HR ANALYSIS

BUSINESS QUESTIONS
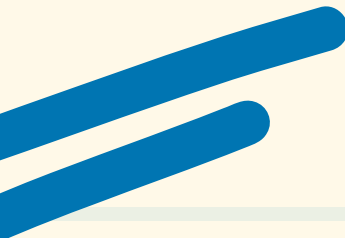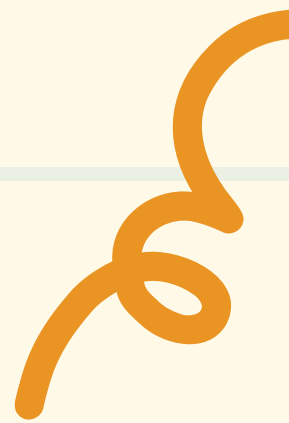
BASIC LEVEL

1. Find out the department wise distribution of employees.

```sql
SELECT
    department, COUNT(employee) AS total_employees
FROM
    hr_database
GROUP BY department
ORDER BY total_employees DESC ;
```

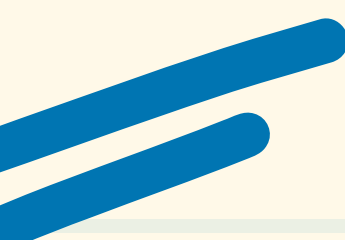| department	total_employees
Development	47
Finance / Accounting	13
Strategy	9
Sales	8
Technology and Equipment	8
Marketing	4
Legal	1

2. Calculate the average age of employees in the organization.

```sql
SELECT
    ROUND(AVG(age), 0) AS avg_age
FROM
    (SELECT
        id,
            employee,
            DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), birth_date)), '%y') + 0 AS age
    FROM
        hr_database) AS a;
```

avg_age
41

3. Find the average salary based on cities.

```sql
SELECT
    city, ROUND(AVG(salary), 2) AS avg_salary
FROM
    employee_info
GROUP BY city
ORDER BY avg_salary DESC;
```

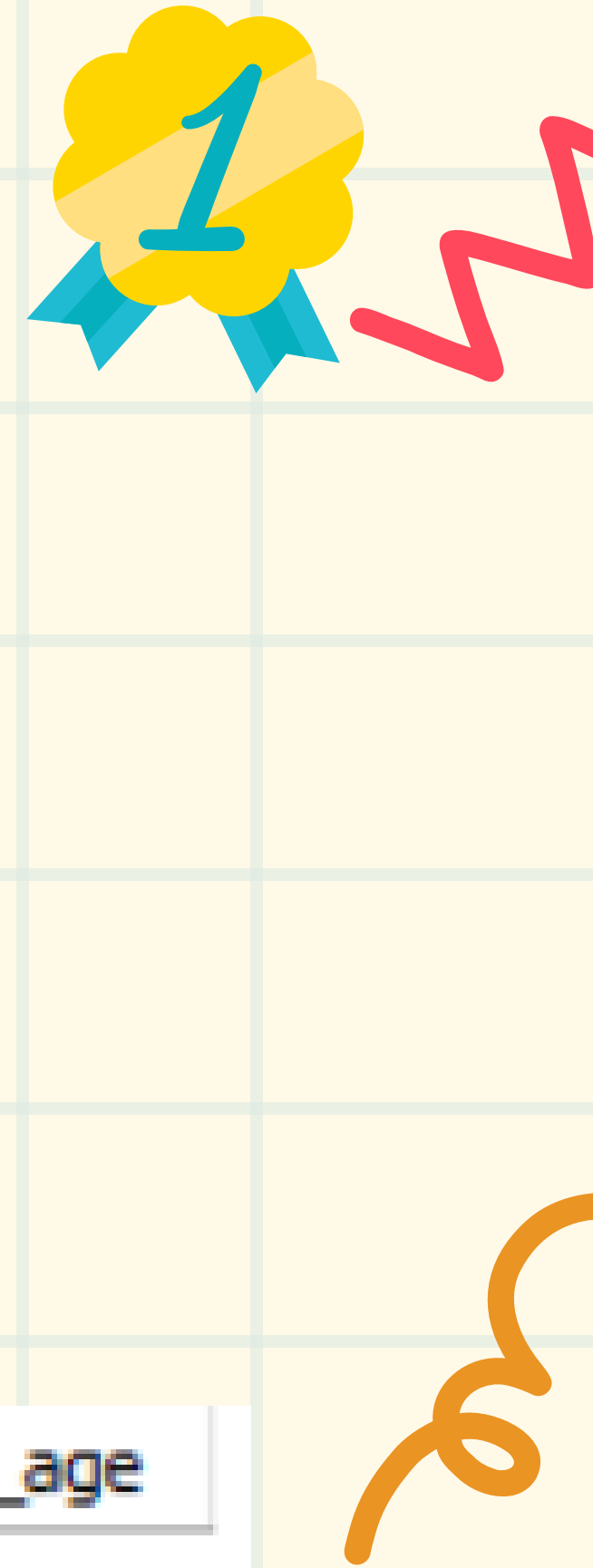| city	avg_salary
Colorado	4280.67
Alabama	4218.40
Missouri	4189.29
Hawaii	4177.50
Texas	4162.11
Rhode Island	4135.00
Mississippi	4110.60
Maryland	4104.40
Montana	4091.50
Oregon	4075.88
Ohio	4060.43
Arizona	4047.80
New York	3983.00
Washington	3977.33

