

**Name : Haris**

**Roll # 23P-0573**

1. Create a PL/SQL block that computes and prints the bonus amount for a given Employee based on the employee's salary. Accept the employee number as user input with a SQL\*Plus substitution Variable. a. If the employee's salary is less than 1,000, set the bonus amount for the Employee to 10% of the salary. b. If the employee's salary is between 1,000 and 1,500, set the bonus amount for the employee to 15% of the salary. c. If the employee's salary exceeds 1,500, set the bonus amount for the employee to 20% of the salary. d. If the employee's salary is NULL, set the bonus amount for the employee to 0.

```
SET SERVEROUTPUT ON;
```

```
DECLARE e_empno employees.employee_id%TYPE; e_empsal employees.salary%TYPE;
e_bonus NUMBER(10,2); BEGIN -- Accept employee number from user input e_empno :=
&empno;
```

```
-- Fetch the employee's salary
```

```
SELECT salary INTO e_empsal
```

```
FROM employees
```

```
WHERE employee_id = e_empno;
```

```
-- Calculate the bonus based on salary conditions
```

```
IF e_empsal < 1000 THEN
```

```
    e_bonus := e_empsal * 0.10; -- 10% bonus
```

```
ELSIF e_empsal >= 1000 AND e_empsal <= 1500 THEN
```

```
    e_bonus := e_empsal * 0.15; -- 15% bonus
```

```
ELSIF e_empsal > 1500 THEN
```

```
    e_bonus := e_empsal * 0.20; -- 20% bonus
```

```
ELSE
```

```
    e_bonus := 0; -- If salary is NULL
```

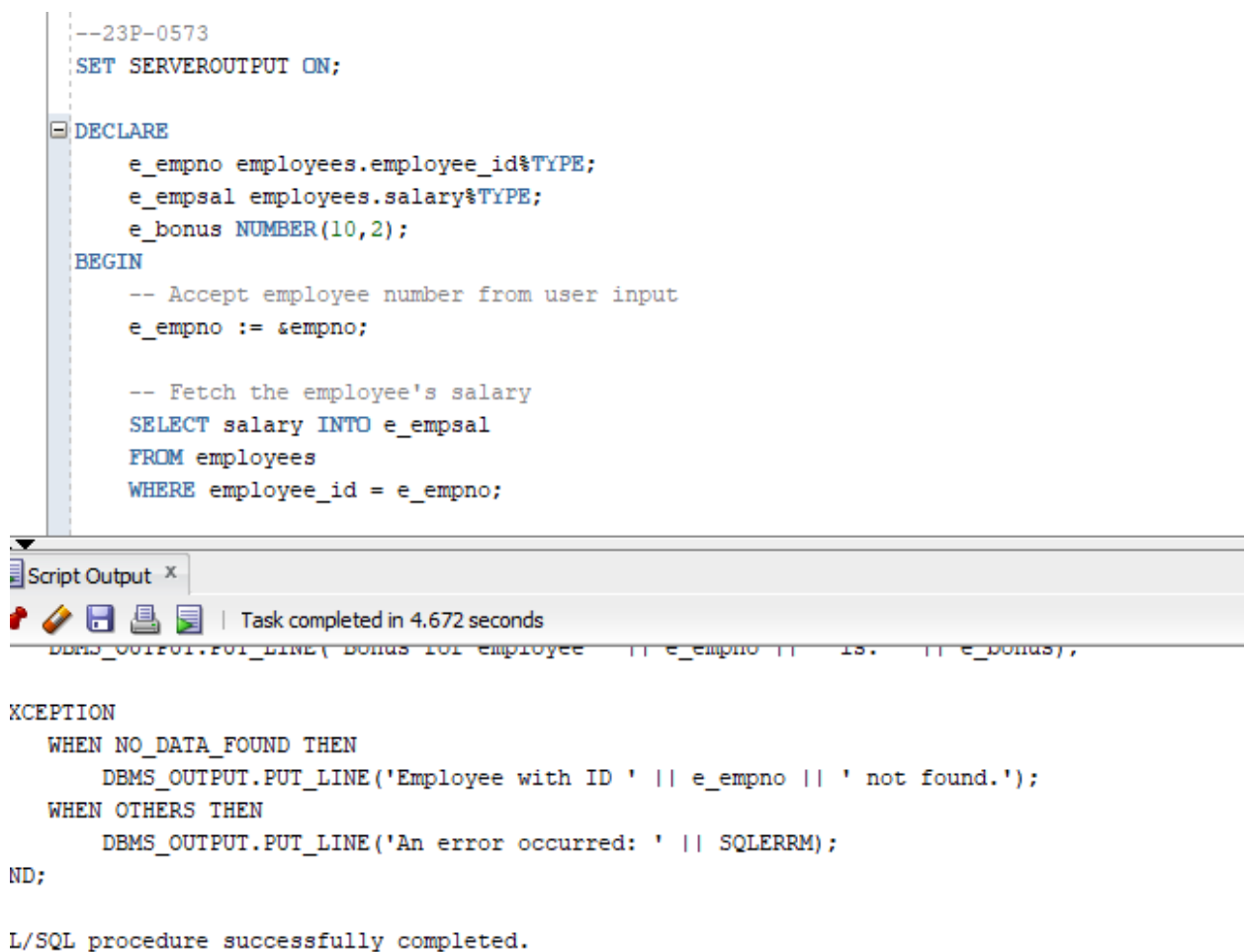
```
END IF;
```

```
-- Display the bonus
```

```
DBMS_OUTPUT.PUT_LINE('Bonus for employee ' || e_empno || ' is: ' ||  
e_bonus);
```

```
EXCEPTION WHEN NO_DATA_FOUND THEN DBMS_OUTPUT.PUT_LINE('Employee  
with ID ' || e_empno || ' not found.');
```

```
WHEN OTHERS THEN DBMS_OUTPUT.PUT_LINE('An  
error occurred: ' || SQLERRM); END; /
```



The screenshot shows an SQL IDE window with a script editor and a script output pane. The script editor contains the following PL/SQL code:

```
--23P-0573  
SET SERVEROUTPUT ON;  
  
DECLARE  
    e_empno employees.employee_id%TYPE;  
    e_empsal employees.salary%TYPE;  
    e_bonus NUMBER(10,2);  
BEGIN  
    -- Accept employee number from user input  
    e_empno := &empno;  
  
    -- Fetch the employee's salary  
    SELECT salary INTO e_empsal  
    FROM employees  
    WHERE employee_id = e_empno;  
  
    DBMS_OUTPUT.PUT_LINE('Bonus for employee ' || e_empno || ' is: ' || e_bonus);  
  
EXCEPTION  
    WHEN NO_DATA_FOUND THEN  
        DBMS_OUTPUT.PUT_LINE('Employee with ID ' || e_empno || ' not found.');
```

The script output pane shows the following output:

```
Task completed in 4.672 seconds  
DBMS_OUTPUT.PUT_LINE('Bonus for employee 11 e_empno 11 is: 11 e_bonus),  
  
XCEPTION  
    WHEN NO_DATA_FOUND THEN  
        DBMS_OUTPUT.PUT_LINE('Employee with ID ' || e_empno || ' not found.');
```

The output pane also shows the message: "L/SQL procedure successfully completed."

