

## Tema 1 – PL/SQL

1. Underline the programming language meeting the criteria:

Criteria		
3GL	<u>PL/SQL</u>	<u>SQL</u>
4GL	<u>PL/SQL</u>	<u>SQL</u>
Is proprietary to Oracle Corporation	<u>PL/SQL</u>	<u>SQL</u>
Nonprocedural	<u>PL/SQL</u>	<u>SQL</u>
Procedural	<u>PL/SQL</u>	<u>SQL</u>
Is ANSI-compliant	<u>PL/SQL</u>	<u>SQL</u>

2. In your own words, describe why a procedural language like PL/SQL is needed.  
To combine much easily programming language with query language SQL.

3. Complete the following chart defining the syntactical requirements for a PL/SQL block:

	Optional or Mandatory?	What is included in this section?
DECLARE	optional	declaration of the variables
BEGIN	mandatory	the executable part
EXCEPTION	optional	an error returned
END;	mandatory	the end of the executable part

4. Which of the following PL/SQL blocks execute successfully? For the blocks that fail, explain why they fail:

- A. BEGIN END; - fail. After begin we must have something or NULL;
- B. DECLARE amount INTEGER(10); END; - fail because the begin is missing
- C. DECLARE BEGIN END; - fail. The same as for block A.
- D. DECLARE amount NUMBER(10); - SUCCESSFUL  
     BEGIN DBMS\_OUTPUT.PUT\_LINE(amount);  
     END;

5. In Application Express:

- A. Create and execute a simple anonymous block that outputs your name.  
     BEGIN DBMS\_OUTPUT.PUT\_LINE('SIMONA'); END;
- B. Create and execute a simple anonymous block that does the following:  
     Declares a variable of datatype DATE and populates it with the date that is six months from today.  
     Outputs “In six months, the date will be: <insert date>.”

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```
declare var DATE:= ADD_Months(SYSDATE,6);
begin
DBMS_output.put_line('In six months, the date will be: '|| var||'.');
end;
```

6. Write a SQL statement that will return data that looks like this:

COUNTRY	NATIONAL HOLIDAY
United Arab Emirates	Independence Day is 2-Dec
Republic of Azerbaijan	Founding of the Democratic Republic of Azerbaijan is 28-May
Republic of Armenia	Independence Day is 21-Sep
Commonwealth of Australia	Australia Day is 26-Jan
Republic of Austria	National Day is 26-Oct
Antarctica	is
Republic of Botswana	Independence Day is 30-Sep
Kingdom of Belgium	is 21-Jul
Peoples Republic of Bangladesh	Independence Day is 26-Mar
Republic of Bulgaria	Liberation Day is 3-Mar
Canada	Canada Day is 1-Jul
Republic of Chad	Independence Day is 11-Aug
Peoples Republic of China	Anniversary of the Founding of the Peoples Republic of China is 1-Oct
Republic of Chile	Independence Day is 18-Sep
Territory of Cocos (Keeling) Islands	Australia Day is 26-Jan
Republic of Colombia	Independence Day is 20-Jul
Republic of Cuba	Independence Day is 20-May
Paracel Islands	is
Sprattly Islands	is
Republic of Poland	Constitution Day is 3-May

```
select country_name, national_holiday_name || ' is '||national_holiday_date as
"NATIONAL HOLIDAY"
from countries;
```

7. Due to a successful global health program, the life expectancy at birth will increase by 7 years for countries whose median ages are below 20. Display the current and increased life expectancy for these countries in the countries table. Name the calculated column “Improved Expectancy.”

```
Select life_expect_at_birth , life_expect_at_birth +7 as “Improved Expectancy.”
From countries where median_age <20;
```

8. Write a SQL statement that lists the country names in alphabetical order. Display the results in uppercase and give the column a heading of "NAME".

```
Select upper(country_name) as "NAME"
```

```
From countries
```

```
order by country_name;
```

9. Display all the languages in the languages table that start with "f." Use the lowercase "f" in your SQL statement.

```
Select language_name from languages where lower(language_name) like 'f%';
```

10. From the world\_regions table, display the ID, name, and an abbreviation that is the first three characters of the region name.

```
Select region_id, region_name, substr(region_name,1,3)
```

```
From world_regions;
```

11. Modify your SQL statement so that the abbreviation is the first three characters of the region name followed by the length of the region name. For example: Western Asia would be Wes12.

```
Select region_id, region_name, substr(region_name,1,3)||length(region_name)
```

12. Display all country names from the countries table, along with the life expectancy, rounded to the nearest whole number.

```
Select country_name, round(life_expect_at_birth,0) from countries;
```

13. Write a SQL statement to list country names and capitals. If the capital is null, display it as "none listed."

```
Select country_name, NVL(capital,'none listed')
```

```
From countries
```