Task 1 Given is the following SQL query (Exercise 1-3a):

```sql
SELECT Player.name
FROM Player, Team
WHERE Team.name = 'Sacramento Kings' AND
Team.tid=Player.tid;
```

Provide three equivalent expressions using the relational algebra.
What is the difference between the query in SQL and in relational algebra?

Aufgabe 2 What is the purpose of an architecture?
Considering databases, why is one architecture not sufficient?

Aufgabe 3 Given the following architecture:

Map the components of the given architecture to the 5-layer architecture.

Aufgabe 4 Map the following functionality to the 5-layer architecture:

- Usage of primary and secondary indexes
- Assignment of storage to pages
- Resolving of views
- Transaction management
- Physical storage management
- Logging
Aufgabe 5  If applicable, assign the 9 functions by Codd to the 5-layer architecture.

Aufgabe 6  In the lecture the architectures of IBM DB2, Oracle, SQL Server were presented.
   All systems separate data from the database and logs.
   Why is this approach useful?

Aufgabe 7  Using IBM DB2, multiple agents can be created for the same database.
   Which issues arises, when multiple agents are used?

Good Luck!