Home assignment #2 (452 &352),
Due date 4/15 5:30PM
(total points = 100)

I need to copy and run your code, your submission of file in text format is greatly appreciated.

1. This question requests you to add one-line statement in the inner block, thus you print out the value of a variable defined in outer block. PL/SQL block provided below will work, no need to change. All required are to read the code, understand it, then add one statement (10 points).

```
<< out_blockone >>  -- usually block name is optional
DECLARE
      n_outerblock      NUMBER(6) := 100;
BEGIN
   DBMS_OUTPUT.PUT_LINE ('Printout from outer block, n_outerblock is '||
       n_outerblock || '.');

   DBMS_OUTPUT.PUT_LINE ('End of outer block - - - - - - ');

-- below is a subunit, or called inner block, enclosed block, child block

  DECLARE
    n_innerblock  NUMBER(6) := 99;
    n_outerblock  NUMBER(6) := 88;
                  -- same name, over-write the global variable
  BEGIN
      DBMS_OUTPUT.PUT_LINE
              ('Printout from inner block, n_innerrblock is ' ||
            n_innerblock || '.');

      DBMS_OUTPUT.PUT_LINE
      ('Printout from inner block, n_outerblock defined in inner block is '||
            n_outerblock || '.');

      DBMS_OUTPUT.PUT_LINE
        ('Printout from inner block, n_outerblock in outer block is ');

            -- Add your statement here
   END;

END out_blockone;
```

2. Write a PL/SQL program which will insert a new record into the Departments table. The new department has department_id as 299, department name as ‘Future”, manager_ID is 145, location ID as 1700. After insertion, the code should display the contents of this record. (10 points)
   Note: do not rollback this command, next question Q3 will delete this record.

3. Delete the record with department_id of 299 that was just inserted in Q2.
   Print out the department name and the manager id for the record just deleted - via the variables in the returning clause of DELETE statement (refer to the examples in note #2, part 7) (10 points).

4. Write an anonymous PL/SQL block program. (using DML command).
   First, the program will find out if there is any employee not assigned to a department.
   If there is one and only one, then assign this employee to department 60 (DML, update).
   If the number of employee(s) not assigned a department is not one, then print out a message about this situation.

   After update, print out a message about this change, it should include that employee's ID and last name. (15 points)

5. Write a PL/SQL block program, using Case statement. This question is based on the table EMPLOYEES.
   First, retrieve the average salary from employees table for one particular department, for this question, use the department_id as 50.
   Using Case statement,
   if the average salary is greater than 3,500 then print out "high";
   if the average salary is between 3500 ~ 2500 then print out "ok",
   if the average salary is less than 2500, the print out "low".
   (15 points)

6. This question is based on the table EMPLOYEES. (20 points)
   Assume that the company has decided a one-time bonus for all the employees, the policy is as below.
   The total bonus consists of three parts.
   a) Each person will get a base amount 500.
   b) For employees that have worked 24 years or more, their bonus will add $240; if not reaches 24 years (less than) then no this work-year extra bonus.
      This expression may help you to calculate the work year:
      ```
      floor (months_between (sysdate, hire_date)/12)
      ```
   c) According to salary range, each may get the third part:
   for those their salary > 10000, then get 200;
   for those their salary <= 10000 and salary >= 6000, then get 400;
   for those their salary < 6000, then get 800.

   Write an anonymous PL/SQL program, retrieve the necessary information for one employee with a certain ID (say 114), then calculate the second, third part bonus that employee should get. Please print out the final amount of bonus that employee should get.

   Suggest that you may choose these three employees to test your code:

```
EMPLOYEE_ID    SALARY      YEARS
----------- --------- ----------
      114   $11,000          25
      122    $7,900          24
      135    $2,400          20
```

Q7. (20 points) This is a simple question, just let us review the similarity and difference between these three methods.

Using basic loop, for loop and while loop. write three anonymous PL/SQL blocks. Inside the execution section of each block, the program will display the values of a variable that changes from 11 to 13.

Hint:

Q5. Hint, Refer to example 5B in note3,