Problem 1:

Create a query displaying the employee_id and the last name based on table employees.

Create a calculated column with an alias of Weekly Salary (case and space required). Assume that the salary column contains monthly salary and that a year has 52 weeks. Round the weekly salary result to 2 decimals. Display only those records where the last_name column is six characters long. Sort it by the Weekly Salary and the last_name.

SQL script:

```
SELECT employee_id, last_name, ROUND(salary*12/52, 2) AS "Weekly Salary"
FROM employees
WHERE LENGTH(last_name)=6
ORDER BY "Weekly Salary", last_name;
```

Console Output:

```
SQL> SELECT employee_id, last_name, ROUND(salary*12/52, 2) AS "Weekly Salary"
  2  FROM employees
  3  WHERE LENGTH(last_name)=6
  4* ORDER BY "Weekly Salary", last_name;
EMPLOYEE_ID LAST_NAME                 Weekly Salary
----------- ------------------------- -------------
        128 Markle                           507.69
        127 Landry                           553.85
        131 Marlow                           576.92
        144 Vargas                           576.92
        118 Himuro                              600
        117 Tobias                           646.15
        134 Rogers                           669.23
        187 Cabrio                           692.31
        197 Feeney                           692.31
        142 Davies                           715.38
        181 Fleaur                           715.38
        194 McCain                           738.46
        138 Stiles                           738.46
        180 Taylor                           738.46
        129 Bissot                           761.54
        133 Mallin                           761.54
        137 Ladwig                           830.77
        200 Whalen                          1015.38
        105 Austin                          1107.69
        203 Mavris                             1500
        161 Sewall                          1615.38
        176 Taylor                          1984.62
        175 Hutton                          2030.77
        109 Faviet                          2076.92
        103 Hunold                          2076.92
        158 McEwen                          2076.92
        163 Greene                          2192.31
        150 Tucker                          2307.69

28 rows selected.
```

Problem 2:

Show the maximum min_salary value, the minimum max_salary, and the difference between the minimum of max_salary and maximum of min_salary aliased as Diff based the table jobs;

SQL Script:

```
SELECT MAX(min_salary), MIN(max_salary), MIN(max_salary)-MAX(min_salary) Diff
FROM jobs;
```

Console Output:

```
SQL> SELECT MAX(min_salary), MIN(max_salary), MIN(max_salary)-MAX(min_salary) Diff
  2  FROM jobs;

MAX(MIN_SALARY) MIN(MAX_SALARY)       DIFF
--------------- --------------- ----------
          20000            5000     -15000
```

Problem 3:

Display the last name and the commission percentage for employees working in department 20 or 80. Order by last name. Add the following two columns:

➢ Replace null commission values with the string 'No Commission' aliased Commission.

➢ Replace non-null commission_pct values with the string 'Commission' and null values with the string 'No Commission' aliased No Commission.

SQL Script:

```
SELECT last_name, commission_pct,
        NVL(TO_CHAR(commission_pct), 'No Commission') AS "Commission",
        NVL2(TO_CHAR(commission_pct), 'Commission', 'No Commission') AS "No Commission"
FROM employees
WHERE department_id IN (20, 80)
ORDER BY last_name;
```

Console Output:

```
SQL> SELECT last_name, commission_pct,
  2  NVL(TO_CHAR(commission_pct), 'No Commission') AS "Commission",
  3  NVL2(TO_CHAR(commission_pct), 'Commission', 'No Commission') AS "No Commission"
  4  FROM employees
  5  WHERE department_id IN (20, 80)
  6* ORDER BY last_name;
LAST_NAME                 COMMISSION_PCT Commission                                No Commission
------------------------- -------------- ----------------------------------------- -------------
Abel                                  .3 .3                                        Commission
Ande                                  .1 .1                                        Commission
Banda                                 .1 .1                                        Commission
Bates                                .15 .15                                       Commission
Bernstein                            .25 .25                                       Commission
Bloom                                 .2 .2                                        Commission
Cambrault                             .3 .3                                        Commission
Cambrault                             .2 .2                                        Commission
Doran                                 .3 .3                                        Commission
Errazuriz                             .3 .3                                        Commission
Fay                                      No Commission                             No Commission
Fox                                   .2 .2                                        Commission
Greene                               .15 .15                                       Commission
Hall                                 .25 .25                                       Commission
Hartstein                                No Commission                             No Commission
Hutton                               .25 .25                                       Commission
Johnson                               .1 .1                                        Commission
Hartstein                                No Commission                             No Commission
Hutton                               .25 .25                                       Commission
Johnson                               .1 .1                                        Commission
King                                 .35 .35                                       Commission
Kumar                                 .1 .1                                        Commission
Lee                                   .1 .1                                        Commission
Livingston                            .2 .2                                        Commission
Marvins                               .1 .1                                        Commission
McEwen                               .35 .35                                       Commission
Olsen                                 .2 .2                                        Commission
Ozer                                 .25 .25                                       Commission
Partners                              .3 .3                                        Commission
Russell                               .4 .4                                        Commission
Sewall                               .25 .25                                       Commission
Smith                                .15 .15                                       Commission
Smith                                 .3 .3                                        Commission
Sully                                .35 .35                                       Commission
Taylor                                .2 .2                                        Commission
Tucker                                .3 .3                                        Commission
Tuvault                              .15 .15                                       Commission
Vishney                              .25 .25                                       Commission
Zlotkey                               .2 .2                                        Commission

36 rows selected.

SQL>
```

Problem 4:

Display the last name and the months between today and the hire date of employees hired after 1/1/2000. Truncate the months between results to a whole number. Use Months since 2000 as an alias. Order it by Months since 2000 in descending order.

