3-4: Using Transaction Control Statements

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Contents

1 Vocabulary

1. An inseparable list of database operations, which must be executed either in its entirety or not at all.
   Transaction
2. Used for discarding any changes that were made to the database after the last COMMIT.
   Rollback
3. Used toollbackn intermediate point in transaction processing.
   Savepoint
4. Keyword used to signal the end of a PL/SQL block, not the end of a transaction.
   END
5. Statement used to make database changes permanent.
   Commit

2 Try It / Solve It

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));
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ENDANGERED_SPECIES	SPECIES_ID	NUMBER	-	4	0	1	-	-	-
	COMMON_NAME	VARCHAR2	30	-	-	-	-	-	-
	SCIENTIFIC_NAME	VARCHAR2	30	-	-	-	-	-	-

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?

```
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;
```

100, 'Polar Bear','Ursus maritimus'

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

SPECIES_ID	COMMON_NAME	SCIENTIFIC_NAME
100	polar bear	ursus maritimus

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.

```
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 data will be saved.