1. **Select all columns from the employee table.**

```
SELECT * FROM employee;
```

Output

| employee_id | employee_name | department_id | hire_date | salary |
|---|---|---|---|---|
| 1 | John Doe | 1 | 2022-01-01 | 50000 |
| 2 | Jane Smith | 2 | 2022-02-15 | 60000 |
| 3 | Bob Johnson | 1 | 2022-03-20 | 55000 |
| 4 | Alice Brown | 4 | 2022-04-10 | 70000 |
| 5 | Charlie Wilson | 2 | 2022-05-05 | 65000 |

2. **Select unique department names from the 'department' table:**

```
SELECT distinct department_name FROM Department;
```

Output

| department_name |
|---|
| HR |
| Finance |
| Sales |
| IT |
| Marketing |

**3. Select employee names and salaries from the 'employee' table, ordered by salary in descending order:**

```
SELECT employee_name,salary FROM employee
order by salary DESC;
```

Output

| employee_name | salary |
|---|---|
| Alice Brown | 70000 |
| Charlie Wilson | 65000 |
| Jane Smith | 60000 |
| Bob Johnson | 55000 |
| John Doe | 50000 |

**4. Select products with a price between £100 and £500 from the 'product' table:**

```
SELECT Product_name, price FROM product
where price  >= 100 and price <=500;
```

Output

| product_name | price |
|---|---|
| Printer | 200 |
| Desk Chair | 150 |

**5. Select orders made by employees in the 'IT' department by joining 'purchase' and 'employee' tables:**

```sql
Select order_id, order_date, employee_name from purchase
join employee
on purchase.employee_id = employee.employee_id
where employee.department_id=4
;
```

Output

| order_id | order_date | employee_name |
|---|---|---|
| 4 | 2023-04-20 | Alice Brown |

**6.Select products with names containing 'Chair' using a wildcard:**

```sql
SELECT * FROM product
WHERE product_name LIKE '%Chair';
```

Output

| product_id | product_name | price | stock_quantity |
|---|---|---|---|
| 4 | Desk Chair | 150 | 20 |

**7. Select orders made by employees with IDs 1, 3, and 5:**

```sql
SELECT * FROM purchase
WHERE employee_id IN ('1', '3', '5');
```

Output

| order_id | employee_id | product_id | order_date | quantity |
|---|---|---|---|---|
| 1 | 1 | 2 | 2023-01-05 | 3 |
| 2 | 3 | 1 | 2023-02-10 | 2 |
| 5 | 5 | 4 | 2023-05-25 | 2 |

**8. Select the average salary of all employees:**

```
SELECT AVG(salary)
FROM employee;
```

Output

| AVG(salary) |
| --- |
| 60000 |

**9. Select employees hired after '2022-03-01' with a salary greater than £60000:**

```
SELECT *
FROM employee
WHERE hire_date >= '2022-03-01' and salary >= 60000;
```

Output

| employee_id | employee_name | department_id | hire_date | salary |
| --- | --- | --- | --- | --- |
| 4 | Alice Brown | 4 | 2022-04-10 | 70000 |
| 5 | Charlie Wilson | 2 | 2022-05-05 | 65000 |

**10. Select departments with more than 1 employee, counting the number of employees in each department:**

```
SELECT
  department.department_id,
  department_name,
  COUNT(employee.department_id) as num_employees
FROM department
JOIN employee
ON employee.department_id = department.department_id
GROUP BY department.department_id
HAVING num_employees > 1;
```

Output

| department_id | department_name | num_employees |
| --- | --- | --- |
| 1 | HR | 2 |
| 2 | Finance | 2 |