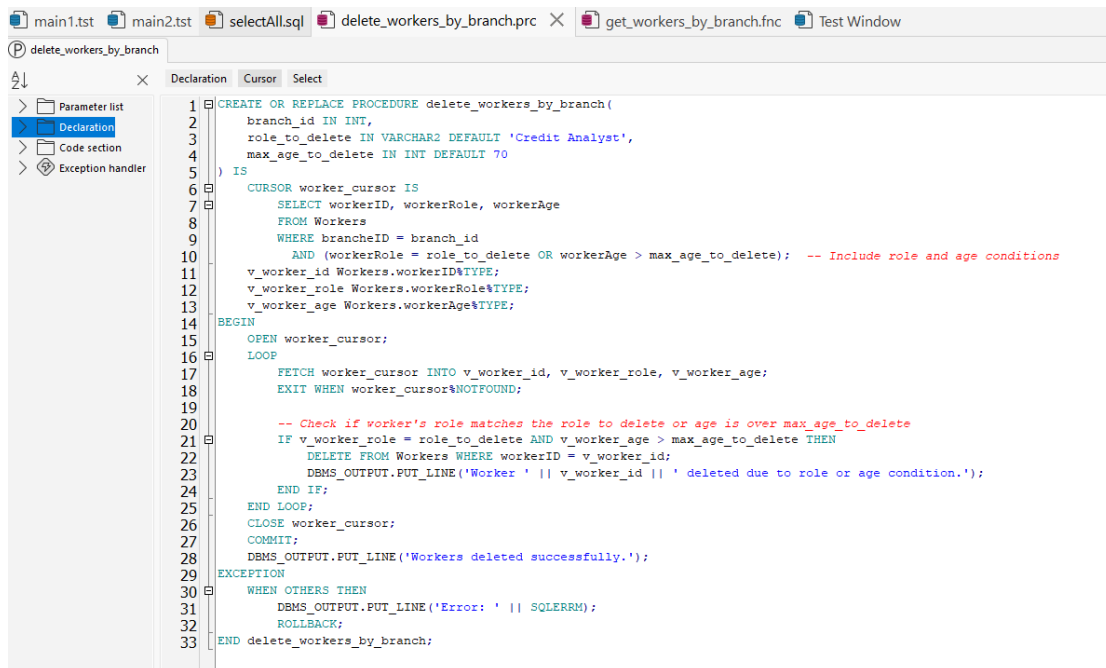דוח שלב ג – צוריה מלכה ואליסף כהן

תיאור פונקציות ופרוצדורות:

פרוצדורה 1 – מחיקת עובדים מסניף מסוים שגילם שמעל גיל 70 וגם נמצאים בתפקיד מסוים:
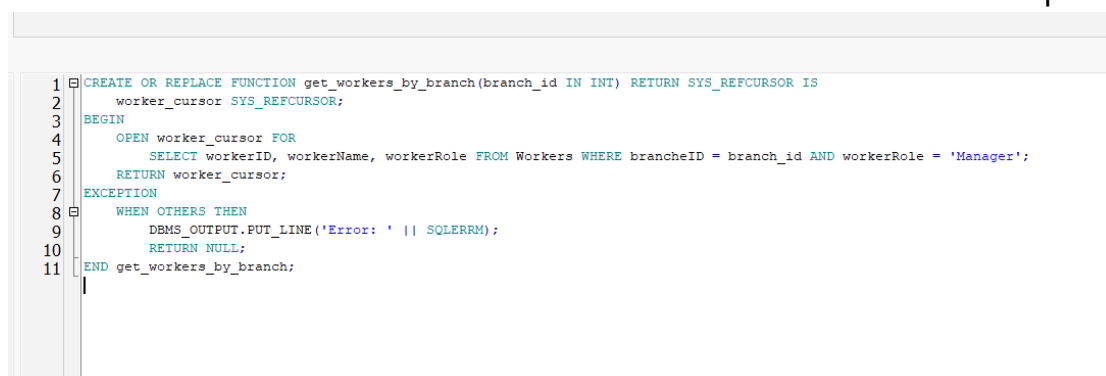
הפרוצדורה:

```
CREATE OR REPLACE PROCEDURE delete_workers_by_branch(
    branch_id IN INT,
    role_to_delete IN VARCHAR2 DEFAULT 'Credit Analyst',
    max_age_to_delete IN INT DEFAULT 70
) IS
    CURSOR worker_cursor IS
        SELECT workerID, workerRole, workerAge
        FROM Workers
        WHERE brancheID = branch_id
            AND (workerRole = role_to_delete OR workerAge > max_age_to_delete);  -- Include role and age conditions
    v_worker_id Workers.workerID%TYPE;
    v_worker_role Workers.workerRole%TYPE;
    v_worker_age Workers.workerAge%TYPE;
BEGIN
    OPEN worker_cursor;
    LOOP
        FETCH worker_cursor INTO v_worker_id, v_worker_role, v_worker_age;
        EXIT WHEN worker_cursor%NOTFOUND;

        -- Check if worker's role matches the role to delete or age is over max_age_to_delete
        IF v_worker_role = role_to_delete AND v_worker_age > max_age_to_delete THEN
            DELETE FROM Workers WHERE workerID = v_worker_id;
            DBMS_OUTPUT.PUT_LINE('Worker ' || v_worker_id || ' deleted due to role or age condition.');
        END IF;
    END LOOP;
    CLOSE worker_cursor;
    COMMIT;
    DBMS_OUTPUT.PUT_LINE('Workers deleted successfully.');
EXCEPTION
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);
        ROLLBACK;
END delete_workers_by_branch;
```

