

1. List the first name, last name, department name and current job title of all staff. **(1 mark)**

```
SELECT first_name, last_name, department_name, job_title  
FROM staff NATURAL JOIN departments NATURAL JOIN jobs;
```

first_name	last_name	department_name	job_title
William	Gietz	Accounting	Public Accountant
Shelley	Higgins	Accounting	Accounting Manager
Jennifer	Whalen	Administration	Administration Assistant
Steven	King	Executive	President
Neena	Kochhar	Executive	Administration Vice President
Lex	De Haan	Executive	Administration Vice President
Daniel	Faviet	Finance	Accountant
John	Chen	Finance	Accountant
Ismael	Sciarra	Finance	Accountant

Rows: 106

2. List every country name and the number of staff in each country. Order the result by country name. **(1 mark)**

```
SELECT country_name AS country, count(staff_id) AS Staff_Count
FROM countries
LEFT JOIN locations ON countries.country_id = locations.country_id
LEFT JOIN departments ON locations.location_id = departments.location_id
LEFT JOIN staff ON departments.department_id = staff.department_id
GROUP BY country_name
ORDER BY country_name;
```

country	Staff_Count
Argentina	0
Australia	0
Belgium	0
Brazil	0
Canada	2
China	0
Denmark	0
Egypt	0
France	0

Rows: 25

3. Who has spent the shortest amount of time in a job? Print their name (first and last name), how long the job lasted in days and the job title. **(1 mark)**

```
SELECT CONCAT(first_name, " ", last_name) AS full_name, datediff(end_date,start_date)
AS shortest_time, job_title
FROM staff NATURAL JOIN job_history NATURAL JOIN jobs
ORDER BY shortest_time DESC;
```

full_name	shortest_time	job_title
Jonathon Taylor	282	Sales Representative

Rows: 1

4. For all supervisors who supervise five or more staff, list their first name, last name, job title, and the number of staff members they supervise. **(2 marks)**

```
SELECT e2.first_name, e2.last_name, COUNT(e2.staff_id) AS number_of_staff, job_title
FROM staff e1
LEFT JOIN staff e2 on e1.supervisor_id = e2.staff_id
LEFT JOIN jobs ON e2.job_id = jobs.job_id
GROUP BY e2.first_name, e2.last_name, jobs.job_id
HAVING COUNT(e2.staff_id) >= 5;
```

first_name	last_name	number_of_staff	job_title
Adam	Fripp	8	Stock Manager
Alberto	Errazuriz	6	Sales Manager
Den	Raphaely	5	Purchasing Manager
Eleni	Zlotkey	6	Sales Manager
Gerald	Cambrault	6	Sales Manager
John	Russell	6	Sales Manager
Karen	Partners	6	Sales Manager
Kevin	Mourgos	8	Stock Manager
Matthew	Weiss	8	Stock Manager

Rows: 14

5. Print department names of departments that currently have neither a manager nor any staff. **(2 marks)**

```
SELECT department_name
from departments LEFT JOIN staff
ON departments.department_id = staff.department_id
WHERE (manager_id IS NULL ) OR (staff_id IS NULL);
```

department_name
Treasury
Corporate Tax
Control And Credit
Shareholder Services
Benefits
Manufacturing
Construction
Contracting
Operations

Rows: 16

6. Which region has the most locations? Print the region name, as well as the total number of locations in that region. **(2 marks)**

```
SELECT region_name, COUNT(location_id) AS number_of_locations
FROM regions
LEFT JOIN countries ON regions.region_id = countries.region_id
LEFT JOIN locations ON countries.country_id = locations.country_id
GROUP BY region_name
ORDER BY COUNT(location_id) DESC
LIMIT 1;
```

region_name	number_of_locations
Europe	9

Rows: 1

7. Some staff members are eligible for a commission. Find the names of staff who will exceed the maximum salary for their job title if they achieve their commission. The calculation of a staff member's total income if the commission is achieved is their salary multiplied by the commission percent and added onto their original salary. List the staff member's first name, last name and the amount by which they will exceed the maximum salary for their current job role. Order the results from the highest amount to lowest. **(2 marks)**

```
SELECT first_name, last_name, (((salary *commission_pct) + salary) - max_salary) AS  
exceed_by  
FROM staff  
LEFT JOIN jobs ON staff.job_id = jobs.job_id  
WHERE max_salary < ((salary *commission_pct) + salary)  
ORDER BY exceed_by DESC;
```

first_name	last_name	exceed_by
Lisa	Ozer	23670.0000
Ellen	Abel	22920.0000
Janette	King	14920.0000
Clara	Vishney	11170.0000
Peter	Tucker	9920.0000
Patrick	Sully	8170.0000
Allan	McEwen	1420.0000

Rows: 7

8. List the cities, country names and region names for cities outside the United States of America and Europe where no staff work. **(3 marks)**

```
SELECT city, country_name, region_name
FROM regions
LEFT JOIN countries ON regions.region_id = countries.region_id
LEFT JOIN locations ON countries.country_id = locations.country_id
LEFT JOIN departments ON locations.location_id = departments.location_id
LEFT JOIN staff ON departments.department_id = staff.department_id
WHERE (city IS NOT NULL) AND (country_name != 'United States of America') AND
(region_name != 'Europe') AND (staff_id IS NULL)
ORDER BY region_name;
```

city	country_name	region_name
Mexico City	Mexico	Americas
Whitehorse	Canada	Americas
Sao Paulo	Brazil	Americas
Beijing	China	Asia
Bombay	India	Asia
Sydney	Australia	Asia
Singapore	Singapore	Asia
Tokyo	Japan	Asia
Hiroshima	Japan	Asia

Rows: 9

9. Print job titles, the date the jobs ended, and the current manager's first and last name for all jobs that ended in 2006 which are currently not managed by Steven King. **(3 marks)**

```
SELECT job_title, end_date, first_name, last_name
FROM jobs
INNER JOIN job_history ON jobs.job_id = job_history.job_id
INNER JOIN departments ON job_history.department_id = departments.department_id
INNER JOIN staff ON departments.manager_id = staff.staff_id
WHERE (year(end_date) = 2006) AND (first_name != "Steven") AND (last_name != "King");
```

job_title	end_date	first_name	last_name
Programmer	2006-07-24	Alexander	Hunold
Sales Representative	2006-12-31	John	Russell

Rows: 2

10. Print the first name, last name and current salary for all staff who held more than one job position prior to their current position, and whose current salary is below the average value of maximum salaries for all positions they held in the past prior to their current position. **(3 marks)**

```
SELECT first_name, last_name, salary
FROM job_history
INNER JOIN jobs ON job_history.job_id = jobs.job_id
INNER JOIN staff ON job_history.staff_id = staff.staff_id
GROUP BY job_history.staff_id
HAVING (COUNT(job_history.staff_id) > 1) AND salary < AVG(max_salary);
```

first_name	last_name	salary
Jonathon	Taylor	86000.00
Jennifer	Whalen	44000.00

Rows: 2