Database Programming with PL/SQL

3-4: Using Transaction Control Statements Practice

Activities

Vocabulary

Identify the vocabulary word for each definition below:

TRANSACTION	An inseparable list of database operations, which must be executed either in its entirety or not at all.
Rollback	Used for discarding any changes that were made to the database after the last COMMIT.
SAVEPOINT	Used to mark an intermediate point in transaction processing.
END	Keyword used to signal the end of a PL/SQL block, not the end of a transaction.
COMMIT	Statement used to make database changes permanent.

Try It / Solve It

Because our online version of Oracle Application Express (APEX) automatically commits changes as the code runs, the following activities will NOT work as intended unless you are using an installed/local APEX environment.

1. How many transactions are shown in the following code? Explain your reasoning.

    2 transacciones. Esta insertando dos filas en la tabla my_savings y no pone un commit después de cada insert, porque APEX lo guarda en automático.

    BEGIN

    INSERT INTO my_savings (account_id, amount)

    VALUES (10377, 200);

    INSERT INTO my_checking (account_id, amount)

```
        VALUES (10378, 100);

   END;
```

Because our online version of Oracle Application Express (APEX) automatically commits changes as the code runs, the following activities will NOT work as intended unless you are using an installed/local APEX environment.

2. Create the endangered species table by running the following statement in Application Express:

Unless you are using an installed/local APEX environment, there is no reason to run this code. If you are using our online version of Oracle Application Express (APEX), you should pretend this code runs successfully before you try to answer the next question.

```
CREATE TABLE endangered_species

 (species_id        NUMBER(4) CONSTRAINT es_spec_pk PRIMARY KEY,

common_name  VARCHAR2(30) CONSTRAINT es_com_name_nn NOT NULL,

scientific_name  VARCHAR2(30) CONSTRAINT es_sci_name_nn NOT NULL);
```

3. Examine the following block of code. If you were to run this block, what data do you think would be saved in the database?

Unless you are using an installed/local APEX environment, there is no reason to run this code. If you are using our online version of Oracle Application Express (APEX), you should pretend this code runs successfully to answer the remaining questions.

```
BEGIN

 INSERT INTO endangered_species

     VALUES (100, 'Polar Bear', 'Ursus maritimus');

 SAVEPOINT sp_100;

 INSERT INTO endangered_species

     VALUES (200, 'Spotted Owl', 'Strix occidentalis');

 SAVEPOINT sp_200;

 INSERT INTO endangered_species

     VALUES (300, 'Asiatic Black Bear', 'Ursus thibetanus');

 ROLLBACK TO sp_100;

 COMMIT;

END;
```
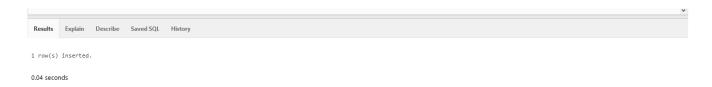
Solamente se guardan los cambios realizados en la primer sentencia INSERT, porque al final de todas las sentencias se encuentra un ROLLBACK que devuelve al punto SP_100 y deshace las demás sentencias.

4. Run the block above to test your theory. Confirm your projected data was added.

Unless you are using an installed/local APEX environment, you should skip this question. The block above will NOT run as intended in our online version of Oracle Application Express (APEX) because it automatically commits changes as the code runs.

Results	Explain	Describe	Saved SQL	History

1 row(s) inserted.

0.04 seconds

5. Examine the following block. If you were to run this block, what data do you think would be saved in the database? Run the block to test your theory.

Because our online version of Oracle Application Express (APEX) automatically commits changes as the code runs, the following block will NOT work as intended unless you are using an installed/local APEX environment.

```
BEGIN

  INSERT INTO endangered_species

    VALUES (400, 'Blue Gound Beetle', 'Carabus intricatus');

  SAVEPOINT sp_400;

  INSERT INTO endangered_species

    VALUES (500, 'Little Spotted Cat', 'Leopardus tigrinus');

  ROLLBACK;

  INSERT INTO endangered_species

    VALUES (600, 'Veined Tongue-Fern', 'Elaphoglossum nervosum');

  ROLLBACK TO sp_400;

END;
```

No se guarda ningún cambio, porque al poner el ROLLBACK sin un punto en especifico al cual retornar, se deshacen todos los cambios hechos y después en la parte final pone un ROLLBACK TO sp_400 y ese punto de guardado se encuentra al principio y se deshizo con el ROLLBACK;