4. Find out the top 3 reasons for termination.

```sql
SELECT
    termination_reason, COUNT(termination_reason) AS count
FROM
    hr_database
GROUP BY termination_reason
ORDER BY count DESC
LIMIT 3;
```

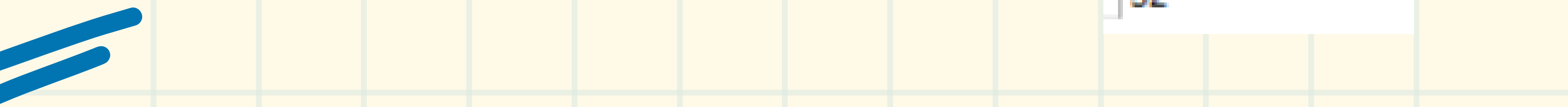| termination_reason	count
Resignation	11
Unfair Dismissal	10
End of Internishp Contract	2

5. Calculate the average age of hiring of employees.

```sql
SELECT
    ROUND(AVG(age), 0) AS avg_hiring_age
FROM
    (SELECT
        id,
            employee,
            DATE_FORMAT(FROM_DAYS(DATEDIFF(hire_date, birth_date)), '%y') + 0 AS age
    FROM
        hr_database) AS a;
```

avg_hiring_age
32

INTERMEDIATE LEVEL

1. Calculate the average salary and average performance review based on gender.

```sql
SELECT
    h.gender,
    ROUND(AVG(e.salary), 2) AS avg_salary,
    ROUND(AVG(e.performance_review), 2) AS avg_performance_review
FROM
    employee_info e
        JOIN
    hr_database h ON e.id = h.id
GROUP BY gender;
```
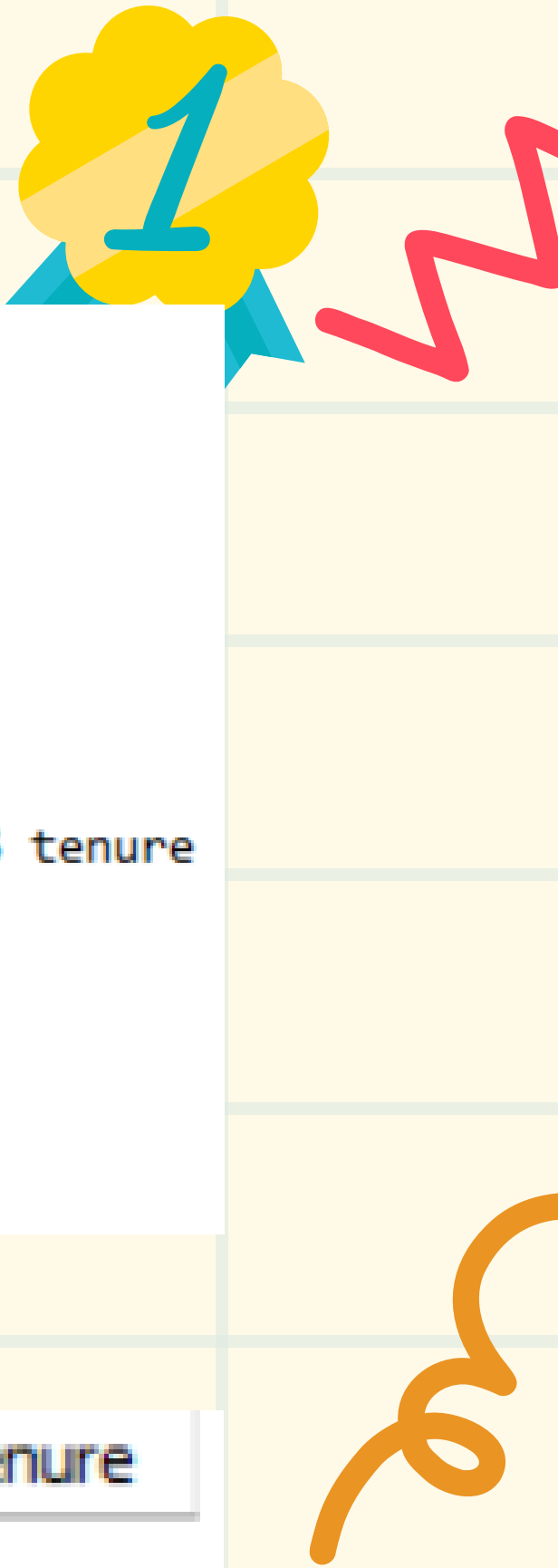
gender	avg_salary	avg_performance_review
Female	4124.74	7.68
Male	4098.96	7.64

2. Find the average tenure of employees terminated from organization.

```sql
SELECT
    ROUND(AVG(tenure), 2) AS avg_tenure
FROM
    (SELECT
        id,
        employee,
        DATE_FORMAT(FROM_DAYS(DATEDIFF(termination_date, hire_date)), '%y') + 0 AS tenure
