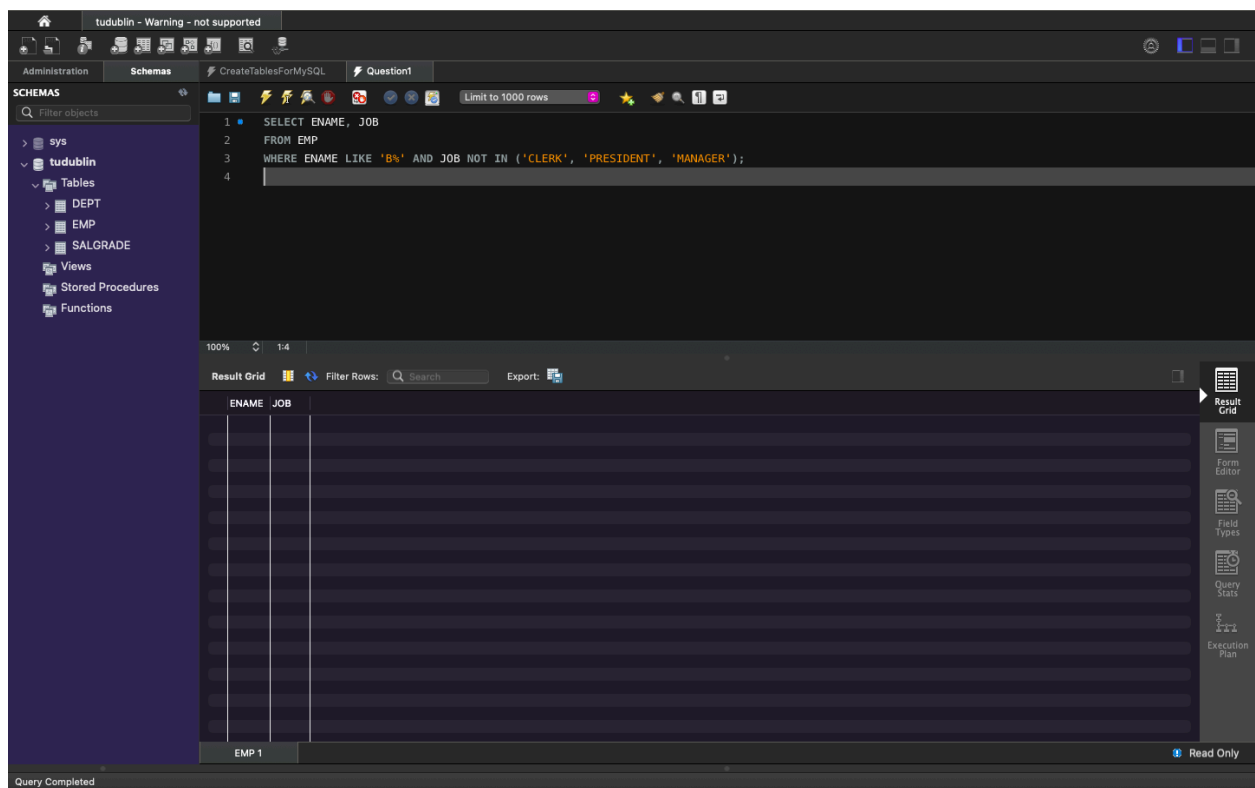


Database Lab 6

SQL Queries

Question 1

Return all employees whose last name begins with 'b' and are not employed as clerks, presidents or managers.



The screenshot shows a database management interface with a dark theme. The top bar indicates a warning: "tudublin - Warning - not supported". The main window is divided into several sections:

- SCHEMAS:** A sidebar on the left showing a tree view of the database structure. It includes "sys", "tudublin", "Tables" (with sub-items: DEPT, EMP, SALGRADE), "Views", "Stored Procedures", and "Functions".
- SQL Editor:** The central area contains a query labeled "Question1":

```
1 SELECT ENAME, JOB
2 FROM EMP
3 WHERE ENAME LIKE 'B%' AND JOB NOT IN ('CLERK', 'PRESIDENT', 'MANAGER');
4
```
- Result Grid:** Below the editor, a table displays the query results. The table has two columns: "ENAME" and "JOB". The first row is labeled "EMP 1". The rest of the rows are empty, indicating no results were returned by the query.
- Right Sidebar:** Contains icons for "Result Grid", "Form Editor", "Field Types", "Query Stats", and "Execution Plan".
- Status Bar:** At the bottom, it says "Query Completed" and "Read Only".

