CREATE TABLE STUDENTS(

GRADE\_NUM INT NOT NULL,

FNAME VARCHAR (25) NOT NULL,

LNAME VARCHAR (25) NOT NULL,

DOB DATE NOT NULL,

GENDER VARCHAR (15) NOT NULL,

NATIONALITY VARCHAR (25) NOT NULL,

STATUS VARCHAR (10) NOT NULL,

MAJOR VARCHAR (20) NOT NULL,

PRIMARY KEY (GRADE\_NUM)

);

INSERT INTO STUDENTS VALUES (72269035, 'John', 'Smith', '05-JAN-2000', 'Male', 'Canadian', 'Placed', 'Computer Science');

INSERT INTO STUDENTS VALUES (88452883, 'Mary', 'Williams', '08-FEB-2001', 'Female', 'Canadian', 'Placed', 'Music');

INSERT INTO STUDENTS VALUES (26443806, 'Jose', 'Garcia', '12-APR-2000', 'Male', 'Mexican', 'Waiting', 'Physics');

INSERT INTO STUDENTS VALUES (72574765, 'Bob', 'Miller', '25-MAY-2000', 'Male', 'American', 'Placed', 'Engineering');

INSERT INTO STUDENTS VALUES (60270768, 'Jennifer', 'Johnson', '19-SEP-2000', 'Female', 'Canadian', 'Waiting', 'Anthropology');

--1. Write a PL/SQL code that declares variables of types VARCHAR2, CHAR, NUMBER, DATE, BOOLEAN and uses suitable executable section instructions to implement some actions and print some output.

DECLARE

stu\_fname VARCHAR2(20);

stu\_lname VARCHAR2(20);

stu\_num NUMBER:=72269035;

stu\_dob DATE;

stu\_str char(35):='The information of the student is: ';

stu\_status varchar2(10);

if\_status boolean;

BEGIN

Select fname,lname,dob,status Into stu\_fname,stu\_lname,stu\_dob,stu\_status From STUDENTS

WHERE grade\_num=stu\_num;

if stu\_status='Placed'

then if\_status:=true;

else if\_status:=false;

End if;

DBMS\_OUTPUT.PUT\_LINE(stu\_str||'First Name: '||stu\_fname||' ,Last Name: '||stu\_lname||', DOB: '||stu\_dob||', Status: '||case when if\_status=true then 'Is Placed' else 'Is Waiting' end);

END;

--2. Write a PL/SQL code to declare variables of anchored type belonging to type of at least one or two columns of your database. Your code should also read data from the keyboard and include appropriate executable section instructions to print some values.

Accept x students.GRADE\_NUM%TYPE prompt 'Please enter the student number: '

Declare

stu\_lname students.lname%TYPE;

stu\_fname students.fname%TYPE;

stu\_num students.GRADE\_NUM%TYPE;

stu\_status students.STATUS%TYPE;

Begin

stu\_num:=&x;

select fname,lname,status into stu\_fname,stu\_lname,stu\_status From STUDENTS

WHERE grade\_num=stu\_num;

DBMS\_OUTPUT.PUT\_LINE('Student Information: '||'First Name: '||stu\_fname||' ,Last Name: '||stu\_lname||', Status: '||status);

End;

--3. Write a PL/SQL code that uses nested conditional statement(s) to implement appropriate actions printing some output.

Declare

stu\_num students.GRADE\_NUM%TYPE:=88452883;

stu\_status students.STATUS%TYPE;

stu\_dob students.dob%TYPE;

DateDiff number;

Begin

Select DOB,Status into stu\_dob,stu\_status from Students where stu\_num=GRADE\_NUM;

Select floor((CURRENT\_DATE-stu\_dob)/365) into DateDiff from dual;

--DBMS\_OUTPUT.PUT\_LINE(DateDiff);

If DateDiff>21

Then

If stu\_status='Placed'

Then DBMS\_OUTPUT.PUT\_LINE('Student '||stu\_num||' is over 21 and placed.');

Else DBMS\_OUTPUT.PUT\_LINE('Student '||stu\_num||' is over 21 and waiting.');

End if;

Else

If stu\_status='Placed'

Then DBMS\_OUTPUT.PUT\_LINE('Student '||stu\_num||' is under 22 and placed.');

Else DBMS\_OUTPUT.PUT\_LINE('Student '||stu\_num||' is over 22 and waiting.');

End if;

End if;

EXCEPTION

WHEN NO\_DATA\_FOUND THEN

DBMS\_OUTPUT.PUT\_LINE('STUDENT '||stu\_num||' NOT FOUND.');

End;