FOR emp_record IN c_emp_cursor
LOOP
DBMS_OUTPUT.PUT_LINE (emp_record.emp_id || ' ' ||
    emp_record.lastName);
END LOOP;
END;

```

```

DECLARE      CURSOR c_emp_cursor IS      SELECT emp_id, lastName FROM copy_emp1      WHERE dept_id = 90;
BEGIN      FOR emp_record IN c_emp_cursor      LOOP      DBMS_OUTPUT.PUT_LINE (emp_record.emp_id || ' ' ||
||      emp_record.lastName);      END LOOP;      END;

1001 Styles
1002 Swift
1011 Knowles

Statement processed. 0.01 seconds

```

```

DECLARE

CURSOR c_emp_cursor IS

SELECT emp_id, lastName FROM copy_emp1

WHERE dept_id = 40;

BEGIN

FOR emp_record IN (SELECT emp_id, lastName FROM

    copy_emp1 WHERE dept_id = 40)

LOOP

DBMS_OUTPUT.PUT_LINE (emp_record.emp_id || ' ' ||

    emp_record.lastName);

END LOOP;

END;

```

```

BEGIN      FOR emp_record IN (SELECT emp_id, lastName FROM      copy_emp1 WHERE dept_id = 40)
LOOP      DBMS_OUTPUT.PUT_LINE (emp_record.emp_id || ' ' ||      emp_record.lastName);
END LOOP; END;

1012 Beer
1013 Puth

Statement processed. 0.01 seconds

```

```

CREATE TABLE Person12 (

    NAME_OF_THE VARCHAR2(90),

```

```

AGE NUMBER,

DATE_OF_BIRTH DATE,

CITY VARCHAR2(90)

);

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Caroline', 18,
TO_DATE('2005-01-01', 'YYYY-MM-DD'), 'AP');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Elena', 21,
TO_DATE('1943-01-01', 'YYYY-MM-DD'), 'JAPAN');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Matt', 22,
TO_DATE('1941-01-01', 'YYYY-MM-DD'), 'SHIBUYA');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Aaron', 22,
TO_DATE('1944-01-01', 'YYYY-MM-DD'), 'ROSEEI');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Harry', 13,
TO_DATE('2007-01-01', 'YYYY-MM-DD'), 'TN');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Ron', 14,
TO_DATE('2009-01-01', 'YYYY-MM-DD'), 'JM');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Rupert', 25,
TO_DATE('2000-01-01', 'YYYY-MM-DD'), 'KA');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Hannah', 30,
TO_DATE('1990-01-01', 'YYYY-MM-DD'), 'KL');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Helga', 27,
TO_DATE('1991-01-01', 'YYYY-MM-DD'), 'NEPAL');

INSERT INTO Person12 (NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY) VALUES ('Bill', 16,
TO_DATE('2009-01-01', 'YYYY-MM-DD'), 'MANIPAL');

```

PERSON12

+ ▼

Table

Data

Indexes

Model

Constraints

Grants











Statistics

Query

Count Rows

Insert Row

Load Data

EDIT	NAME_OF_THE	AGE	DATE_OF_BIRTH	CITY
	Caroline	18	01-Jan-2005	AP
	Elena	21	01-Jan-1943	JAPAN
	Matt	22	01-Jan-1941	SHIBUYA
	Aaron	22	01-Jan-1944	ROSEEI
	Harry	13	01-Jan-2007	TN
	Ron	14	01-Jan-2009	JM
	Rupert	25	01-Jan-2000	KA
	Hannah	30	01-Jan-1990	KL
	Helga	27	01-Jan-1991	NEPAL
	Bill	16	01-Jan-2009	MANIPAL

DECLARE

v\_NAME\_OF\_THE PERSON12.NAME\_OF\_THE%TYPE;

v\_AGE PERSON12.AGE%TYPE;

v\_DATE\_OF\_BIRTH PERSON12.DATE\_OF\_BIRTH%TYPE;

v\_CITY PERSON12.CITY%TYPE;

CURSOR PeopleCursor IS

SELECT NAME\_OF\_THE, AGE, DATE\_OF\_BIRTH, CITY

FROM PERSON12

```

ORDER BY AGE ASC;

v_PersonRecord PeopleCursor%ROWTYPE;

BEGIN

OPEN PeopleCursor;

LOOP

    FETCH PeopleCursor INTO v_PersonRecord;

    EXIT WHEN PeopleCursor%NOTFOUND;

    DBMS_OUTPUT.PUT_LINE('Name: ' || v_PersonRecord.NAME_OF_THE ||

        ', Age: ' || v_PersonRecord.AGE ||

        ', Date of Birth: ' || v_PersonRecord.DATE_OF_BIRTH ||

        ', City: ' || v_PersonRecord.CITY);