Question 2

List all employee names, monthly salaries and annual salaries. Use the heading 'Annual Salary'.

The screenshot shows a database management tool interface. The top bar indicates a warning: "tudublin - Warning - not supported". The main window is divided into three panes. The left pane, titled "SCHEMAS", shows a tree view of the database structure with "tudublin" selected, containing tables like DEPT, EMP, and SALGRADE. The middle pane displays a SQL query:

```
1 SELECT ENAME,  
2     SAL AS Monthly_Salary, (SAL * 12) AS "Annual Salary"  
3 FROM EMP;  
4
```

The right pane shows the "Result Grid" with the following data:

ENAME	Monthly_Salary	Annual Salary
SMITH	800.00	9600.00
ALLEN	1600.00	19200.00
WARD	1250.00	15000.00
JONES	2975.00	35700.00
MARTIN	1250.00	15000.00
BLAKE	2850.00	34200.00
CLARK	2450.00	29400.00
SCOTT	3000.00	36000.00
KING	5000.00	60000.00
TURNER	1500.00	18000.00
ADAMS	1100.00	13200.00
JAMES	950.00	11400.00
FORD	3000.00	36000.00
MILLER	1300.00	15600.00

The bottom status bar indicates "Query Completed" and "Read Only".

Question 3

Display each employee's name, position, department and the date they were hired. Sort the output in ascending order according to name.

The screenshot shows a database management interface with a dark theme. The top bar indicates a warning: "tudublin - Warning - not supported". Below this, there are tabs for "Administration", "Schemas", and "CreateTablesForMySQL". The "Schemas" tab is active, showing a tree view of the database structure. The tree includes "sys", "tudublin", "Tables", "DEPT", "EMP", "SALGRADE", "Views", "Stored Procedures", and "Functions".

The SQL editor shows the following query:

```
1 SELECT ENAME, JOB, DNAME AS Department, HIREDATE
2 FROM EMP
3 JOIN DEPT ON EMP.DEPTNO = DEPT.DEPTNO
4 ORDER BY ENAME ASC;
5
```

The "Result Grid" shows the results of the query, sorted by employee name (ENAME) in ascending order. The grid has four columns: ENAME, JOB, Department, and HIREDATE. The results are as follows:

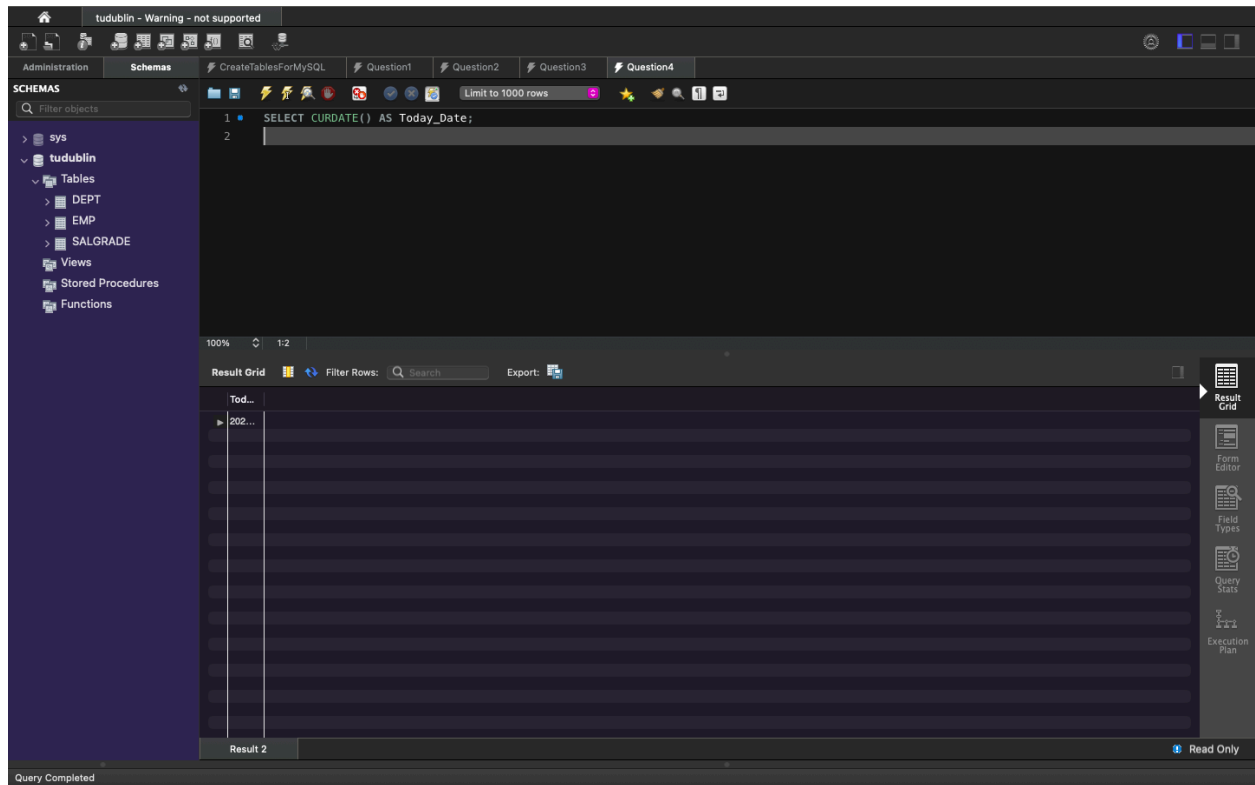
ENAME	JOB	Department	HIREDATE
ADAMS	CLERK	RESEARCH	1983-01-12
ALLEN	SALESMAN	SALES	1981-08-20
BLAKE	MANAGER	SALES	1981-06-01
CLARK	MANAGER	ACCOUNTING	1981-06-01
FORD	ANALYST	RESEARCH	1981-12-03
JAMES	CLERK	SALES	1981-12-03
JONES	MANAGER	RESEARCH	1981-04-02
KING	PRESIDENT	ACCOUNTING	1981-11-14
MARTIN	SALESMAN	SALES	1981-09-28
MILLER	CLERK	ACCOUNTING	1982-01-23
SCOTT	ANALYST	RESEARCH	1982-12-09
SMITH	CLERK	RESEARCH	1980-12-17
TURNER	SALESMAN	SALES	1981-09-08
WARD	SALESMAN	SALES	1981-02-22

The interface also includes a "Filter Rows" search bar, an "Export" button, and a "Read Only" status indicator at the bottom right. The status bar at the bottom left indicates "Query Completed".

Single Row Function

Question 4

Find today's date – use curdate().



Question 5

Find the number of years each employee in the emp table has been employed – use datediff().

The screenshot shows a database management interface with a SQL query editor and a results grid. The query calculates the number of years each employee has been employed by dividing the difference between the current date and the hire date by 365.

```
1 SELECT ENAME,  
2    DATEDIFF(CURDATE(), HIREDATE) / 365 AS Years_Employed  
3 FROM EMP;  
4
```

The results grid displays the following data:

ENAME	Years_Employed
SMITH	43.9562
ALLEN	43.7781
WARD	43.7726
JONES	43.6658
MARTIN	43.1753
BLAKE	43.5863
CLARK	43.5014
SCOTT	41.9781
KING	43.0466
TURNER	43.2301
ADAMS	41.8849
JAMES	42.9945
FORD	42.9945
MILLER	42.8548

The interface also shows a sidebar with a schema tree, a top toolbar with various icons, and a bottom status bar indicating "Query Completed".

Group Functions

Question 6

Find the total amount paid out in salaries.

The screenshot shows a database management interface with a dark theme. The top bar indicates a warning: "tudublin - Warning - not supported". Below this, there are tabs for "Administration", "Schemas", and a series of "Question" tabs from Question1 to Question6. The "Schemas" tab is active, showing a tree view on the left with "sys" and "tudublin" schemas. Under "tudublin", there are "Tables" (DEPT, EMP, SALGRADE), "Views", "Stored Procedures", and "Functions". The main query editor displays the following SQL code:

```
1 SELECT SUM(SAL) AS Total_Salary_Payout
2 FROM EMP;
3
```

Below the query editor, the "Result Grid" is visible, showing a single row of results:

Total_Salary_Payout
29025.00

The interface also includes a "Filter Rows" search bar, an "Export" button, and a sidebar on the right with icons for "Result Grid", "Form Editor", "Field Types", "Query Stats", and "Execution Plan". The status bar at the bottom indicates "Query Completed" and "Read Only".