פונקציה 2 – החזרת המנהלים מהסניף הנבחר (מספר הסניף מתקבל כפרמטר לפונקציה)

הפונקציה:

```
CREATE OR REPLACE FUNCTION get_workers_by_branch(branch_id IN INT) RETURN SYS_REFCURSOR IS
    worker_cursor SYS_REFCURSOR;
BEGIN
    OPEN worker_cursor FOR
        SELECT workerID, workerName, workerRole FROM Workers WHERE brancheID = branch_id AND workerRole = 'Manager';
    RETURN worker_cursor;
EXCEPTION
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);
        RETURN NULL;
END get_workers_by_branch;
```

פרוצדורה 2 – קידום עובדים בסניף מסוים (מספר הסניף מתקבל כפרמטר לפונקציה)

הפרוצדורה:

```
1   CREATE OR REPLACE PROCEDURE promote_workers_by_branch(p_branch_id IN INT, old_role IN VARCHAR2, p_new_role IN VARCHAR2) IS
2       CURSOR c_workers IS
3           SELECT workerID, workerName, workerRole
4           FROM Workers
5           WHERE brancheID = p_branch_id;
6
7       v_workerID Workers.workerID%TYPE;
8       v_workerName Workers.workerName%TYPE;
9       v_workerRole Workers.workerRole%TYPE;
10
11  BEGIN
12      OPEN c_workers;
13      LOOP
14          FETCH c_workers INTO v_workerID, v_workerName, v_workerRole;
15          EXIT WHEN c_workers%NOTFOUND;
16          IF v_workerRole = old_role THEN
17              -- Update the worker's role
18              UPDATE Workers
19              SET workerRole = p_new_role
20              WHERE workerID = v_workerID;
21
22              -- Output the change
23              DBMS_OUTPUT.PUT_LINE('Promoted ' || v_workerName || ' (ID: ' || v_workerID || ') to ' || p_new_role);
24          ELSE
25              -- Output message if no change is needed
26              DBMS_OUTPUT.PUT_LINE('No change needed for ' || v_workerName || ' (ID: ' || v_workerID || '), is a ' || old_role);
27          END IF;
28      END LOOP;
29      CLOSE c_workers;
30      COMMIT;
31
32  EXCEPTION
33      WHEN OTHERS THEN
34          DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);
35          ROLLBACK;
36  END promote_workers_by_branch;
```

פונקציה 2 – פונקציה שמחזירה סקלר המייצג את סכום הכסף הכללי שנלווה מסניף מסוים (סכום ההלוואות הכולל – הלוואה 1 + הלוואה 2 +... +הלוואה n)

הפונקציה:

```
1   create or replace function get_total_loan_amount(customer_id IN INT) return NUMBER  is
2     v_total_amount NUMBER := 0;
3       v_loan_amount NUMBER;
4       CURSOR loan_cursor IS
5           SELECT loanAmount FROM Loans WHERE customerID = customer_id;
6   BEGIN
7       OPEN loan_cursor;
8       LOOP
9           FETCH loan_cursor INTO v_loan_amount;
10          EXIT WHEN loan_cursor%NOTFOUND;
11          IF v_loan_amount < 0 THEN
12              DBMS_OUTPUT.PUT_LINE('Negative loan amount found: ' || v_loan_amount);
13          ELSE
14              v_total_amount := v_total_amount + v_loan_amount;
15          END IF;
16      END LOOP;
17      CLOSE loan_cursor;
18      RETURN v_total_amount;
19  EXCEPTION
20      WHEN OTHERS THEN
21          DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);
22          RETURN 0;
23  END get_total_loan_amount;
```

מיין ראשון: זימון פונקציה 2 ופרוצדורה 1:

פלט:

```
Workers in branch 103008:
105008 - Darren - Manager
105408 - Joseph - Manager
105808 - James - Manager
106208 - Tim - Manager
Worker 105008 deleted due to role or age condition.
Worker 105808 deleted due to role or age condition.
Worker 106208 deleted due to role or age condition.
Workers deleted successfully.
Workers in branch 103008:
105408 - Joseph - Manager
```

מיין שני: זימון פונקציה 1 ופרוצדורה 2:

פלט:


```
Test script    DBMS Output    Statistics    Profiler    Trace

Clear      Buffer size  10000    ▲▼    ☑ Enabled
Promoted Vanessa (ID: 105009) to Officer
Promoted Linda (ID: 105409) to Officer
Promoted Tina (ID: 105809) to Officer
Promoted Makayla (ID: 106209) to Officer
Total loan amount for branch 103009: 39615
```