

## Database Programming with PL/SQL

### 1-3: Creating PL/SQL Blocks

### Practice Activities

#### Vocabulary

Identify the vocabulary word for each definition below:

anonymous pl/sql blocks	Unnamed blocks of code not stored in the database and do not exist after they are executed
function	A program that computes and returns a single value
subprograms	Named PL/SQL blocks that are stored in the database and can be declared as procedures or functions
compiler	Software that checks and translates programs written in high-level programming languages into binary code to execute
procedure	A program that performs an action, but does not have to return a value

#### Try It / Solve It

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

	Optional or Mandatory?	Describe 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

2. Which of the following PL/SQL blocks executes successfully? For the blocks that fail, explain why they fail

- A. BEGIN  
END;      Fail      Fails because the executable section must contain at least one statement.
- B. DECLARE  
    amount INTEGER(10);  
END;      Fail      Fails because there is no executable section (BEGIN is missing).
- C. DECLARE  
BEGIN      Fail      Fails because the executable section must contain at least one statement.  
END;
- D. DECLARE  
    amount NUMBER(10);  
BEGIN      Success  
    DBMS\_OUTPUT.PUT\_LINE(amount);  
END;

3. Fill in the blanks:

- A. PL/SQL blocks that have no names are called anonymous blocks.
- B. Procedures and Functions are named blocks and are stored in the database.

4. In Application Express, create and execute a simple anonymous block that outputs "Hello World."

5. 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>."

4. BEGIN

DBMS\_OUTPUT.PUT\_LINE ('Hello World');

END;

5.

DECLARE

calendar date;

BEGIN

SELECT ADD\_MONTHS(sysdate,6) INTO calendar

FROM DUAL;

DBMS\_OUTPUT.PUT\_LINE(calendar);

END