SQL SELECT query exercise

Section 1: Simple SELECT statements.

1. Create a query to display the lastname and salary of employees earning more than $12000.
2. Modify the above query to display the lastname and salary for all employees whose salary is not in the range of $5000 and $12000.
3. Create a query to display the lastname and department number for employee number 176.
4. Display the lastname, job id and the start date of employees hired between February 20, 1998 and May 1, 1998. Order the query in ascending order by start date.
5. Display the lastname and department number of all employees in departments 20 and 50 in alphabetical order by name.
6. Display the lastname and salary of employees who earn between $5000 and $12000, and are in department 20 or 50. Label the columns "Employee" and "Monthly salary" respectively.
7. Display the lastname and hiredate of every employee who was hired in 1994.
8. Display the lastname and job id of all employees who do not have a manager.
9. Display the lastname, salary and commission for all employees who earn commissions. Sort the data in descending order of salary and commissions.
10. Display the lastname of all employees where the third letter of the name is an "a".
11. Display the lastname of all employees who have an "a" and an "e" in their lastname.
12. Display the lastname, job, and salary for all employees whose job is sales representative or stock clerk and whose salary is not equal to $2500, $3500 or $7000.
13. Display the lastname, salary, and commission for all employees whose commission amount is 20%.

Section 2: SQL JOIN operations.

1. Write a query to display the lastname, department number, and department name for all employees.
2. Create a unique listing of all jobs that are in department 30. Include the location id in the output.
3. Write a query to display the employee lastname, department name, location id, and city of all employees who earn a commission.
4. Display the employee lastname, and department name for all employees who have an "a" in their lastname.
5. Write a query to display the lastname, job, department number, and department name for all employees who work in Toronto.
6. Display the employee lastname and employee number along with their manager's lastname and manager number. Label the columns "Employee", "Emp#", "Manager" and "Manager#" respectively.
7. Modify the above to display the same columns for all employees (including "King", who has no manager). Order the result by the employee number.

8. Create query that displays employee lastname, department number, and all the employees who work in the same department as a given employee. Give each column an appropriate label.
9. Create a query that displays the name, job, department name, salary and grade for all employees.
10. Create a query to display the name and hiredate of any employee hired after employee "Davies"
11. Display the names and hire dates for all employees who were hired before their managers, along with their manager's name and hiredate. Label the columns "Employee", "Emp hired", "Manager", and "Manager hired" respectively.

Section 3: Aggregate data using Group functions.

1. Display the highest, lowest, sum and average salary of all employees. Label the columns "Maximum", "Minimum", "Sum", and "Average" respectively.
2. Modify the above query to display the same data for each job type.
3. Write a query to display the number of people with the same job.
4. Determine the number of managers without listing them. Label the column "Number of Managers".
5. [Hint: use the MANAGER_ID column to determine the number of managers]
6. Write a query that displays the difference between the highest and the lowest salaries. Label the column as "Difference".
7. Display the manager number and the salary of the lowest paid employee for that manager. Exclude anyone whose manager is not known. Exclude any group where the minimum salary is less than $6000. Sort the output in descending order of salary.
8. Write a query to display each department's name, location, number of employees, and the average salary for all employees in that department. Label the columns "Name", "Location", "No. of people", and "Salary" respectively. Round the average salary to two decimal places.

Section 4: Subqueries.

1. Write a query to display the lastname, and hiredate of any employee in the department as the employee "Zlotkey". Exclude "Zlotkey".
2. Create a query to display the employee number and lastname of all employees who earn more than the average salary. Sort the result in ascending order of salary.
3. Write a query that displays the employee number and lastname of all employees who work in a department with any employee whose lastname contains a "u".
4. Display the lastname, department number, and job id of all employees whose department location id is 1700.
5. Display the lastname and salary of every employee who reports to "King".
6. Display the department number, lastname, and job id for every employee in the "Executive" department.
7. Display the employee number, lastname, and salary of all employees who earn more than the average salary and who work in a department with any employee with a "u" in their lastname.