2.

2 : Write a pl/sql block in sql that ask a user for employee id than it checks its commission if commission is null than it updates salary of that employee by adding commission into salary.

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_emp_id employees.employee_id%TYPE; v_salary employees.salary%TYPE;  
v_commission employees.commission_pct%TYPE; v_new_salary NUMBER(10,2); BEGIN  
v_emp_id := &emp_id;
```

```
SELECT salary, NVL(commission_pct, 0)  
INTO v_salary, v_commission  
FROM employees  
WHERE employee_id = v_emp_id;
```

```
IF v_commission = 0 THEN  
    v_new_salary := v_salary;  
    DBMS_OUTPUT.PUT_LINE('Commission is already NULL or 0. No update  
needed.');
```

```
ELSE  
    v_new_salary := v_salary + (v_salary * v_commission);
```

```
    UPDATE employees  
    SET salary = v_new_salary  
    WHERE employee_id = v_emp_id;
```

```
    DBMS_OUTPUT.PUT_LINE('Updated salary for employee ' || v_emp_id ||  
' is: ' || v_new_salary);  
END IF;
```

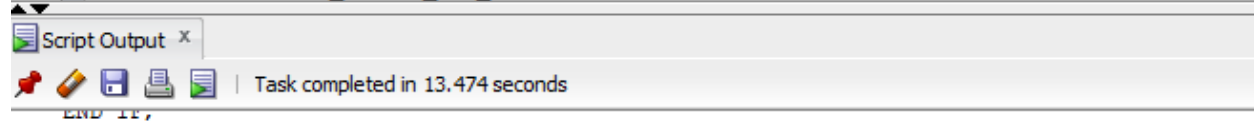
```
EXCEPTION WHEN NO_DATA_FOUND THEN DBMS_OUTPUT.PUT_LINE('Employee with ID '  
|| v_emp_id || ' not found.');
```

```
WHEN OTHERS THEN DBMS_OUTPUT.PUT_LINE('An error  
occurred: ' || SQLERRM); END; /
```

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_emp_id employees.employee_id%TYPE;
    v_salary employees.salary%TYPE;
    v_commission employees.commission_pct%TYPE;
    v_new_salary NUMBER(10,2);
BEGIN
    v_emp_id := &emp_id;

    SELECT salary, NVL(commission_pct, 0)
    INTO v_salary, v_commission
    FROM employees
    WHERE employee_id = v_emp_id;
```



```
EXCEPTION
    WHEN NO_DATA_FOUND THEN
        DBMS_OUTPUT.PUT_LINE('Employee with ID ' || v_emp_id || ' not found.');
```

```
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
END;
```

PL/SQL procedure successfully completed.

### 3: Write a PL/SQL block to obtain the department name of the employee who works for deptno 30

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_dept_name departments.department_name%TYPE; BEGIN SELECT
department_name INTO v_dept_name FROM departments WHERE department_id = 30;
```

```
DBMS_OUTPUT.PUT_LINE('Department Name: ' || v_dept_name);
```

```
EXCEPTION WHEN NO_DATA_FOUND THEN DBMS_OUTPUT.PUT_LINE('No
department found for department ID 30.');
```

```
WHEN OTHERS THEN
DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM); END; /
```

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_dept_name departments.department_name%TYPE;
BEGIN
    SELECT department_name
    INTO v_dept_name
    FROM departments
    WHERE department_id = 30;

    DBMS_OUTPUT.PUT_LINE('Department Name: ' || v_dept_name);

EXCEPTION
    WHEN NO_DATA_FOUND THEN
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
END;
```

Script Output x | Task completed in 0.118 seconds

PL/SQL procedure successfully completed.

Department Name: Purchasing

PL/SQL procedure successfully completed.

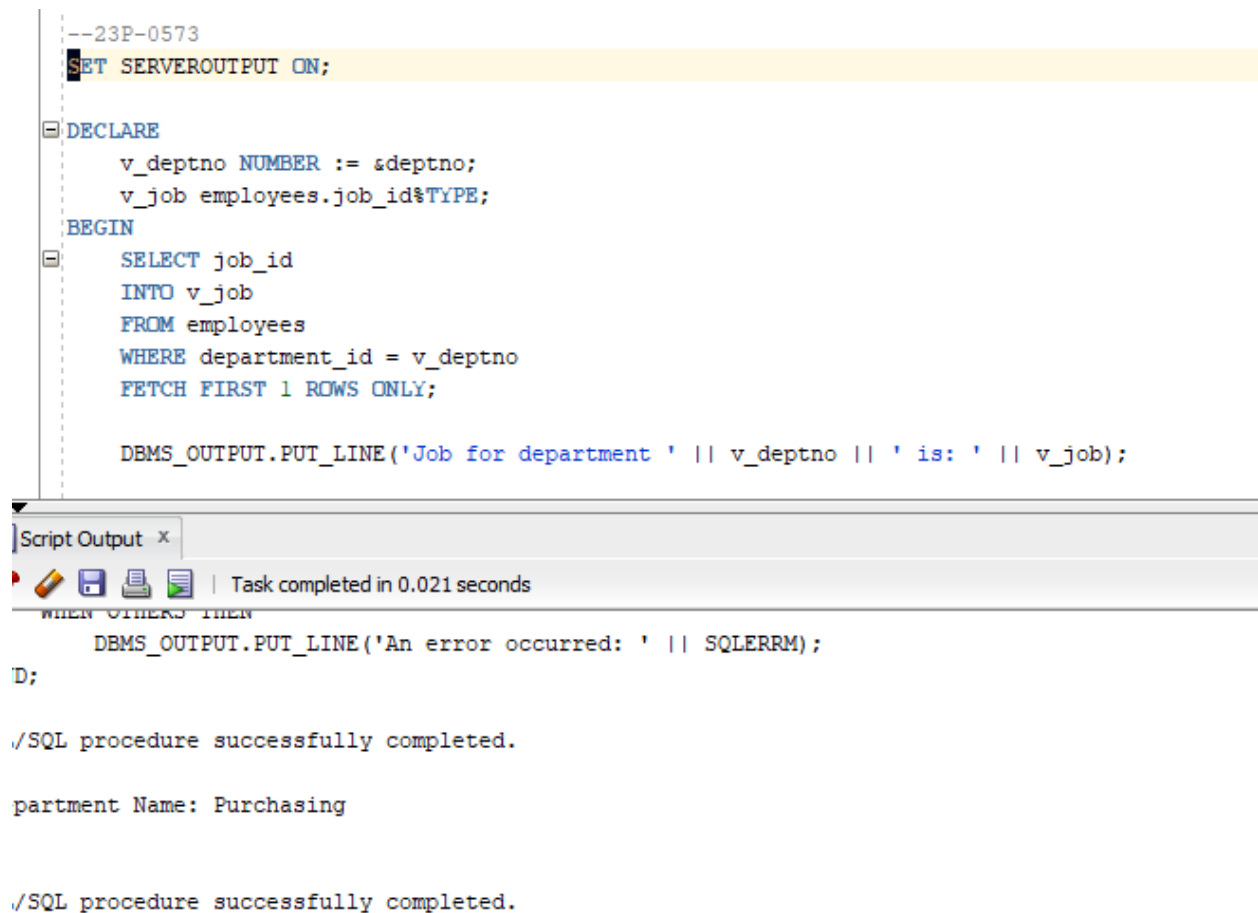
**Write a PL /SQL block to find the nature of job of the employee whose deptno is 20(to be passed as an argument)**