END LOOP;

CLOSE PeopleCursor;

END;

```

```

DECLARE      v_NAME_OF_THE PERSON12.NAME_OF_THE%TYPE;      v_AGE PERSON12.AGE%TYPE;      v_DATE_OF_BIRTH
PERSON12.DATE_OF_BIRTH%TYPE;      v_CITY PERSON12.CITY%TYPE;      CURSOR PeopleCursor IS      SELECT
NAME_OF_THE, AGE, DATE_OF_BIRTH, CITY      FROM PERSON12      ORDER BY AGE ASC;
v_PersonRecord PeopleCursor%ROWTYPE; BEGIN      OPEN PeopleCursor;      LOOP      FETCH
PeopleCursor INTO v_PersonRecord;      EXIT WHEN PeopleCursor%NOTFOUND;
DBMS_OUTPUT.PUT_LINE('Name: ' || v_PersonRecord.NAME_OF_THE ||      ', Age:
' || v_PersonRecord.AGE ||      ', Date of Birth: ' ||
v_PersonRecord.DATE_OF_BIRTH ||      ', City: ' || v_PersonRecord.CITY);
END LOOP;      CLOSE PeopleCursor; END;

```

```

Name: Harry, Age: 13, Date of Birth: 01-Jan-2007, City: TN
Name: Ron, Age: 14, Date of Birth: 01-Jan-2009, City: JM
Name: Bill, Age: 16, Date of Birth: 01-Jan-2009, City: MANIPAL
Name: Caroline, Age: 18, Date of Birth: 01-Jan-2005, City: AP
Name: Elena, Age: 21, Date of Birth: 01-Jan-1943, City: JAPAN
Name: Matt, Age: 22, Date of Birth: 01-Jan-1941, City: SHIBUYA
Name: Aaron, Age: 22, Date of Birth: 01-Jan-1944, City: ROSEEI
Name: Rupert, Age: 25, Date of Birth: 01-Jan-2000, City: KA
Name: Helga, Age: 27, Date of Birth: 01-Jan-1991, City: NEPAL
Name: Hannah, Age: 30, Date of Birth: 01-Jan-1990, City: KL

```

```
Statement processed. 0.01 seconds
```

```
CREATE TABLE num_list_type(n number);
```

```
CREATE TABLE num_table(n number);
```

```

DECLARE

TYPE num_list_type IS TABLE OF NUMBER

INDEX BY BINARY_INTEGER;

    v_nums num_list_type;

BEGIN

    v_nums (1) := 1;

    v_nums (2) := 3;

    v_nums (3) := 5;

    v_nums (4) := 7;

    v_nums (5) := 11;

FORALL i IN v_nums.FIRST .. v_nums.LAST

INSERT INTO num_table (n) VALUES (v_nums (i));

FOR i IN v_nums.FIRST .. v_nums.LAST

LOOP

DBMS_OUTPUT.PUT_LINE ('Inserted '||

        SQL%BULK_ROWCOUNT (i) || ' row (s)' ||

        ' on iteration ' || i);

END LOOP;

END;

```






```

DECLARE      TYPE num_list_type IS TABLE OF NUMBER      INDEX BY BINARY_INTEGER;      v_nums
num_list_type;      BEGIN      v_nums (1) := 1;      v_nums (2) := 3;      v_nums (3) := 5;
v_nums (4) := 7;      v_nums (5) := 11;      FORALL i IN v_nums.FIRST .. v_nums.LAST      INSERT
INTO num_table (n) VALUES (v_nums (i));      FOR i IN v_nums.FIRST .. v_nums.LAST      LOOP
DBMS_OUTPUT.PUT_LINE ('Inserted '||      SQL%BULK_ROWCOUNT (i) || ' row (s)' ||
' on iteration ' || i );      END LOOP; END;

Inserted 1 row (s) on iteration 1
Inserted 1 row (s) on iteration 2
Inserted 1 row (s) on iteration 3
Inserted 1 row (s) on iteration 4
Inserted 1 row (s) on iteration 5

1 row(s) inserted. 0.06 seconds

```

NUM_TABLE		+ ▾				
Table	Data	Indexes	Model	Constraints	Grants	Statistics
Query		Count Rows		Insert Row		Load Data
EDIT		N				
		1				
		3				
		5				
		7				
		11				

-- Create a table for savings accounts

```
CREATE TABLE savings_accounts (
  account_id NUMBER PRIMARY KEY,
  balance NUMBER
);
```

-- Create a table for checking accounts

```
CREATE TABLE checking_accounts (
  account_id NUMBER PRIMARY KEY,
  balance NUMBER
);
```

-- Create a table for transaction journal

```
CREATE TABLE journal (
  journal_id NUMBER PRIMARY KEY,
  from_account NUMBER,
  to_account NUMBER,
```