    FROM
        hr_database
    WHERE
        termination_date IS NOT NULL) AS a;
```

avg_tenure
1.38

3. Find the educational qualifications of top 5 highest payed employees.

```sql
SELECT
    h.employee, h.education, e.salary
FROM
    hr_database h
        JOIN
    employee_info e ON h.id = e.id
ORDER BY e.salary DESC
LIMIT 5;
```
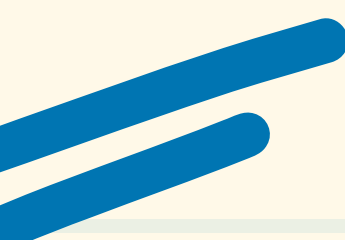
employee	education	salary
Jude Dixon	Major's	4576
Alby Foster	Higher Certificate	4543
Harley Matthews	Higher Certificate	4539
Winnie May	Bachelor's Completed	4534
Harriet Knight	Bachelor's Completed	4534
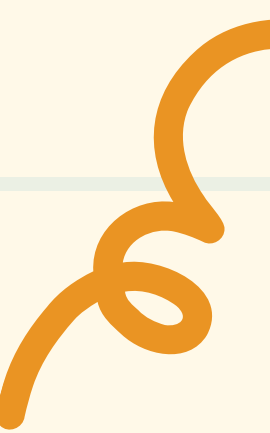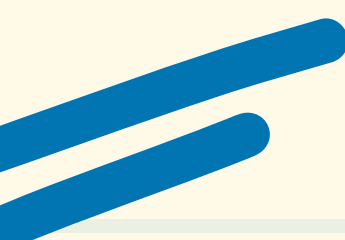
4. Find the managers in order of highest no. of employees terminated under them.

```sql
with a as (

    select department, count(employee) as count_emp

    from hr_database where termination_date is not null

    group by department order by count_emp)



SELECT

    d.manager, a.department, a.count_emp

FROM

    department_info d

        JOIN

    a ON d.department = a.department

ORDER BY a.count_emp DESC;
```

manager	department	count_emp
Leyla	Development	11
Phelipp	Finance / Accounting	4
Antonella	Strategy	4
Gabriela	Sales	4
Anna	Legal	1
Phelipp	Marketing	1
Sidney	Technology and Equipment	1