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_deptno NUMBER := &deptno; v_job employees.job_id%TYPE; BEGIN SELECT
job_id INTO v_job FROM employees WHERE department_id = v_deptno FETCH FIRST 1
ROWS ONLY;
```

```
DBMS_OUTPUT.PUT_LINE('Job for department ' || v_deptno || ' is: ' ||
v_job);
```

```
EXCEPTION WHEN NO_DATA_FOUND THEN DBMS_OUTPUT.PUT_LINE('No employee
found in department ' || v_deptno || '.'); WHEN OTHERS THEN
DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM); END; /
```



The screenshot shows a SQL IDE with a script editor and a script output window. The script editor contains the following PL/SQL code:

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_deptno NUMBER := &deptno;
    v_job employees.job_id%TYPE;
BEGIN
    SELECT job_id
    INTO v_job
    FROM employees
    WHERE department_id = v_deptno
    FETCH FIRST 1 ROWS ONLY;

    DBMS_OUTPUT.PUT_LINE('Job for department ' || v_deptno || ' is: ' || v_job);
```

The script output window shows the following output:

```
Script Output x
Task completed in 0.021 seconds
WHEN OTHERS THEN
    DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
D;

./SQL procedure successfully completed.

partment Name: Purchasing

./SQL procedure successfully completed.
```

**Write a PL/SQL block to update the salary of the employee with a 10% increase whose empno is to be passed as an argument for the procedure**

```
SET SERVEROUTPUT ON;
```

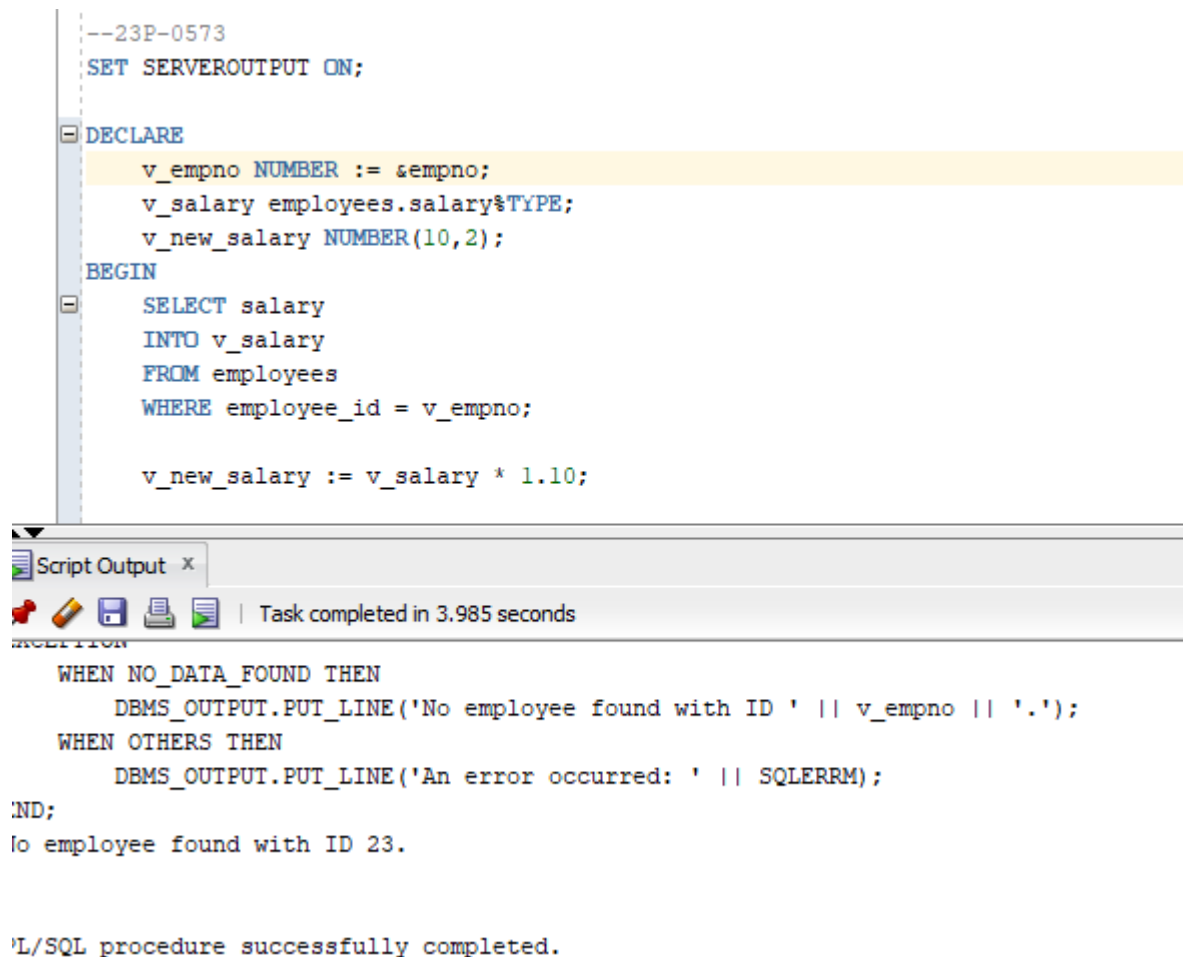
```
DECLARE v_empno NUMBER := &empno; v_salary employees.salary%TYPE; v_new_salary
NUMBER(10,2); BEGIN SELECT salary INTO v_salary FROM employees WHERE
employee_id = v_empno;
```

```
v_new_salary := v_salary * 1.10;
```

```
UPDATE employees  
SET salary = v_new_salary  
WHERE employee_id = v_empno;
```

```
DBMS_OUTPUT.PUT_LINE('Updated salary for employee ' || v_empno || '  
is: ' || v_new_salary);
```

```
EXCEPTION WHEN NO_DATA_FOUND THEN DBMS_OUTPUT.PUT_LINE('No employee  
found with ID ' || v_empno || '.'); WHEN OTHERS THEN DBMS_OUTPUT.PUT_LINE('An  
error occurred: ' || SQLERRM); END; /
```



