BEGIN

DBMS\_OUTPUT.PUT\_LINE ('Line 1');

RETURN;

DBMS\_OUTPUT.PUT\_LINE ('Line 2');

END;

**Line 1**

**PL/SQL procedure successfully completed.**

DECLARE

v\_counter NUMBER := 0;

BEGIN

LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

EXIT;

END LOOP;

END;

**v\_counter = 0**

**PL/SQL procedure successfully completed.**

-- ch06\_1a.sql, version 1.0

SET SERVEROUTPUT ON

DECLARE

v\_counter BINARY\_INTEGER := 0;

BEGIN

LOOP

-- increment loop counter by one

v\_counter := v\_counter + 1;

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

-- if EXIT condition yields TRUE exit the loop

IF v\_counter = 5 THEN

EXIT;

END IF;

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('Done…');

END;

**v\_counter = 1**

**v\_counter = 2**

**v\_counter = 3**

**v\_counter = 4**

**v\_counter = 5**

**Done...**

**PL/SQL procedure successfully completed.**

-- ch06\_1b.sql, version 2.0

SET SERVEROUTPUT ON

DECLARE

v\_counter BINARY\_INTEGER := 0;

BEGIN

LOOP

-- increment loop counter by one

v\_counter := v\_counter + 1;

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

-- if EXIT WHEN condition yields TRUE exit the loop

**EXIT WHEN v\_counter = 5;**

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('Done…');

END;

-- ch06\_2a.sql, version 1.0

SET SERVEROUTPUT ON

DECLARE

v\_course course.course\_no%type := 430;

v\_instructor\_id instructor.instructor\_id%type := 102;

v\_sec\_num section.section\_no%type := 0;

BEGIN

LOOP

-- increment section number by one

v\_sec\_num := v\_sec\_num + 1;

INSERT INTO section

(section\_id, course\_no, section\_no, instructor\_id,

created\_date, created\_by, modified\_date,

modified\_by)

VALUES

(section\_id\_seq.nextval, v\_course, v\_sec\_num,

v\_instructor\_id, SYSDATE, USER, SYSDATE, USER);

-- if number of sections added is four exit the loop

EXIT WHEN v\_sec\_num = 4;

END LOOP;

-- control resumes here

COMMIT;

END;

-- ch06\_2b.sql, version 2.0

DECLARE

v\_course course.course\_no%type := 430;

v\_instructor\_id instructor.instructor\_id%type := 102;

v\_sec\_num section.section\_no%type := 0;

BEGIN

LOOP

-- increment section number by one

v\_sec\_num := v\_sec\_num + 1;

INSERT INTO section

(section\_id, course\_no, section\_no, instructor\_id,

created\_date, created\_by, modified\_date,

modified\_by)

VALUES

(section\_id\_seq.nextval, v\_course, v\_sec\_num,

v\_instructor\_id, SYSDATE, USER, SYSDATE, USER);

-- if number of sections added is ten exit the loop

**EXIT WHEN v\_sec\_num = 10;**

END LOOP;

-- control resumes here

COMMIT;

END;

-- ch06\_2c.sql, version 3.0

SET SERVEROUTPUT ON

DECLARE

v\_course course.course\_no%type := 430;

v\_instructor\_id instructor.instructor\_id%type := 102;

v\_sec\_num section.section\_no%type := 0;

BEGIN

LOOP

-- increment section number by two

**v\_sec\_num := v\_sec\_num + 2;**

INSERT INTO section

(section\_id, course\_no, section\_no, instructor\_id,

created\_date, created\_by, modified\_date,

modified\_by)

VALUES

(section\_id\_seq.nextval, v\_course, v\_sec\_num,

v\_instructor\_id, SYSDATE, USER, SYSDATE, USER);

-- if number of sections added is ten exit the loop

EXIT WHEN v\_sec\_num = 10;

END LOOP;

-- control resumes here

COMMIT;

END;

DECLARE

v\_counter NUMBER := 5;

BEGIN

WHILE v\_counter < 5 LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

-- decrement the value of v\_counter by one

v\_counter := v\_counter - 1;

END LOOP;

END;

DECLARE

v\_counter NUMBER := 1;

BEGIN

WHILE v\_counter < 5 LOOP

DBMS\_OUTPUT.PUT\_LINE('v\_counter = '||v\_counter);

-- decrement the value of v\_counter by one

v\_counter := v\_counter - 1;

END LOOP;

END;

DECLARE

v\_counter NUMBER := 1;

BEGIN

WHILE v\_counter <= 5 LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

IF v\_counter = 2 THEN

EXIT;

END IF;

v\_counter := v\_counter + 1;

END LOOP;

END;

DECLARE

v\_counter NUMBER := 1;

BEGIN

WHILE v\_counter <= 2 LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

v\_counter := v\_counter + 1;

IF v\_counter = 5 THEN

EXIT;

END IF;

END LOOP;

END;

**v\_counter = 1**

**v\_counter = 2**

**PL/SQL procedure successfully completed.**

-- ch06\_3a.sql, version 1.0

SET SERVEROUTPUT ON

DECLARE

v\_counter BINARY\_INTEGER := 1;

v\_sum NUMBER := 0;

BEGIN

WHILE v\_counter <= 10 LOOP

v\_sum := v\_sum + v\_counter;

DBMS\_OUTPUT.PUT\_LINE ('Current sum is: '||v\_sum);