Question 7

Find the minimum salary of all employees. Use a label called “Minimum Salary”.

The screenshot shows a database management interface with a dark theme. The top toolbar includes icons for home, save, undo, redo, and other standard database actions. Below the toolbar, there are tabs for 'Administration' and 'Schemas'. The 'Schemas' tab is active, showing a tree view on the left with the following structure:

- sys
- tudublin
 - Tables
 - DEPT
 - EMP
 - SALGRADE
 - Views
 - Stored Procedures
 - Functions

The main query editor displays the following SQL query:

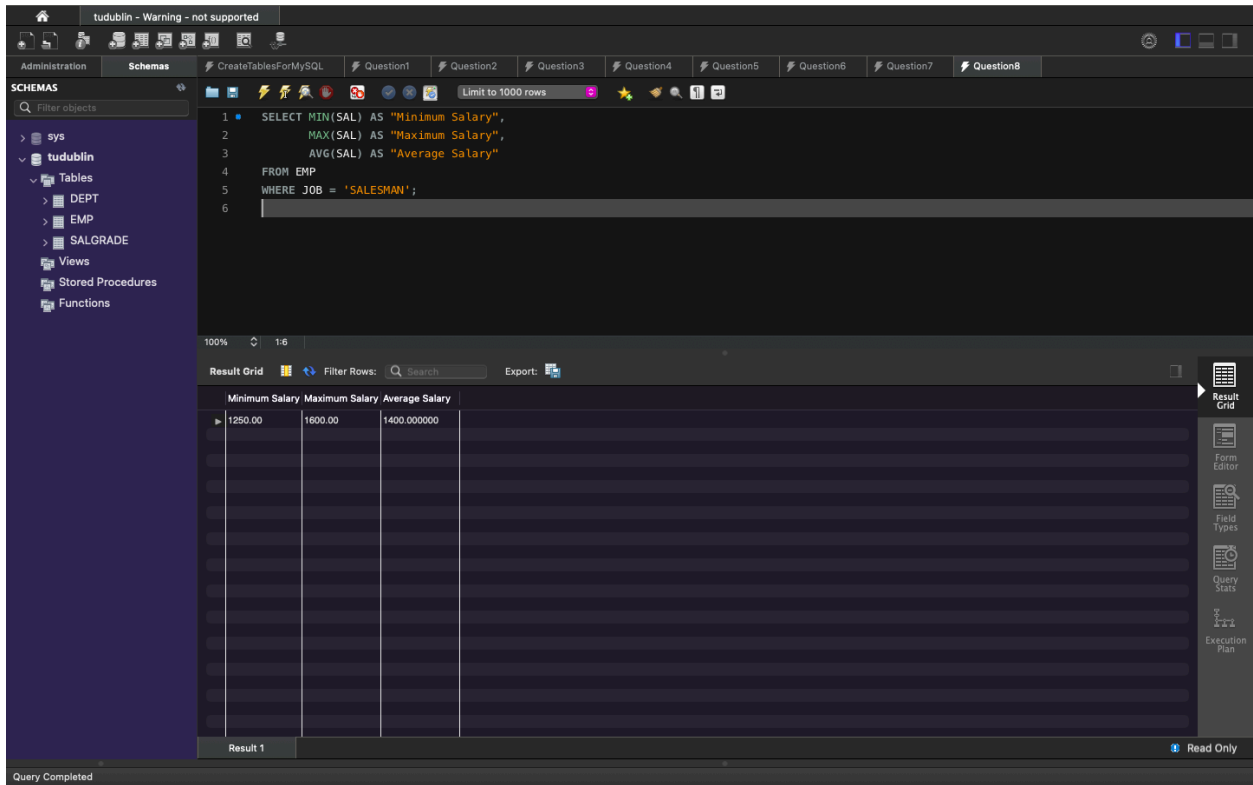
```
1 SELECT MIN(SAL) AS "Minimum Salary"
2 FROM EMP;
3
```

Below the query editor, the 'Result Grid' is visible, showing the results of the query. The grid has a single column labeled 'Minimum Salary' and one row with the value '800.00'. The status bar at the bottom indicates 'Query Completed' and 'Read Only'.