The screenshot shows an SQL IDE interface. The top pane displays a PL/SQL script with the following content:

```
--23P-0573  
SET SERVEROUTPUT ON;  
  
DECLARE  
    v_empno NUMBER := &empno;  
    v_salary employees.salary%TYPE;  
    v_new_salary NUMBER(10,2);  
BEGIN  
    SELECT salary  
    INTO v_salary  
    FROM employees  
    WHERE employee_id = v_empno;  
  
    v_new_salary := v_salary * 1.10;
```

The bottom pane shows the execution output, which includes the following text:

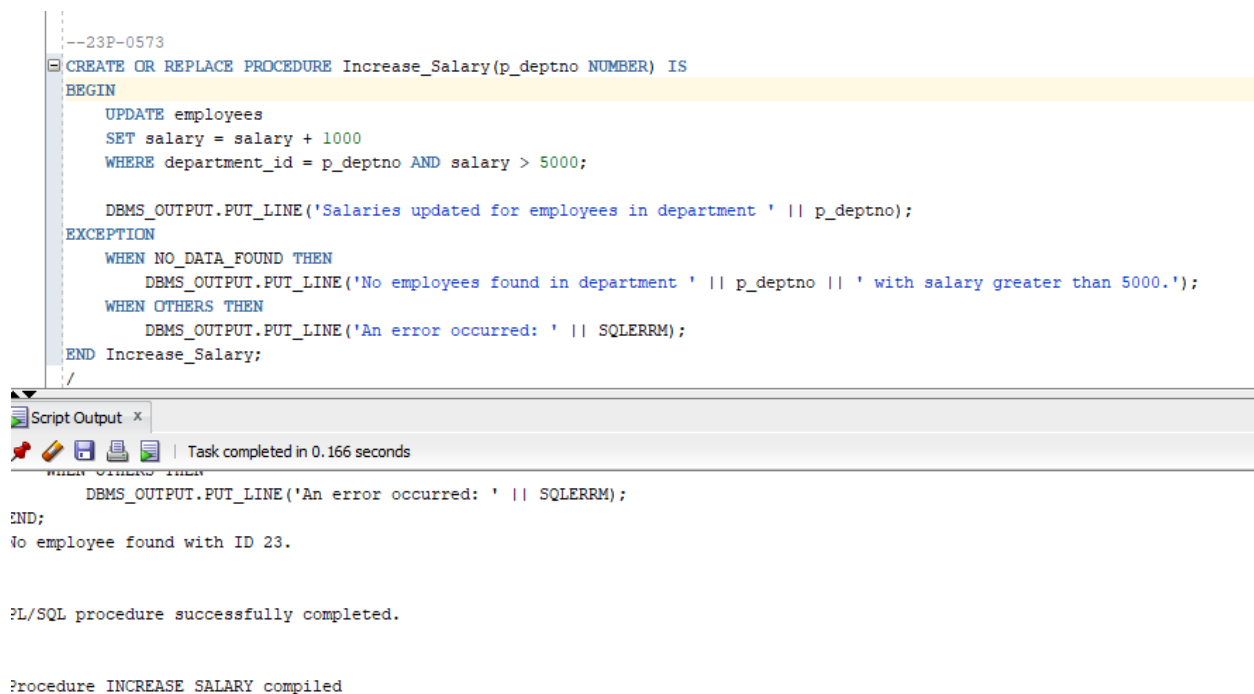
```
Script Output x  
Task completed in 3.985 seconds  
  
--23P-0573  
SET SERVEROUTPUT ON;  
  
DECLARE  
    v_empno NUMBER := &empno;  
    v_salary employees.salary%TYPE;  
    v_new_salary NUMBER(10,2);  
BEGIN  
    SELECT salary  
    INTO v_salary  
    FROM employees  
    WHERE employee_id = v_empno;  
  
    v_new_salary := v_salary * 1.10;  
  
    WHEN NO_DATA_FOUND THEN  
        DBMS_OUTPUT.PUT_LINE('No employee found with ID ' || v_empno || '.');  
    WHEN OTHERS THEN  
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);  
END;  
No employee found with ID 23.  
  
PL/SQL procedure successfully completed.
```

**Write a procedure to add an amount of Rs.1000 for the employees whose salaries is greater than 5000 and who belongs to the deptno passed as an argument.**

```
CREATE OR REPLACE PROCEDURE Increase_Salary(p_deptno NUMBER) IS BEGIN
UPDATE employees SET salary = salary + 1000 WHERE department_id = p_deptno AND
salary > 5000;
```

```
DBMS_OUTPUT.PUT_LINE('Salaries updated for employees in department '
|| p_deptno);
```

```
EXCEPTION WHEN NO_DATA_FOUND THEN DBMS_OUTPUT.PUT_LINE('No
employees found in department ' || p_deptno || ' with salary greater than 5000. '); WHEN
OTHERS THEN DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM); END
Increase_Salary; /
```



```
--23P-0573
CREATE OR REPLACE PROCEDURE Increase_Salary(p_deptno NUMBER) IS
BEGIN
    UPDATE employees
    SET salary = salary + 1000
    WHERE department_id = p_deptno AND salary > 5000;

    DBMS_OUTPUT.PUT_LINE('Salaries updated for employees in department ' || p_deptno);
EXCEPTION
    WHEN NO_DATA_FOUND THEN
        DBMS_OUTPUT.PUT_LINE('No employees found in department ' || p_deptno || ' with salary greater than 5000. ');
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
END Increase_Salary;
/
```

