

five problems, each with subparts and individual tables:

Problem 1: Employee Data

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| ID | Name    | Age | Gender | City     |
|----|---------|-----|--------|----------|
| 1  | Alice   | 25  | Female | New York |
| 2  | Bob     | 30  | Male   | London   |
| 3  | Charlie | 28  | Male   | Paris    |
| 4  | Dana    | 35  | Female | Berlin   |

```

- a) How many unique cities are represented in the table?
- b) What is the average age of the individuals in the table?
- c) How many males and females are there in the table?
- d) Who is the oldest person in the table?
- e) Which city has the highest number of individuals?

Problem 2: Student Scores

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| ID | Name    | Math_Score | Science_Score |
|----|---------|------------|---------------|
| 1  | Alice   | 85         | 90            |
| 2  | Bob     | 75         | 85            |
| 3  | Charlie | 90         | 80            |
| 4  | Dana    | 80         | 95            |

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- a) What is the average math score?
- b) What is the highest science score?
- c) Calculate the total score (sum of math and science scores) for each student.
- d) Who has the highest total score?
- e) What is the difference between the average math score and the average science score?

### Problem 3: Product Sales

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| ID | Product | Quantity | Price_per_Unit |
|----|---------|----------|----------------|
| 1  | Apple   | 100      | 2.5            |
| 2  | Banana  | 150      | 1.8            |
| 3  | Orange  | 120      | 3.0            |
| 4  | Mango   | 80       | 2.7            |

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- a) What is the total revenue generated from each product (quantity \* price\_per\_unit)?
- b) Which product has the highest total revenue?
- c) Calculate the average price per unit across all products.
- d) What is the total quantity of all products sold?
- e) How many different types of products are there?

### Problem 4: Customer Feedback

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| ID | Customer | Satisfaction_Score | Feedback |
|----|----------|--------------------|----------|
|----|----------|--------------------|----------|

|   | ID      | Name | Satisfaction Score | Feedback Type |
|---|---------|------|--------------------|---------------|
| 1 | Alice   | 4    | Good               |               |
| 2 | Bob     | 3    | Average            |               |
| 3 | Charlie | 5    | Excellent          |               |
| 4 | Dana    | 2    | Poor               |               |

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- What is the average satisfaction score?
- How many customers provided feedback classified as "Good"?
- Calculate the percentage of customers who provided feedback classified as "Excellent".
- Which customer provided the lowest satisfaction score?
- What is the most common type of feedback received?

#### Problem 5: Employee Salaries

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|   | ID      | Name  | Salary     | Department |
|---|---------|-------|------------|------------|
| 1 | Alice   | 50000 | Marketing  |            |
| 2 | Bob     | 60000 | Finance    |            |
| 3 | Charlie | 55000 | HR         |            |
| 4 | Dana    | 65000 | Operations |            |

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- What is the average salary across all departments?
- Which department has the highest average salary?
- Calculate the total salary expense for each department.
- Who is the highest-paid employee?

e) What is the difference between the salary of the highest-paid employee and the average salary?