Minimum Salary
800.00

Question 8

Find the minimum, maximum, and average salaries of all employees. Label the headings “Minimum Salary”, “Maximum Salary” and “Average Salary” for staff employed as salespeople.



The screenshot shows a database management tool interface. The top menu bar includes 'Administration', 'Schemas', and a series of tabs labeled 'Question1' through 'Question8'. The 'Schemas' tab is active, displaying a tree view on the left with 'sys' and 'tudublin' schemas. Under 'tudublin', there are tables 'DEPT', 'EMP', and 'SALGRADE', along with 'Views', 'Stored Procedures', and 'Functions'. The main query editor shows a SQL query:

```
1 SELECT MIN(SAL) AS "Minimum Salary",
2       MAX(SAL) AS "Maximum Salary",
3       AVG(SAL) AS "Average Salary"
4 FROM EMP
5 WHERE JOB = 'SALESMAN';
6
```

Below the query editor, the 'Result Grid' is displayed, showing the results of the query. The grid has three columns: 'Minimum Salary', 'Maximum Salary', and 'Average Salary'. The first row shows the values 1250.00, 1600.00, and 1400.000000 respectively. The status bar at the bottom indicates 'Query Completed' and 'Read Only'.

Minimum Salary	Maximum Salary	Average Salary
1250.00	1600.00	1400.000000

Question 9

Find out how many managers there are without listing them. Use the heading “Number of Manager”. Use the mgr column.

The screenshot shows a database management tool interface. The top menu bar includes 'Administration', 'Schemas', and a series of tabs labeled 'Question1' through 'Question9'. The 'Schemas' tab is active, displaying a tree view on the left with 'sys' and 'tudublin' schemas. Under 'tudublin', there are 'Tables' (DEPT, EMP, SALGRADE), 'Views', 'Stored Procedures', and 'Functions'. The main query editor shows the following SQL code:

```
1 SELECT COUNT(DISTINCT MGR) AS "Number of Managers"
2 FROM EMP
3 WHERE MGR IS NOT NULL;
4
```

Below the query editor, the 'Result Grid' is displayed, showing a single row with the value '6' under the column heading 'Number of Manag...'. The status bar at the bottom indicates 'Query Completed' and 'Read Only'.

Number of Manag...
6

Question 10

How many employees are employed by the company?

The screenshot shows a database management interface with a dark theme. The top menu bar includes 'Administration', 'Schemas', and a series of tabs labeled 'Question1' through 'Question10'. The 'Schemas' tab is active, showing a tree view on the left with 'sys' and 'tudublin' schemas. Under 'tudublin', there are 'Tables' (DEPT, EMP, SALGRADE), 'Views', 'Stored Procedures', and 'Functions'. The main query editor displays the following SQL query:

```
1 SELECT COUNT(*) AS Total_Employees
2 FROM EMP;
3
```

Below the query editor, the 'Result Grid' is visible, showing a single column 'Total_Employees' with a value of 14. The status bar at the bottom indicates 'Query Completed' and 'Read Only'.

Total_Employees
14

Question 11

How many employees are there in department 20?

The screenshot shows a database management interface with a dark theme. The top menu bar includes 'Administration', 'Schemas', and a series of question tabs from 'Question1' to 'Question11'. The 'Schemas' tab is active, showing a tree view on the left with 'sys' and 'tudublin' schemas. Under 'tudublin', there are 'Tables' (DEPT, EMP, SALGRADE), 'Views', 'Stored Procedures', and 'Functions'. The main query editor displays the following SQL code:

```
1 SELECT COUNT(*) AS Employees_in_Dept_20
2 FROM EMP
3 WHERE DEPTNO = 20;
4
```

Below the query editor is a 'Result Grid' section. It shows a single column header 'Employees_in_Dept_20' and a single row with the value '6'. The status bar at the bottom indicates 'Query Completed' and 'Read Only'.

Employees_in_Dept_20
6