Reflection
Mini Project 01

KONSTANTIN - HENDRIK - NINA
AUTOMATION AND AI
HPI POTSDAM WS 2024/25

Task 1 Steps Without LLM:

1

Familiarize with (p)sql
e.g. write easy SELECT statements and debug (;); find helpful resources such as cheat sheets

2

Divide and Conquer of the Task
e.g. “Find all messages longer than 100 characters that have been liked by at least 20 People”

3

Google and start from scratch again

Biggest issue: friends of friends identification

Task 1 Steps With LLM:

1

Prompt the LLM (ChatGPT) once

We provided task and schema and got the right answer.

Task 1 Reflection:

1

Time Investment

Hard to quickly get a task done without profound experiencee

2

Learning Curve

Higher (p)sql related learning curve when doing the task manually

3

Choose the right Tool

Visual Studio Code and github Copilot

4

Validity Checking

In both cases, the results need to be checked for correctness.

Task 2 Reflection

1

Breaking Down Complexity

- Structuring queries simplified understanding
- Modular approaches improve accuracy and clarity

2

For Whom?

- Bridges gaps in skills
- Beneficial for learners
- Distractive for experts?

3

Power of Advanced Tools

- Surprised by quality of results
- Increases productivity in workflows
- Streamline and simplify tasks

Task 3
Query Plan

1

Query plan included statisics and execution order

2

LLM generated a query plan in pseudo code without statisics

3

Result of the LLM does not explain the query

It explains the parts of query plan in general using the query as an example

Task 3 Reflection

LLMs are great for SQL development

- Ability to create correct SQL queries for complex topics

Query plan creation is fully automated

- No contribution from the developer expected
- Optimizer is compareable with a compiler regarding automation

Key differences between query plan and LLMs

- Limited input space for query optimizer
- LLM does not have the same large context as the query optimizer