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PL/SQL Assignment

# Q1: Anonymous PL/SQL Block

-- 1) Add declarative section with TODAY and TOMORROW variables  
DECLARE  
 TODAY DATE := SYSDATE;   
 TOMORROW TODAY%TYPE;   
BEGIN  
 DBMS\_OUTPUT.PUT\_LINE('Hello World');  
END;  
  
-- 2) Initialize TOMORROW and print values  
DECLARE  
 TODAY DATE := SYSDATE;  
 TOMORROW TODAY%TYPE;  
BEGIN  
 TOMORROW := TODAY + 1; -- Adding 1 to TODAY to get TOMORROW  
 DBMS\_OUTPUT.PUT\_LINE('Hello World');  
 DBMS\_OUTPUT.PUT\_LINE('Today is: ' || TO\_CHAR(TODAY, 'DD-MM-YYYY'));  
 DBMS\_OUTPUT.PUT\_LINE('Tomorrow is: ' || TO\_CHAR(TOMORROW, 'DD-MM-YYYY'));  
END;  
  
-- 3) Display today’s date in 'Month dd, yyyy' format and last day of the month  
DECLARE  
 my\_date DATE := SYSDATE;  
 v\_last\_day DATE;  
BEGIN  
 DBMS\_OUTPUT.PUT\_LINE('Today is: ' || TO\_CHAR(my\_date, 'Month dd, yyyy'));  
 v\_last\_day := LAST\_DAY(my\_date); -- Getting the last day of the current month  
 DBMS\_OUTPUT.PUT\_LINE('Last day of this month is: ' || TO\_CHAR(v\_last\_day, 'Month dd, yyyy'));  
END;  
  
-- 4) Add 45 days to TODAY and calculate months difference  
DECLARE  
 my\_date DATE := SYSDATE;  
 v\_last\_day DATE;  
 v\_new\_date DATE;  
 v\_months\_diff NUMBER;  
BEGIN  
 DBMS\_OUTPUT.PUT\_LINE('Today is: ' || TO\_CHAR(my\_date, 'Month dd, yyyy'));  
 v\_last\_day := LAST\_DAY(my\_date); -- Getting the last day of the current month  
 DBMS\_OUTPUT.PUT\_LINE('Last day of this month is: ' || TO\_CHAR(v\_last\_day, 'Month dd, yyyy'));  
   
 v\_new\_date := my\_date + 45; -- Adding 45 days to today  
 DBMS\_OUTPUT.PUT\_LINE('New date after adding 45 days is: ' || TO\_CHAR(v\_new\_date, 'Month dd, yyyy'));  
   
 v\_months\_diff := MONTHS\_BETWEEN(v\_new\_date, my\_date); -- Calculate the difference in months  
 DBMS\_OUTPUT.PUT\_LINE('Number of months between today and new date: ' || v\_months\_diff);  
END;

# Q2: Create table and PL/SQL block using %TYPE and Explicit Cursor

-- Create the countries table  
CREATE TABLE countries (  
 country\_name VARCHAR2(50),  
 median\_age NUMBER(6, 2)  
);  
  
-- Insert some records  
INSERT INTO countries (country\_name, median\_age) VALUES ('Germany', 47.0);  
INSERT INTO countries (country\_name, median\_age) VALUES ('Egypt', 24.1);  
INSERT INTO countries (country\_name, median\_age) VALUES ('USA', 38.1);  
INSERT INTO countries (country\_name, median\_age) VALUES ('New Zealand', 39.0);  
  
-- Using %TYPE in the PL/SQL Block  
DECLARE  
 country\_name countries.country\_name%TYPE;  
 median\_age countries.median\_age%TYPE;  
BEGIN  
 SELECT country\_name, median\_age INTO country\_name, median\_age  
 FROM countries  
 WHERE country\_name = 'Germany';  
   
 DBMS\_OUTPUT.PUT\_LINE('The median age in ' || country\_name || ' is ' || median\_age || '.');  
END;  
  
-- Using Explicit Cursor  
DECLARE  
 CURSOR country\_cursor IS  
 SELECT country\_name, median\_age   
 FROM countries  
 WHERE country\_name = 'Germany';  
  
 country\_name countries.country\_name%TYPE;  
 median\_age countries.median\_age%TYPE;  
BEGIN  
 OPEN country\_cursor;  
 FETCH country\_cursor INTO country\_name, median\_age;  
   
 IF country\_cursor%FOUND THEN  
 DBMS\_OUTPUT.PUT\_LINE('The median age in ' || country\_name || ' is ' || median\_age || '.');  
 ELSE  
 DBMS\_OUTPUT.PUT\_LINE('No data found for Germany.');  
 END IF;  
  
 CLOSE country\_cursor;  
END;