```

amount NUMBER,

transaction_date DATE DEFAULT SYSDATE

);


-- Insert initial values into savings_accounts and checking_accounts


INSERT INTO savings_accounts VALUES (3209, 1000);

INSERT INTO checking_accounts VALUES (3208, 500);

```

Number ↑≡	Elapsed	Statement	Feedback	Rows
1	0.02	CREATE TABLE savings_accounts ( account_id NUMBER PRIMAR	Table created.	0
2	0.01	CREATE TABLE checking_accounts ( account_id NUMBER PRIMA	Table created.	0
3	0.02	CREATE TABLE journal ( journal_id NUMBER PRIMARY KEY,	Table created.	0
4	0.01	INSERT INTO savings_accounts VALUES (3209, 1000)	1 row(s) inserted.	1
5	0.01	INSERT INTO checking_accounts VALUES (3208, 500)	1 row(s) inserted.	1

CHECKING_ACCOUNTS <span>+ ▾</span>						
Table	Data	Indexes	Model	Constraints	Grants	Statistics
<div>Query</div> <div>Count Rows</div> <div>Insert Row</div> <div>Load Data</div>						
EDIT		ACCOUNT_ID		BALANCE		
		3208		500		

SAVINGS_ACCOUNTS <span>+ ▾</span>						
Table	Data	Indexes	Model	Constraints	Grants	Statistics
<div>Query</div> <div>Count Rows</div> <div>Insert Row</div> <div>Load Data</div>						
EDIT		ACCOUNT_ID		BALANCE		
		3209		1000		

```

CREATE SEQUENCE journal_seq
START WITH 1
INCREMENT BY 1
NOCACHE
NOCYCLE;

```

Number ↑	Elapsed	Statement	Feedback	Rows
1	0.01	CREATE SEQUENCE journal_seq START WITH 1 INCREMENT BY 1 NOCA	Sequence created.	0

```

BEGIN
  -- Decrease savings account balance
  UPDATE savings_accounts
  SET balance = balance - 500
  WHERE account_id = 3209;

  -- Check if there are sufficient funds in the savings account
  IF SQL%ROWCOUNT = 0 THEN
    ROLLBACK;
    DBMS_OUTPUT.PUT_LINE('Transaction failed: Insufficient funds. ');
    RETURN;
  END IF;

  -- Increase checking account balance
  UPDATE checking_accounts
  SET balance = balance + 500
  WHERE account_id = 3208;

  -- Record the transaction in the journal
  INSERT INTO journal (journal_id, from_account, to_account, amount)
  VALUES (journal_seq.NEXTVAL, 3209, 3208, 500);

  -- Commit the transaction

```



```
COMMIT;

DBMS_OUTPUT.PUT_LINE('Transaction completed successfully.');
```


```
EXCEPTION
```

```
WHEN OTHERS THEN
```

```
ROLLBACK;
```

```
DBMS_OUTPUT.PUT_LINE('Transaction failed: ' || SQLERRM);
```

```
END;
```

JOURNAL					
Table	Data	Indexes	Model	Constraints	Grants
Statistics	UI Defaults	Triggers	Dependencies	SQL	REST
Sample Queries	Query	Count Rows	Insert Row	Load Data	
EDIT	JOURNAL_ID	FROM_ACCOUNT	TO_ACCOUNT	AMOUNT	TRANSACTION_DATE
	1	3209	3208	500	22-Aug-2024

```
DECLARE
```

```
a number(2) := 30;
```

```
BEGIN
```

```
<<loopstart>>
```

```
-- while loop execution
```

```
WHILE a < 50 LOOP
```

```
dbms_output.put_line ('value of a: ' || a);
```

```
a := a + 1;
```

```
IF a = 35 THEN
```

```
a := a + 1;
```

```
GOTO loopstart;
```

```
END IF;
```

```
END LOOP;
```

```
END;
```

```

DECLARE      a number(2) := 30; BEGIN      <<loopstart>>      -- while loop execution      WHILE a < 50 LOOP      dbms_output.put_line ('value of a: ' || a);      a := a + 1;      IF a = 35
THEN      a := a + 1;      GOTO loopstart;      END IF;      END LOOP; END;

value of a: 30
value of a: 31
value of a: 32
value of a: 33
value of a: 34
value of a: 36
value of a: 37
value of a: 38
value of a: 39
value of a: 40
value of a: 41
value of a: 42
value of a: 43
value of a: 44
value of a: 45
value of a: 46
value of a: 47
value of a: 48
value of a: 49