Script Output x

Task completed in 0.166 seconds

```
END;
No employee found with ID 23.

PL/SQL procedure successfully completed.

Procedure INCREASE_SALARY compiled
```

**Create views for following purposes: -**

**a. Display each designation and number of employees with that particular**

**Designation.**

```
CREATE OR REPLACE VIEW Designation_Count AS SELECT job_id, COUNT(*) AS
num_employees FROM employees GROUP BY job_id;
```



```
--23P-0573
CREATE OR REPLACE VIEW Designation_Count AS
SELECT job_id, COUNT(*) AS num_employees
FROM employees
GROUP BY job_id;
```

Script Output x

Task completed in 0.043 seconds

View DESIGNATION\_COUNT created.

**b. The organization wants to display only the details like empno, empname , deptno , deptname of all the employee except king.**

```
CREATE OR REPLACE VIEW Employee_Details_Excluding_King AS SELECT
e.employee_id, e.first_name || ' ' || e.last_name AS emp_name, e.department_id,
d.department_name FROM employees e JOIN departments d ON e.department_id =
d.department_id WHERE UPPER(e.last_name) <> 'KING';
```

```
--23P-0573
CREATE OR REPLACE VIEW Employee_Details_Excluding_King AS
SELECT e.employee_id, e.first_name || ' ' || e.last_name AS emp_name,
       e.department_id, d.department_name
FROM employees e
JOIN departments d ON e.department_id = d.department_id
WHERE UPPER(e.last_name) <> 'KING';
```

Script Output x

Task completed in 0.029 seconds

View DESIGNATION\_COUNT created.

**c. The organization wants to display only the details empno, empname, deptno, deptname of the employees.**

```
CREATE OR REPLACE VIEW Employee_Basic_Details AS SELECT e.employee_id,
e.first_name || ' ' || e.last_name AS emp_name, e.department_id, d.department_name FROM
employees e JOIN departments d ON e.department_id = d.department_id;
```

```
--23P-0573
CREATE OR REPLACE VIEW Employee_Basic_Details AS
SELECT e.employee_id, e.first_name || ' ' || e.last_name AS emp_name,
       e.department_id, d.department_name
FROM employees e
JOIN departments d ON e.department_id = d.department_id;
```

Script Output x

Task completed in 0.026 seconds

iew EMPLOYEE\_BASIC\_DETAILS created.

**Write a PL/SQL code that takes two inputs from user, add them and store the sum in new variable and show the output.**

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_num1 NUMBER := &num1; v_num2 NUMBER := &num2; v_sum NUMBER;
BEGIN v_sum := v_num1 + v_num2; DBMS_OUTPUT.PUT_LINE('The sum of ' || v_num1 || '
and ' || v_num2 || ' is: ' || v_sum); END; /
```

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_num1 NUMBER := &num1;
    v_num2 NUMBER := &num2;
    v_sum NUMBER;
BEGIN
    v_sum := v_num1 + v_num2;
    DBMS_OUTPUT.PUT_LINE('The sum of ' || v_num1 || ' and ' || v_num2 || ' is: ' || v_sum);
END;
/
```

Script Output x

Task completed in 4.125 seconds

```
v_num1 NUMBER := 23,
v_sum NUMBER;
EGIN
    v_sum := v_num1 + v_num2;
    DBMS_OUTPUT.PUT_LINE('The sum of ' || v_num1 || ' and ' || v_num2 || ' is: ' || v_sum);
ND;
he sum of 23 and 34 is: 57

PL/SQL procedure successfully completed.
```

10. Write a PL/SQL code that takes two inputs, lower boundary and upper boundary, then print the sum of all the numbers between the boundaries INCLUSIVE.

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_lower NUMBER := &lower_bound; v_upper NUMBER := &upper_bound; v_sum
NUMBER := 0; v_counter NUMBER; BEGIN IF v_lower > v_upper THEN
DBMS_OUTPUT.PUT_LINE('Lower boundary should be less than or equal to upper
boundary. '); ELSE FOR v_counter IN v_lower..v_upper LOOP v_sum := v_sum + v_counter;
END LOOP;
```

```
    DBMS_OUTPUT.PUT_LINE('The sum of numbers from ' || v_lower || ' to
' || v_upper || ' is: ' || v_sum);
END IF;
```

```
END; /
```

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_lower NUMBER := &lower_bound;
    v_upper NUMBER := &upper_bound;
    v_sum NUMBER := 0;
    v_counter NUMBER;
BEGIN
    IF v_lower > v_upper THEN
        DBMS_OUTPUT.PUT_LINE('Lower boundary should be less than or equal to upper boundary.');
```

Script Output x

Task completed in 3.75 seconds

```
        v_sum := v_sum + v_counter;
    END LOOP;

    DBMS_OUTPUT.PUT_LINE('The sum of numbers from ' || v_lower || ' to ' || v_upper || ' is: ' || v_sum);
END IF;
END;
```

he sum of numbers from 43 to 45 is: 132

L/SQL procedure successfully completed.

**Write a PL/SQL code to retrieve the employee name, hiredate, and the department name in which he works, whose number is input by the user.**

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_emp_id employees.employee_id%TYPE := &emp_id; v_emp_name
employees.first_name%TYPE; v_hire_date employees.hire_date%TYPE; v_dept_name
departments.department_name%TYPE; BEGIN SELECT e.first_name || ' ' || e.last_name,
e.hire_date, d.department_name INTO v_emp_name, v_hire_date, v_dept_name FROM
employees e JOIN departments d ON e.department_id = d.department_id WHERE
e.employee_id = v_emp_id;
```

```
DBMS_OUTPUT.PUT_LINE('Employee Name: ' || v_emp_name);
DBMS_OUTPUT.PUT_LINE('Hire Date: ' || v_hire_date);
DBMS_OUTPUT.PUT_LINE('Department Name: ' || v_dept_name);
```

