1)

DECLARE

v\_des VARCHAR2(50);

v\_count NUMBER(5) := 0;

TYPE course\_table\_type IS TABLE OF course.description%TYPE INDEX BY pls\_integer;

course\_table course\_table\_type;

cursor c\_course\_cursor IS select description from course where prerequisite is null;

BEGIN

OPEN c\_course\_cursor;

LOOP

FETCH c\_course\_cursor INTO v\_des;

EXIT WHEN c\_course\_cursor%notfound;

v\_count := v\_count + 1;

course\_table(v\_count) := v\_des;

DBMS\_OUTPUT.PUT\_LINE('Course Desciption:'||v\_count ||': '|| course\_table(v\_count));

END LOOP;

CLOSE c\_course\_cursor;

DBMS\_OUTPUT.PUT\_LINE('\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*');

DBMS\_OUTPUT.PUT\_LINE('Total# of Courses without the Prerequisite is: '||course\_table.count);

END;

/

2)

DECLARE

TYPE course\_table\_type IS TABLE OF course.description%TYPE INDEX BY pls\_integer;

course\_table course\_table\_type;

cursor c\_course\_cursor IS select description from course where prerequisite is null;

v\_count NUMBER(5) := 0;

BEGIN

FOR i IN c\_course\_cursor

LOOP

v\_count := v\_count + 1;

course\_table(v\_count) := i.description;

DBMS\_OUTPUT.PUT\_LINE('Course Desciption:'|| v\_count ||': '|| course\_table(v\_count));

END LOOP;

DBMS\_OUTPUT.PUT\_LINE('\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*');

DBMS\_OUTPUT.PUT\_LINE('Total# of Courses without the Prerequisite is: '||course\_table.count);

END;

/

3)

DECLARE

CURSOR c\_zipcode\_cursor IS select zip from zipcode where zip like '&v\_zip%';

v\_zipcode\_record c\_zipcode\_cursor%ROWTYPE;

v\_count NUMBER(4);

v\_stusum NUMBER(4) := 0;

v\_zipsum NUMBER(4) := 0;

BEGIN

OPEN c\_zipcode\_cursor;

LOOP

FETCH c\_zipcode\_cursor INTO v\_zipcode\_record;

EXIT WHEN c\_zipcode\_cursor%NOTFOUND;

select count(1) into v\_count from student where zip = v\_zipcode\_record.zip;

v\_stusum := v\_stusum + v\_count;

v\_zipsum := v\_zipsum + 1;

DBMS\_OUTPUT.PUT\_LINE('Zip code : '||v\_zipcode\_record.zip||' has exactly '|| v\_count||' students enrolled.');

END LOOP;

CLOSE c\_zipcode\_cursor;

IF v\_stusum = 0 THEN

DBMS\_OUTPUT.PUT\_LINE('This zip area is student empty. Please, try again. ');

ELSE

DBMS\_OUTPUT.PUT\_LINE('\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*');

DBMS\_OUTPUT.PUT\_LINE('Total # of zip codes under '||substr(v\_zipcode\_record.zip,0,3)||' is '|| v\_zipsum);

DBMS\_OUTPUT.PUT\_LINE('Total # of Students under zip code '||substr(v\_zipcode\_record.zip,0,3)||' is '|| v\_stusum);

END IF;

END;

/

4)

DECLARE

v\_zip VARCHAR2(10) := &zip;

CURSOR c\_std\_cursor IS

SELECT zip, COUNT(student\_id) countstd

FROM student

WHERE zip LIKE v\_zip||'%'

GROUP BY zip

order by zip;

std\_record c\_std\_cursor%rowtype;

counter\_zip number(3) := 0;

counter\_std number(3) := 0;

BEGIN

FOR std\_record IN c\_std\_cursor

LOOP

DBMS\_OUTPUT.PUT\_LINE('Zip code: ' || std\_record.zip || ' has exactly ' || std\_record.countstd || ' students enrolled.');

counter\_zip := counter\_zip + 1;

counter\_std := counter\_std + std\_record.countstd;

END LOOP;

IF counter\_zip = 0 THEN

DBMS\_OUTPUT.PUT\_LINE('This zip area is student empty. Please, try again.');

ELSE

DBMS\_OUTPUT.PUT\_LINE('\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*');

DBMS\_OUTPUT.PUT\_LINE('Total # of zip codes under '|| v\_zip || ' is ' || counter\_zip);

DBMS\_OUTPUT.PUT\_LINE('Total # of Students under zip code '|| v\_zip ||' is ' || counter\_std);

END IF;

END;

/