Using Transaction Control Statements

Terminology

Directions: Identify the vocabulary word for each definition below:
1. _____ An inseparable list of database operations, which must be executed either in its entirety or not at all.
2. _____ Used for discarding any changes that were made to the database after the last COMMIT.
3. _____ Used to mark an intermediate point in transaction processing.
4. _____ Keyword used to signal the end of a PL/SQL block, not the end of a transaction.
5. _____ Statement used to make database changes permanent.

Try It/Solve It

For all the questions in this Practice, you need to disable the Autocommit feature in Application Express, so that you can COMMIT and ROLLBACK transactions explicitly. Uncheck the Autocommit check box in the top left corner of the SQL Commands window.

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

```
BEGIN
  INSERT INTO my_savings (account_id, amount)
      VALUES (10377,200);
  INSERT INTO my_checking(account_id, amount)
      VALUES (10378,100);
END;
```

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

```
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. If you were to run this block, what data do you think would be saved in the database?

```
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;
```

4. Run the block to test your theory. Select from the table to confirm the result.

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

```
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;
```

6. Run the block to test your theory.