```
EXCEPTION WHEN NO_DATA_FOUND THEN DBMS_OUTPUT.PUT_LINE('No employee
found with ID ' || v_emp_id || '.'); WHEN OTHERS THEN DBMS_OUTPUT.PUT_LINE('An
error occurred: ' || SQLERRM); END; /
```

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_emp_id employees.employee_id%TYPE := &emp_id;
    v_emp_name employees.first_name%TYPE;
    v_hire_date employees.hire_date%TYPE;
    v_dept_name departments.department_name%TYPE;
BEGIN
    SELECT e.first_name || ' ' || e.last_name, e.hire_date, d.department_name
    INTO v_emp_name, v_hire_date, v_dept_name
    FROM employees e
    JOIN departments d ON e.department_id = d.department_id
    WHERE e.employee_id = v_emp_id;

    WHEN NO_DATA_FOUND THEN
        DBMS_OUTPUT.PUT_LINE('No employee found with ID ' || v_emp_id || '.');
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
END;

No employee found with ID 9001.

PL/SQL procedure successfully completed.
```

**Write a PL/SQL code to check whether the given number is palindrome or not.**

```
SET SERVEROUTPUT ON;
```

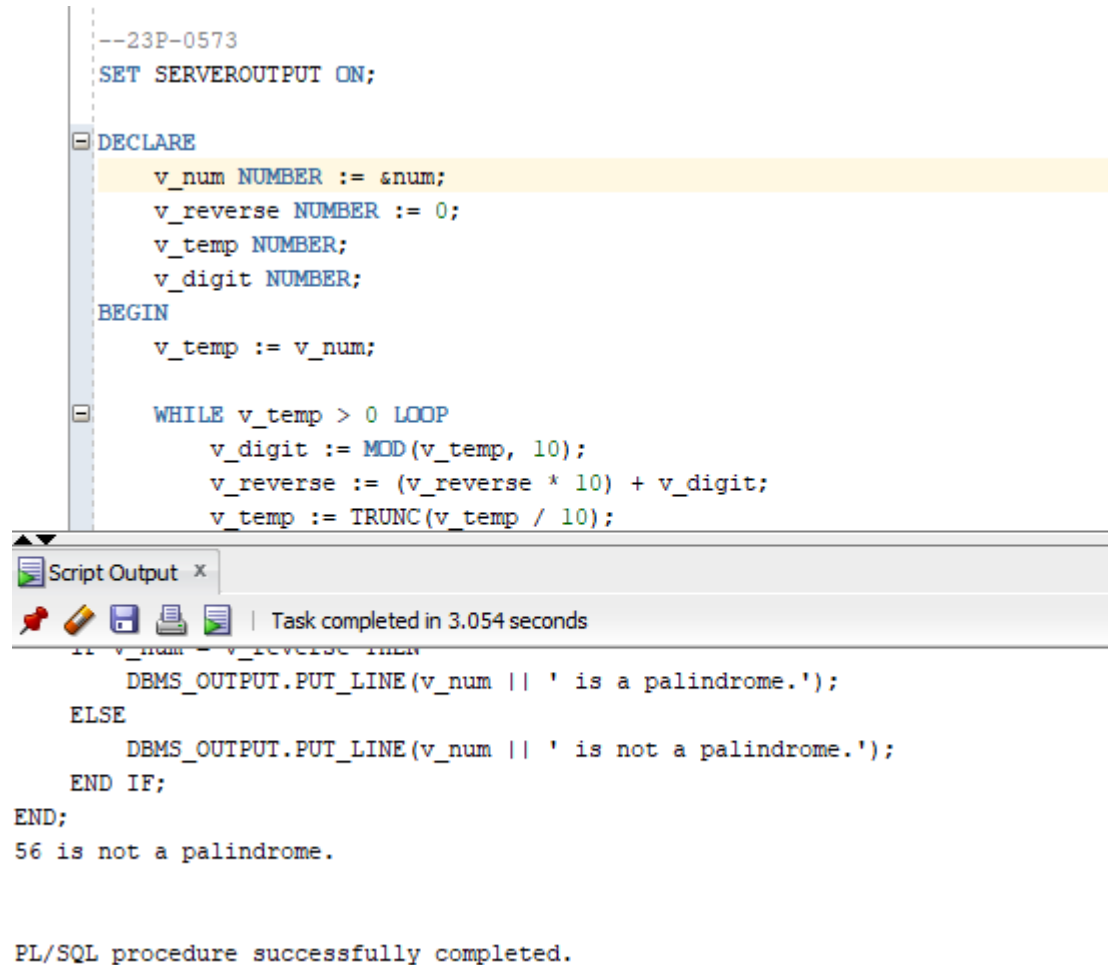
```
DECLARE v_num NUMBER := # v_reverse NUMBER := 0; v_temp NUMBER; v_digit
NUMBER; BEGIN v_temp := v_num;
```

```
WHILE v_temp > 0 LOOP
    v_digit := MOD(v_temp, 10);
    v_reverse := (v_reverse * 10) + v_digit;
    v_temp := TRUNC(v_temp / 10);
END LOOP;
```

```
IF v_num = v_reverse THEN
    DBMS_OUTPUT.PUT_LINE(v_num || ' is a palindrome. ');
ELSE
    DBMS_OUTPUT.PUT_LINE(v_num || ' is not a palindrome. ');
```

```
END IF;
```

```
END; /
```



The screenshot shows a SQL IDE window with a script editor and a script output pane. The script editor contains a PL/SQL procedure to check if a number is a palindrome. The script output pane shows the execution results, including the message "56 is not a palindrome." and "PL/SQL procedure successfully completed."

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_num NUMBER := &num;
    v_reverse NUMBER := 0;
    v_temp NUMBER;
    v_digit NUMBER;
BEGIN
    v_temp := v_num;

    WHILE v_temp > 0 LOOP
        v_digit := MOD(v_temp, 10);
        v_reverse := (v_reverse * 10) + v_digit;
        v_temp := TRUNC(v_temp / 10);
    END LOOP;

    IF v_num = v_reverse THEN
        DBMS_OUTPUT.PUT_LINE(v_num || ' is a palindrome.');
```

Task completed in 3.054 seconds

```
ELSE
        DBMS_OUTPUT.PUT_LINE(v_num || ' is not a palindrome.');
```

56 is not a palindrome.

PL/SQL procedure successfully completed.

13. Write a PL/SQL code that takes all the required inputs from the user for the Employee table and then insert it into the Employee and Department table in the database.

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_emp_id employees.employee_id%TYPE := &emp_id; v_first_name
employees.first_name%TYPE := '&first_name'; v_last_name employees.last_name%TYPE :=
'&last_name'; v_salary employees.salary%TYPE := &salary; v_hire_date
```

```

employees.hire_date%TYPE := TO_DATE('&hire_date', 'YYYY-MM-DD'); v_dept_id
departments.department_id%TYPE := &dept_id; v_dept_name
departments.department_name%TYPE := '&dept_name'; BEGIN INSERT INTO departments
(department_id, department_name) VALUES (v_dept_id, v_dept_name) ON CONFLICT
(department_id) DO NOTHING; -- Avoid duplicate department insertions