SQL Script:

```
SELECT last_name, hire_date,
        TRUNC(MONTHS_BETWEEN(sysdate, hire_date), 0) AS "Months since 2000"
FROM employees
WHERE hire_date > TO_DATE('01-JAN-2000')
ORDER BY "Months since 2000" DESC;
```

Console Output:

```
SQL> SELECT last_name, hire_date,
  2  TRUNC(MONTHS_BETWEEN(sysdate, hire_date), 0) AS "Months since 2000"
  3  FROM employees
  4  WHERE hire_date > TO_DATE('01-JAN-2000')
  5* ORDER BY "Months since 2000" DESC;
LAST_NAME                 HIRE_DATE Months since 2000
------------------------- --------- -----------------
Grant                     13-JAN-00               273
Marvins                   24-JAN-00               273
Johnson                   04-JAN-00               273
Geoni                     03-FEB-00               272
Zlotkey                   29-JAN-00               272
Philtanker                06-FEB-00               272
Lee                       23-FEB-00               272
Markle                    08-MAR-00               271
Ande                      24-MAR-00               271
Banda                     21-APR-00               270
Kumar                     21-APR-00               270

11 rows selected.
```

Problem 5:

Concatenate the last name, comma and blank space, and first name together for employees' last name starting with a B. Right pad this expression with periods (.) s to fill a 50-character length.

SQL Script:

```
SELECT RPAD(last_name || ', ' || first_name, 50, '.') AS "Name"
FROM employees
WHERE last_name LIKE 'B%';
```

Console Output:

```
SQL> SELECT RPAD(last_name || ', ' || first_name, 50, '.') AS "Name"
  2  FROM employees
  3* WHERE last_name LIKE 'B%';

Name
--------------------------------------------------
Baer, Hermann.....................................
Baida, Shelli.....................................
Banda, Amit.......................................
Bates, Elizabeth..................................
Bell, Sarah.......................................
Bernstein, David..................................
Bissot, Laura.....................................
Bloom, Harrison...................................
Bull, Alexis......................................

9 rows selected.
```

Problem 6:

Part 1: Display the department_id and department_name from table departments only for those records where the department_name column contains at least one blank space sorted by department_name.

SQL Script:

SELECT department_id, department_name

FROM departments

WHERE department_name LIKE '% %'

ORDER BY department_name;

Console Output:

```
SQL> SELECT department_id, department_name
  2  FROM departments
  3  WHERE department_name LIKE '% %'
  4* ORDER BY department_name;
DEPARTMENT_ID DEPARTMENT_NAME
------------- ------------------------------
          140 Control And Credit
          130 Corporate Tax
          240 Government Sales
           40 Human Resources
          230 IT Helpdesk
          210 IT Support
           70 Public Relations
          250 Retail Sales
          150 Shareholder Services

9 rows selected.
```

Part 2: Add the following derived column to the query in part 1:

- Display the partial department_name following the blank space and alias it with partial.
- Make sure to remove any leading or trailing blank spaces.

SQL Script:

```
SELECT department_id, department_name,
SUBSTR(department_name, INSTR(department_name, ' ')+1) AS "Partial"
FROM departments
WHERE department_name LIKE '% %'
ORDER BY department_name;
```

Console Output:

```
SQL> SELECT department_id, department_name,
  2  SUBSTR(department_name, INSTR(department_name, ' ')+1) AS "Partial"
  3  FROM departments
  4  WHERE department_name LIKE '% %'
  5* ORDER BY department_name;
DEPARTMENT_ID DEPARTMENT_NAME                Partial

------------- ------------------------------ ------------------------------
------------------------------------------------

          140 Control And Credit             And Credit

          130 Corporate Tax                  Tax

          240 Government Sales               Sales

           40 Human Resources                Resources

          230 IT Helpdesk                    Helpdesk

          210 IT Support                     Support

           70 Public Relations               Relations

          250 Retail Sales                   Sales

          150 Shareholder Services           Services


9 rows selected.
```

Part 3: You notice that there is one department_name with 3 words (= two blank spaces).

- Modify the WHERE clause so that only department_names having two blank spaces are retrieved.
- Modify the derived column partial to display only the middle word. Alias this column with middle.
- Make sure to remove any leading or trailing blank spaces.

SQL Script:

```
SELECT department_id, department_name,
    SUBSTR(
        department_name, INSTR(department_name, ' ')+1,
        INSTR(department_name, ' ',1, 2)-INSTR(department_name, ' ')-1
    )
    AS "Middle"
FROM departments
WHERE department_name LIKE '% % %'
ORDER BY department_name;
```

Console Output:

```
SQL> SELECT department_id, department_name,
  2  SUBSTR(
  3  department_name, INSTR(department_name, ' ')+1,
  4  INSTR(department_name, ' ',1, 2)-INSTR(department_name, ' ')-1
  5  )
  6  AS "Middle"
  7  FROM departments
  8  WHERE department_name LIKE '% % %'
  9* ORDER BY department_name;
DEPARTMENT_ID DEPARTMENT_NAME              Middle

------------- ------------------------------ ----------------------
-------------------------------------------------
          140 Control And Credit             And
```