Problem 1:

Create a query showing employees (employee_id, first_name, last_name) that are sales people (= having a commission percentage). Order the resulting set by last_name and first_name in ascending order:

SQL script:

```
SELECT employee_id, first_name, last_name
FROM employees
WHERE commission_pct IS NOT NULL
ORDER BY last_name ASC, first_name ASC;
```

```
SQL> SELECT employee_id, first_name, last_name
  2  FROM employees
  3  WHERE commission_pct IS NOT NULL
  4* ORDER BY last_name ASC, first_name ASC;
EMPLOYEE_ID FIRST_NAME           LAST_NAME
----------- -------------------- -------------------------
        174 Ellen                Abel
        166 Sundar               Ande
        167 Amit                 Banda
        172 Elizabeth            Bates
        151 David                Bernstein
        169 Harrison             Bloom
        148 Gerald               Cambrault
        154 Nanette              Cambrault
        160 Louise               Doran
        147 Alberto              Errazuriz
        170 Tayler               Fox

EMPLOYEE_ID FIRST_NAME           LAST_NAME
----------- -------------------- -------------------------
        153 Christopher          Olsen
        168 Lisa                 Ozer
        146 Karen                Partners
        145 John                 Russell
        161 Sarath               Sewall
        159 Lindsey              Smith
        171 William              Smith
        157 Patrick              Sully
        176 Jonathon             Taylor
        150 Peter                Tucker
        155 Oliver               Tuvault

EMPLOYEE_ID FIRST_NAME           LAST_NAME
----------- -------------------- -------------------------
        162 Clara                Vishney
        149 Eleni                Zlotkey
```

Problem 2:

Create a query showing all employees(employee_id, first_name, last_name, salary) that earn more than $10,000 in descending order by salary:

SQL script:

SELECT employee_id, first_name. last_name, salary

FROM employees

WHERE salary > 10000

ORDER BY salary DESC;

```
SQL> SELECT employee_id, first_name, last_name, salary
  2  FROM employees
  3  WHERE salary > 10000
  4  ORDER BY salary DESC;

EMPLOYEE_ID FIRST_NAME           LAST_NAME                      SALARY
----------- -------------------- ------------------------- ----------
        100 Steven               King                           24000
        101 Neena                Kochhar                        17000
        102 Lex                  De Haan                        17000
        145 John                 Russell                        14000
        146 Karen                Partners                       13500
        201 Michael              Hartstein                      13000
        108 Nancy                Greenberg                      12000
        205 Shelley              Higgins                        12000
        147 Alberto              Errazuriz                      12000
        168 Lisa                 Ozer                           11500
        148 Gerald               Cambrault                      11000
        174 Ellen                Abel                           11000
        114 Den                  Raphaely                       11000
        149 Eleni                Zlotkey                        10500
        162 Clara                Vishney                        10500
```

Problem 3:

Create a query showing all employees(employee_id, first_name, last_name, hire_date) that were hired in 1996 in descending order by hire date:

SQL script:

SELECT employee_id, first_name, last_name, hire_date

FROM employees

WHERE hire_date BETWEEN ’01-jan-96’ AND ’31-dec-96’

ORDER BY hire_date DESC;

```
SQL> SELECT employee_id, first_name, last_name, hire_date
  2  FROM employees
  3  WHERE hire_date BETWEEN '01-jan-96' AND '31-dec-96'
  4* ORDER BY hire_date DESC;
EMPLOYEE_ID FIRST_NAME           LAST_NAME                 HIRE_DATE
----------- -------------------- ------------------------- ---------
        145 John                 Russell                   01-OCT-96
        158 Allan                McEwen                    01-AUG-96
        120 Matthew              Weiss                     18-JUL-96
        133 Jason                Mallin                    14-JUN-96
        174 Ellen                Abel                      11-MAY-96
        157 Patrick              Sully                     04-MAR-96
        201 Michael              Hartstein                 17-FEB-96
        192 Sarah                Bell                      04-FEB-96
        156 Janette              King                      30-JAN-96
        184 Nandita              Sarchand                  27-JAN-96
```

Problem 4:

Create a query showing all employees(employee_id, first_name, last_name, salary) whose salary is in the range of $5000 and $10,000 in ascending order by salary:

SQL script:

SELECT employee_id, first_name, last_name, salary

FROM employees

WHERE salary BETWEEN 5000 AND 10000

ORDER BY salary ASC;

```
SQL> SELECT employee_id, first_name, last_name, salary
  2  FROM employees
  3  WHERE salary BETWEEN 5000 AND 10000
  4  ORDER BY salary ASC;

EMPLOYEE_ID FIRST_NAME           LAST_NAME                   SALARY
----------- -------------------- ------------------------- ----------
        124 Kevin                Mourgos                       5800
        202 Pat                  Fay                           6000
        104 Bruce                Ernst                         6000
        173 Sundita              Kumar                         6100
        167 Amit                 Banda                         6200
        179 Charles              Johnson                       6200
        166 Sundar               Ande                          6400
        203 Susan                Mavris                        6500
        123 Shanta               Vollman                       6500
        165 David                Lee                           6800
        113 Luis                 Popp                          6900
        155 Oliver               Tuvault                       7000
        178 Kimberely            Grant                         7000
```

```
       177 Jack                 Livingston                     8400
       176 Jonathon             Taylor                         8600
       175 Alyssa               Hutton                         8800
       103 Alexander            Hunold                         9000
       158 Allan                McEwen                         9000
       152 Peter                Hall                           9000
       109 Daniel               Faviet                         9000
       157 Patrick              Sully                          9500
       151 David                Bernstein                      9500
       163 Danielle             Greene                         9500
       170 Tayler               Fox                            9600
       156 Janette              King                          10000
       169 Harrison             Bloom                         10000
       150 Peter                Tucker                        10000
       204 Hermann              Baer                          10000

43 rows selected.
```

Problem 5:

Show all employees (employee_id, first_name, last_name) whose last name contains a blank space:

SQL script:

SELECT employee_id, first_name, last_name

FROM employees

WHERE last_name LIKE '% %';

```
SQL> SELECT employee_id, first_name, last_name
  2  FROM employees
  3* WHERE last_name LIKE '% %';
EMPLOYEE_ID FIRST_NAME           LAST_NAME
----------- -------------------- -------------------------
        102 Lex                  De Haan
```

Problem 6:

Display all employees(employee_id, first_name, last_name) whose first name contains the letter a in the 3rd position ordered by last_name in descending order:

Script:

SELECT employee_id, first_name, last_name

FROM employees

WHERE first_name LIKE ‘__a%’

ORDER BY last_name DESC;

```
SQL> SELECT employee_id, first_name, last_name
  2  FROM employees
  3  WHERE first_name LIKE '__a%'
  4  ORDER BY last_name DESC;

EMPLOYEE_ID FIRST_NAME           LAST_NAME
----------- -------------------- -------------------------
        196 Alana                Walsh
        123 Shanta               Vollman
        162 Clara                Vishney
        107 Diana                Lorentz
        179 Charles              Johnson
        121 Adam                 Fripp
        181 Jean                 Fleaur

7 rows selected.
```

Problem 7:

Part 1: Show the country_id values in ascending order from table locations for country_id values of IT, UK, and US.

SQL script:

SELECT country_id

FROM locations

WHERE country_id IN (‘IT’, ‘UK’, ‘US’)

ORDER BY country_id ASC;

```
SQL> SELECT country_id
  2  FROM locations
  3  WHERE country_id IN ('IT', 'UK', 'US')
  4  ORDER BY country_id ASC;

CO
--
IT
IT
UK
UK
UK
US
US
US
US

9 rows selected.
```

Part 2: Now show only the unique country_id values in ascending order based on the query in part 1.

Explain the difference in the number of output records.

SQL script:

SELECT DISTINCT country_id

FROM locations

WHERE country_id IN (‘IT’, ‘UK’, ‘US’)

ORDER BY country_id ASC;

Explanation:

The second query result only displays 3 rows because there are only three unique country_id.

```
SQL> SELECT DISTINCT country_id
  2  FROM locations
  3  WHERE country_id IN ('IT', 'UK', 'US')
  4  ORDER BY country_id ASC;

CO
--
IT
UK
US
```

Part 3: Finally, display the unique values of country_id and state_province based on the query in part 1. Again, explain the difference compared to only unique country_id values.

SQL script:

SELECT DISTINCT country_id, state_province

FROM locations

WHERE country_id IN (‘IT’, ‘UK’, ‘US’)

ORDER BY country_id ASC;

Explanation:

Query results by country_id and state_province will display unique combinations of both columns, so there are more rows in the output (either column being different will cause a new output).

```
SQL>
SQL> SELECT DISTINCT country_id, state_province
  2  FROM locations
  3  WHERE country_id IN ('IT', 'UK', 'US')
  4  ORDER BY country_id ASC;

CO STATE_PROVINCE
-- -------------------------
IT
UK Manchester
UK Oxford
UK
US California
US New Jersey
US Texas
US Washington

8 rows selected.
```