```

```

INSERT INTO employees (employee_id, first_name, last_name, salary,
hire_date, department_id)
VALUES (v_emp_id, v_first_name, v_last_name, v_salary, v_hire_date,
v_dept_id);

```

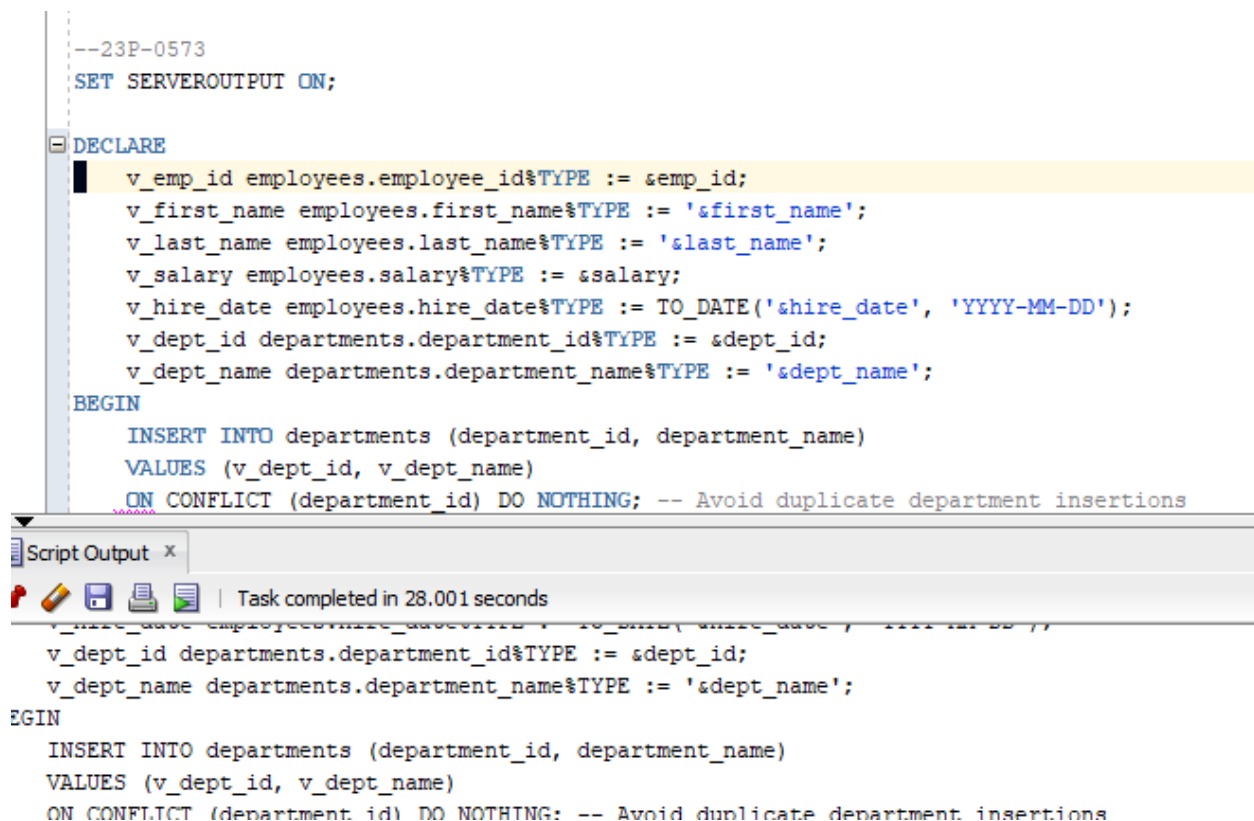
```

DBMS_OUTPUT.PUT_LINE('Employee and Department details inserted
successfully.');
```

```

EXCEPTION WHEN DUP_VAL_ON_INDEX THEN DBMS_OUTPUT.PUT_LINE('Error:
Duplicate Employee ID or Department ID.');
```

WHEN OTHERS THEN  
DBMS\_OUTPUT.PUT\_LINE('An error occurred: ' || SQLERRM); END; /



```

--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_emp_id employees.employee_id%TYPE := &emp_id;
    v_first_name employees.first_name%TYPE := '&first_name';
    v_last_name employees.last_name%TYPE := '&last_name';
    v_salary employees.salary%TYPE := &salary;
    v_hire_date employees.hire_date%TYPE := TO_DATE('&hire_date', 'YYYY-MM-DD');
    v_dept_id departments.department_id%TYPE := &dept_id;
    v_dept_name departments.department_name%TYPE := '&dept_name';
BEGIN
    INSERT INTO departments (department_id, department_name)
    VALUES (v_dept_id, v_dept_name)
    ON CONFLICT (department_id) DO NOTHING; -- Avoid duplicate department insertions

    INSERT INTO employees (employee_id, first_name, last_name, salary,
    hire_date, department_id)
    VALUES (v_emp_id, v_first_name, v_last_name, v_salary, v_hire_date,
    v_dept_id);

    DBMS_OUTPUT.PUT_LINE('Employee and Department details inserted
    successfully.');
```

Script Output x

Task completed in 28.001 seconds

```

v_hire_date employees.hire_date%TYPE := TO_DATE('&hire_date', 'YYYY-MM-DD');
v_dept_id departments.department_id%TYPE := &dept_id;
v_dept_name departments.department_name%TYPE := '&dept_name';
EGIN
    INSERT INTO departments (department_id, department_name)
    VALUES (v_dept_id, v_dept_name)
    ON CONFLICT (department_id) DO NOTHING; -- Avoid duplicate department insertions

```



**Write a PL/SQL code to find the first employee who has a salary over \$2500 and is higher in the chain of command than employee 90. Note: For chain, use of LOOP is Necessary.**

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_emp_id employees.employee_id%TYPE := 90; v_mgr_id  
employees.manager_id%TYPE; v_emp_name employees.first_name%TYPE; v_salary  
employees.salary%TYPE; found BOOLEAN := FALSE; BEGIN LOOP SELECT manager_id  
INTO v_mgr_id FROM employees WHERE employee_id = v_emp_id;
```