5. Find the top 5 cities with highest no. of female employees.

```sql
with a as (select * from hr_database where gender='Female')


SELECT
    e.city, COUNT(a.employee)
FROM
    employee_info e
        JOIN
    a ON e.id = a.id
GROUP BY e.city
ORDER BY COUNT(a.employee) DESC
LIMIT 5;
```

| city	COUNT(a.employee)
Montana	5
Missouri	5
New York	5
Ohio	5
Washington	4

ADVANCED LEVEL

1. Query the highest paid position in each department.

```sql
select department, position, salary from
(select department, position, salary, rank() over (partition by department order by salary desc)
as rn from
(select h.department, h.position, (e.salary) from hr_database h
join employee_info e on h.id=e.id ) as a) as b where rn=1;
```

department	position	salary
Development	Systems Analyst	4543
Finance / Accounting	Administrative Assistant	4576
Legal	Lawyer	3698
Marketing	Communication Analyst	4534
Sales	Salesperson	4493
Strategy	Business Intelligence Analyst	4493
Technology and Equipment	Technical Support Analyst	4211
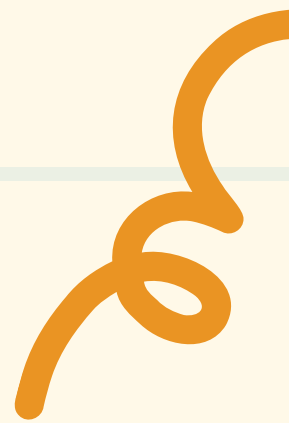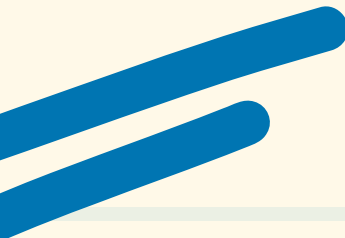
2. Find the average performance review of employees based on the age brackets.

```sql
with a as (SELECT
    h.id, h.employee,
    DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), h.birth_date)), '%y') + 0 AS age, e.performance_review
    FROM
        hr_database h join employee_info e on h.id=e.id)


, b as ( SELECT
    CASE
        WHEN age BETWEEN 21 AND 30 THEN '21-30'
        WHEN age BETWEEN 31 AND 40 THEN '31-40'
        WHEN age BETWEEN 41 AND 50 THEN '41-50'
        WHEN age BETWEEN 51 AND 60 THEN '51-60'
        else '60 and above'
    END AS age_bucket, performance_review
FROM
    a)

SELECT
    age_bucket,
    ROUND(AVG(performance_review), 0) AS avg_performance_review
FROM
    b
GROUP BY age_bucket
ORDER BY age_bucket;
```

age_bucket	avg_performance_review
21-30	9
31-40	8
41-50	8
51-60	7
60 and above	10

3. Find out the year wise hirings and terminations.

```sql
with a as (SELECT
    YEAR(termination_date) AS year,
    COUNT(termination_date) AS terminations
FROM
    hr_database
WHERE
    termination_date IS NOT NULL
GROUP BY year
ORDER BY year DESC)
, b as (SELECT
    YEAR(hire_date) AS year, COUNT(id) AS hired
    FROM
        hr_database
    GROUP BY YEAR(hire_date)
    ORDER BY YEAR(hire_date)
        )


SELECT
    b.year, b.hired, a.terminations
FROM
    b
        JOIN
    a ON b.year = a.year;
```

year	hired	terminations
2019	11	6
2018	16	4
2017	9	5
2016	19	6
2015	14	5

THANK YOU