-- increment loop counter by one

v\_counter := v\_counter + 1;

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('The sum of integers between 1 '||

'and 10 is: '||v\_sum);

END;

**Current sum is: 1**

**Current sum is: 3**

**Current sum is: 6**

**Current sum is: 10**

**Current sum is: 15**

**Current sum is: 21**

**Current sum is: 28**

**Current sum is: 36**

**Current sum is: 45**

**Current sum is: 55**

**The sum of integers between 1 and 10 is: 55**

**PL/SQL procedure successfully completed.**

-- ch06\_3b.sql, version 2.0

SET SERVEROUTPUT ON

DECLARE

**v\_counter BINARY\_INTEGER := 2;**

v\_sum NUMBER := 0;

BEGIN

WHILE v\_counter <= 100 LOOP

v\_sum := v\_sum + v\_counter;

DBMS\_OUTPUT.PUT\_LINE ('Current sum is: '||v\_sum);

-- increment loop counter by two

**v\_counter := v\_counter + 2;**

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('The sum of even integers between '||

'1 and 100 is: '||v\_sum);

END;

BEGIN

FOR v\_counter IN 1..5 LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

END LOOP;

END;

**v\_counter = 1**

**v\_counter = 2**

**v\_counter = 3**

**v\_counter = 4**

**v\_counter = 5**

**PL/SQL procedure successfully completed.**

BEGIN

FOR v\_counter IN 1..5 LOOP

v\_counter := v\_counter + 1;

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '|| v\_counter);

END LOOP;

END;

**BEGIN**

**\***

**ERROR at line 1:**

**ORA-06550: line 3, column 7:**

**PLS-00363: expression 'V\_COUNTER' cannot be used as an ­assignment target**

**ORA-06550: line 3, column 7:**

**PL/SQL: Statement ignored**

BEGIN

FOR v\_counter IN 1..5 LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

END LOOP;

DBMS\_OUTPUT.PUT\_LINE ('Counter outside the loop is '||

v\_counter);

END;

**v\_counter);**

**\***

**ERROR at line 6:**

**ORA-06550: line 6, column 27:**

**PLS-00201: identifier 'V\_COUNTER' must be declared**

**ORA-06550: line 5, column 4:**

**PL/SQL: Statement ignored**

BEGIN

FOR v\_counter IN REVERSE 1..5 LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

END LOOP;

END;

**v\_counter = 5**

**v\_counter = 4**

**v\_counter = 3**

**v\_counter = 2**

**v\_counter = 1**

**PL/SQL procedure successfully completed.**

BEGIN

FOR v\_counter IN 1..5 LOOP

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

EXIT WHEN v\_counter = 3;

END LOOP;

END;

-- ch06\_4a.sql, version 1.0

SET SERVEROUTPUT ON

DECLARE

v\_factorial NUMBER := 1;

BEGIN

FOR v\_counter IN 1..10 LOOP

v\_factorial := v\_factorial \* v\_counter;

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('Factorial of ten is: ­'||

v\_factorial);

END;

**Factorial of ten is: 3628800**

**Done…**

**PL/SQL procedure successfully completed.**

-- ch06\_4b.sql, version 2.0

SET SERVEROUTPUT ON

DECLARE

v\_factorial NUMBER := 1;

BEGIN

FOR v\_counter **IN REVERSE** 1..10 LOOP

v\_factorial := v\_factorial \* v\_counter;

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('Factorial of ten is: ­'||

v\_factorial);

END;

**Factorial of ten is: 3628800**

**Done…**

**PL/SQL procedure successfully completed.**

-- ch06\_5a.sql, version 1.0

SET SERVEROUTPUT ON

BEGIN

FOR v\_counter IN REVERSE 0..10 LOOP

-- if v\_counter is even, display its value on the   
 -- screen

IF MOD(v\_counter, 2) = 0 THEN

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

END IF;

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('Done…');

END;

**v\_counter = 10**

**v\_counter = 8**

**v\_counter = 6**

**v\_counter = 4**

**v\_counter = 2**

**v\_counter = 0**

**Done…**

**PL/SQL procedure successfully completed.**

-- ch06\_5b.sql, version 2.0

SET SERVEROUTPUT ON

BEGIN

**FOR v\_counter IN 0..10 LOOP**

-- if v\_counter is even, display its value on the   
 -- screen

IF MOD(v\_counter, 2) = 0 THEN

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

END IF;

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('Done…');

END;

**v\_counter = 0**

**v\_counter = 2**

**v\_counter = 4**

**v\_counter = 6**

**v\_counter = 8**

**v\_counter = 10**

**Done…**

**PL/SQL procedure successfully completed.**

-- ch06\_5c.sql, version 3.0

SET SERVEROUTPUT ON

BEGIN

FOR v\_counter IN REVERSE 0..10 LOOP

-- if v\_counter is odd, display its value on the   
 -- screen

**IF MOD(v\_counter, 2) != 0 THEN**

DBMS\_OUTPUT.PUT\_LINE ('v\_counter = '||v\_counter);

END IF;

END LOOP;

-- control resumes here

DBMS\_OUTPUT.PUT\_LINE ('Done…');

END;

**v\_counter = 9**

**v\_counter = 7**

**v\_counter = 5**

**v\_counter = 3**

**v\_counter = 1**

**Done…**

**PL/SQL procedure successfully completed.**