```
EXIT WHEN v_mgr_id IS NULL;
```

```
BEGIN
```

```
    SELECT employee_id, first_name, salary  
    INTO v_emp_id, v_emp_name, v_salary  
    FROM employees  
    WHERE employee_id = v_mgr_id AND salary > 2500;
```

```
    found := TRUE;
```

```
    EXIT;
```

```
EXCEPTION
```

```
    WHEN NO_DATA_FOUND THEN
```

```
        v_emp_id := v_mgr_id;
```

```
END;
```

```
END LOOP;
```

```
IF found THEN
```

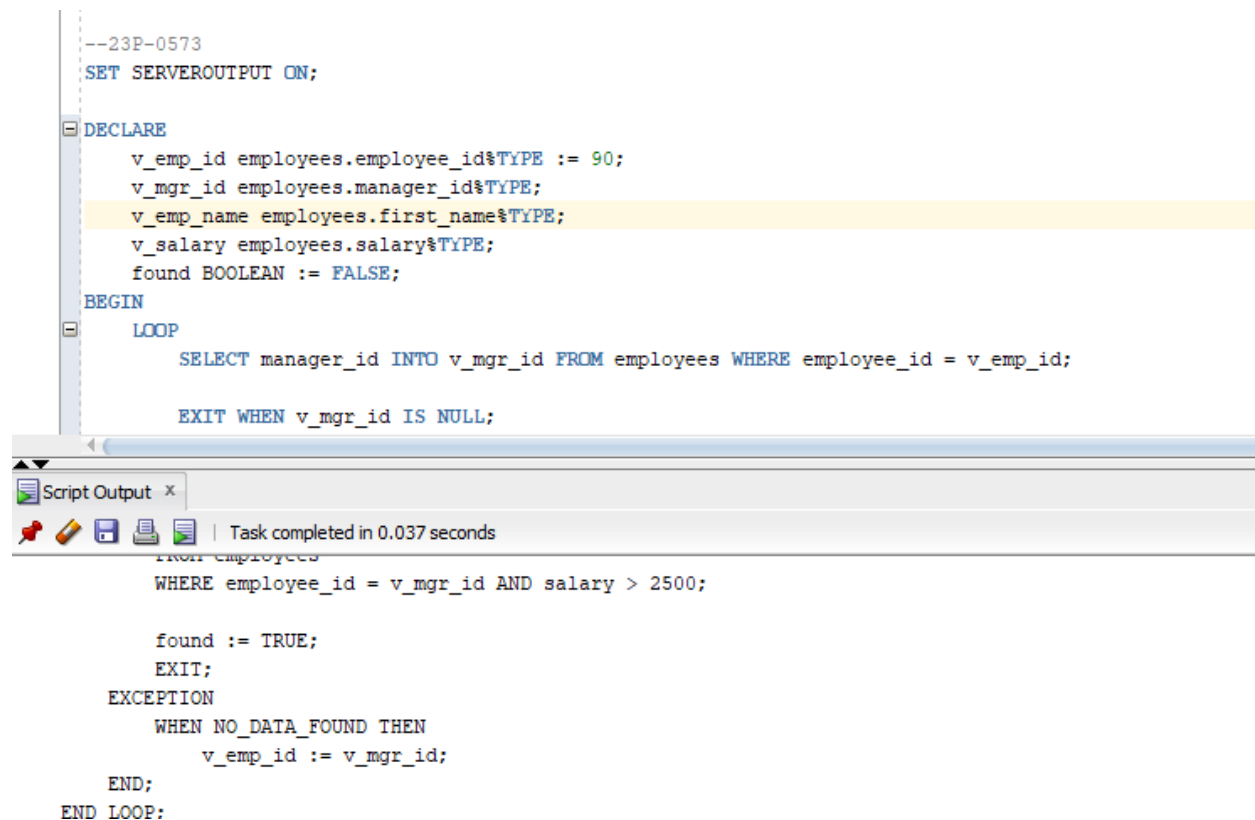
```
    DBMS_OUTPUT.PUT_LINE('First employee with salary over $2500 higher  
in the chain: ' || v_emp_name || ' (ID: ' || v_emp_id || ')');
```

```
ELSE
```

```
    DBMS_OUTPUT.PUT_LINE('No such employee found.');
```

```
END IF;
```

END; /



The screenshot shows a SQL IDE window with a script editor and a script output pane. The script editor contains a PL/SQL block that declares variables, sets a loop, and performs a recursive query to find the manager of an employee with ID 90. The script output pane shows the execution results, including the task completion time and the output of the recursive query.

```
--23P-0573
SET SERVEROUTPUT ON;

DECLARE
    v_emp_id employees.employee_id%TYPE := 90;
    v_mgr_id employees.manager_id%TYPE;
    v_emp_name employees.first_name%TYPE;
    v_salary employees.salary%TYPE;
    found BOOLEAN := FALSE;
BEGIN
    LOOP
        SELECT manager_id INTO v_mgr_id FROM employees WHERE employee_id = v_emp_id;

        EXIT WHEN v_mgr_id IS NULL;

        FROM employees
        WHERE employee_id = v_mgr_id AND salary > 2500;

        found := TRUE;
        EXIT;
    EXCEPTION
        WHEN NO_DATA_FOUND THEN
            v_emp_id := v_mgr_id;
    END;
END LOOP;
```

Script Output x

Task completed in 0.037 seconds

FROM employees  
WHERE employee\_id = v\_mgr\_id AND salary > 2500;

found := TRUE;  
EXIT;

EXCEPTION  
WHEN NO\_DATA\_FOUND THEN  
v\_emp\_id := v\_mgr\_id;

END;  
END LOOP;

15. Write a PL/SQL code to print the sum of first 100 numbers.

```
SET SERVEROUTPUT ON;
```

```
DECLARE v_sum NUMBER := 0; v_counter NUMBER; BEGIN FOR v_counter IN 1..100  
LOOP v_sum := v_sum + v_counter; END LOOP;
```

```
DBMS_OUTPUT.PUT_LINE('The sum of the first 100 numbers is: ' ||  
v_sum);
```

END; /

--23P-0573

SET SERVEROUTPUT ON;

DECLARE

v\_sum NUMBER := 0;

v\_counter NUMBER;

BEGIN

FOR v\_counter IN 1..100 LOOP

v\_sum := v\_sum + v\_counter;

END LOOP;

DBMS\_OUTPUT.PUT\_LINE('The sum of the first 100 numbers is: ' || v\_sum);

END;

/

Script Output x



| Task completed in 0.026 seconds

The sum of the first 100 numbers is: 5050

PL/SQL procedure successfully completed.