Statement processed. 0.01 seconds

```

DECLARE

dividend NUMBER := 10;

divisor NUMBER := 0;

result NUMBER;

BEGIN

BEGIN

result := dividend / divisor;

DBMS\_OUTPUT.PUT\_LINE('Result: ' || result);

EXCEPTION

WHEN ZERO\_DIVIDE THEN

DBMS\_OUTPUT.PUT\_LINE('Error: Division by zero');

END;

END;

```

DECLARE dividend NUMBER := 10; divisor NUMBER := 0; result NUMBER; BEGIN BEGIN result := dividend / divisor; DBMS_OUTPUT.PUT_LINE('Result: ' || result); EXCEPTION WHEN ZERO_DIVIDE
THEN DBMS_OUTPUT.PUT_LINE('Error: Division by zero'); END; END;

Error: Division by zero

Statement processed. 0.01 seconds

```

DECLARE

emp\_name VARCHAR2(100);

v\_emp\_id NUMBER := 225;

BEGIN

BEGIN

SELECT firstname INTO emp\_name FROM employee WHERE emp\_id = v\_emp\_id;

DBMS\_OUTPUT.PUT\_LINE('Employee Name: ' || emp\_name);

EXCEPTION

WHEN NO\_DATA\_FOUND THEN

```
        DBMS_OUTPUT.PUT_LINE('Error: No matching record found');
END;

END;
```

```
DECLARE    emp_name    VARCHAR2(100);    v_emp_id    NUMBER := 225; BEGIN    BEGIN    SELECT
firstname INTO emp_name FROM employee WHERE emp_id = v_emp_id;    DBMS_OUTPUT.PUT_LINE('Employee
Name: ' || emp_name);    EXCEPTION    WHEN NO_DATA_FOUND THEN
DBMS_OUTPUT.PUT_LINE('Error: No matching record found'); END; END;
```

Error: No matching record found

Statement processed. 0.02 seconds

```
DECLARE

v_dep_id employee123.dept_id%TYPE := 90;

v_emp_id employee123.emp_id%TYPE;

v_emp_name employee123.firstName%TYPE;

v_emp_salary employee123.salary%TYPE;

v_exception_msg VARCHAR2(200);

BEGIN

SELECT firstName, dept_id, salary
INTO v_emp_name,v_dep_id, v_emp_salary
FROM employee123
WHERE dept_id = v_dep_id;

EXCEPTION

WHEN TOO_MANY_ROWS THEN

    v_exception_msg := 'Multiple rows found for the given department ID: ' || v_dep_id;

    DBMS_OUTPUT.PUT_LINE(v_exception_msg);

WHEN OTHERS THEN

    v_exception_msg := 'An error occurred: ' || SQLERRM;

    DBMS_OUTPUT.PUT_LINE(v_exception_msg);

END;
```

```

DECLARE   v_dep_id employee123.dept_id%TYPE := 90;   v_emp_id employee123.emp_id%TYPE;   v_emp_name
employee123.firstName%TYPE;   v_emp_salary employee123.salary%TYPE;   v_exception_msg VARCHAR2(200);
BEGIN   SELECT firstName, dept_id, salary   INTO v_emp_name,v_dep_id, v_emp_salary   FROM employee123
WHERE dept_id = v_dep_id;   EXCEPTION   WHEN TOO_MANY_ROWS THEN       v_exception_msg := 'Multiple
rows found for the given department ID: ' || v_dep_id;       DBMS_OUTPUT.PUT_LINE(v_exception_msg);
WHEN OTHERS THEN       v_exception_msg := 'An error occurred: ' || SQLERRM;
DBMS_OUTPUT.PUT_LINE(v_exception_msg); END;

```

Multiple rows found for the given department ID: 90

Statement processed. 0.01 seconds

DECLARE

v\_input VARCHAR2(10) := 'abc';

v\_number NUMBER;

BEGIN

BEGIN

v\_number := TO\_NUMBER(v\_input);

DBMS\_OUTPUT.PUT\_LINE('Conversion successful. Number: ' || v\_number);

EXCEPTION

WHEN INVALID\_NUMBER THEN

DBMS\_OUTPUT.PUT\_LINE('Error: Invalid number');

END;

EXCEPTION

WHEN OTHERS THEN

DBMS\_OUTPUT.PUT\_LINE('Error: ' || SQLERRM);

END;

```

DECLARE   v_input VARCHAR2(10) := 'abc'; v_number NUMBER; BEGIN   BEGIN       v_number :=
TO_NUMBER(v_input);       DBMS_OUTPUT.PUT_LINE('Conversion successful. Number: ' || v_number);
EXCEPTION   WHEN INVALID_NUMBER THEN       DBMS_OUTPUT.PUT_LINE('Error: Invalid number');   END;
EXCEPTION   WHEN OTHERS THEN       DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM); END;

```

Error: ORA-06502: PL/SQL: numeric or value error: character to number conversion error

Statement processed. 0.00 seconds

