Lappeenrannan teknillinen yliopisto

School of Technology

Sofware Development Skills

Maria Małysa 003005073

LEARNING DIARY

Software Development Skills: Full-Stack MODULE

Content

[1 NodeJs Part 3](#_Toc198418871)

[2 MongoDB Part 3](#_Toc198418872)

[3 Express Part 6](#_Toc198418873)

[4 React part 9](#_Toc198418874)

[5 MErn stack 13](#_Toc198418875)

[6 My project 14](#_Toc198418876)

**LEARNING DIARY**

**15.05.2025**  
I enrolled in the course

Environment Setup.

Installing and connecting applications.

**16.05.2025**

# NodeJs Part

Video:

**“**[**Node.js Crash Course**](https://www.youtube.com/watch?v=32M1al-Y6Ag&ab_channel=TraversyMedia)**”**

Content:

Node.js as an open-source JavaScript runtime.

Usage, advantages.

How Node.js Works.

Making project nodejs-crash-2024, files in repo.

# MongoDB Part

Video:

**“**[**MongoDB Crash Course 2022**](https://www.youtube.com/watch?v=2QQGWYe7IDU&ab_channel=TraversyMedia)**”**

Content:

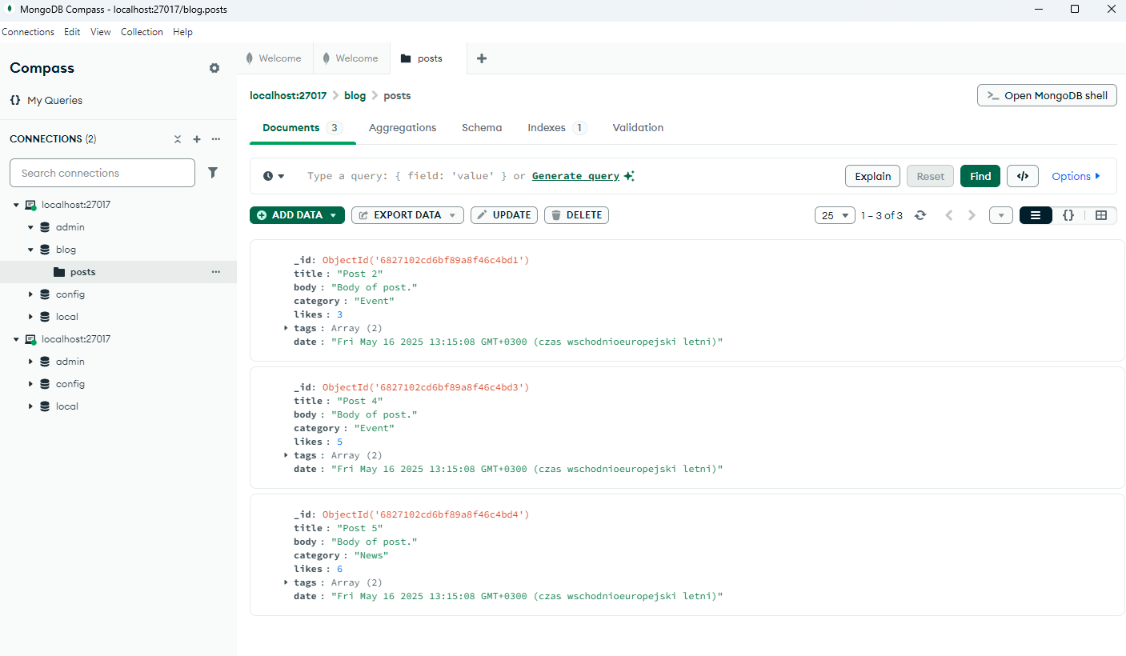
MongoDB as NoSQL (NotOnly SQL) – document database JSON.

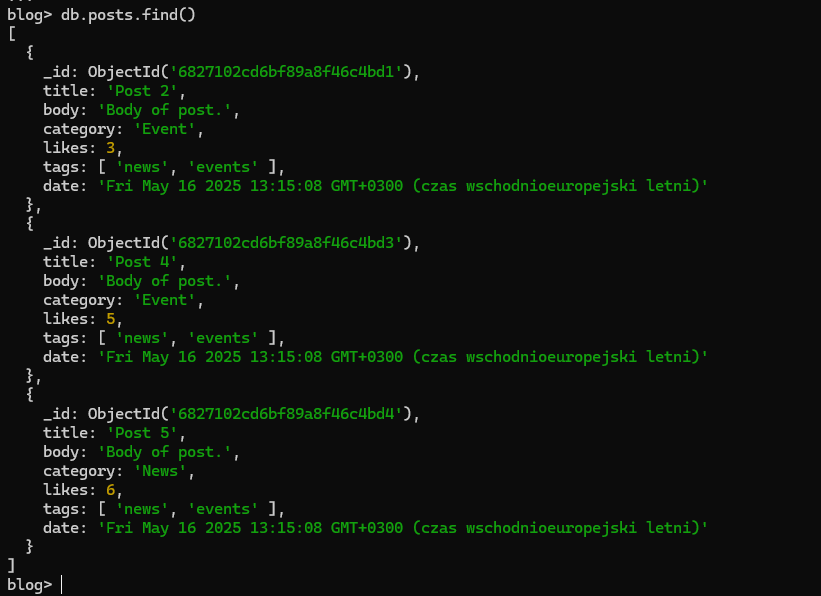
Schema comparison and structure, scaling.

The importance and operation of the program.

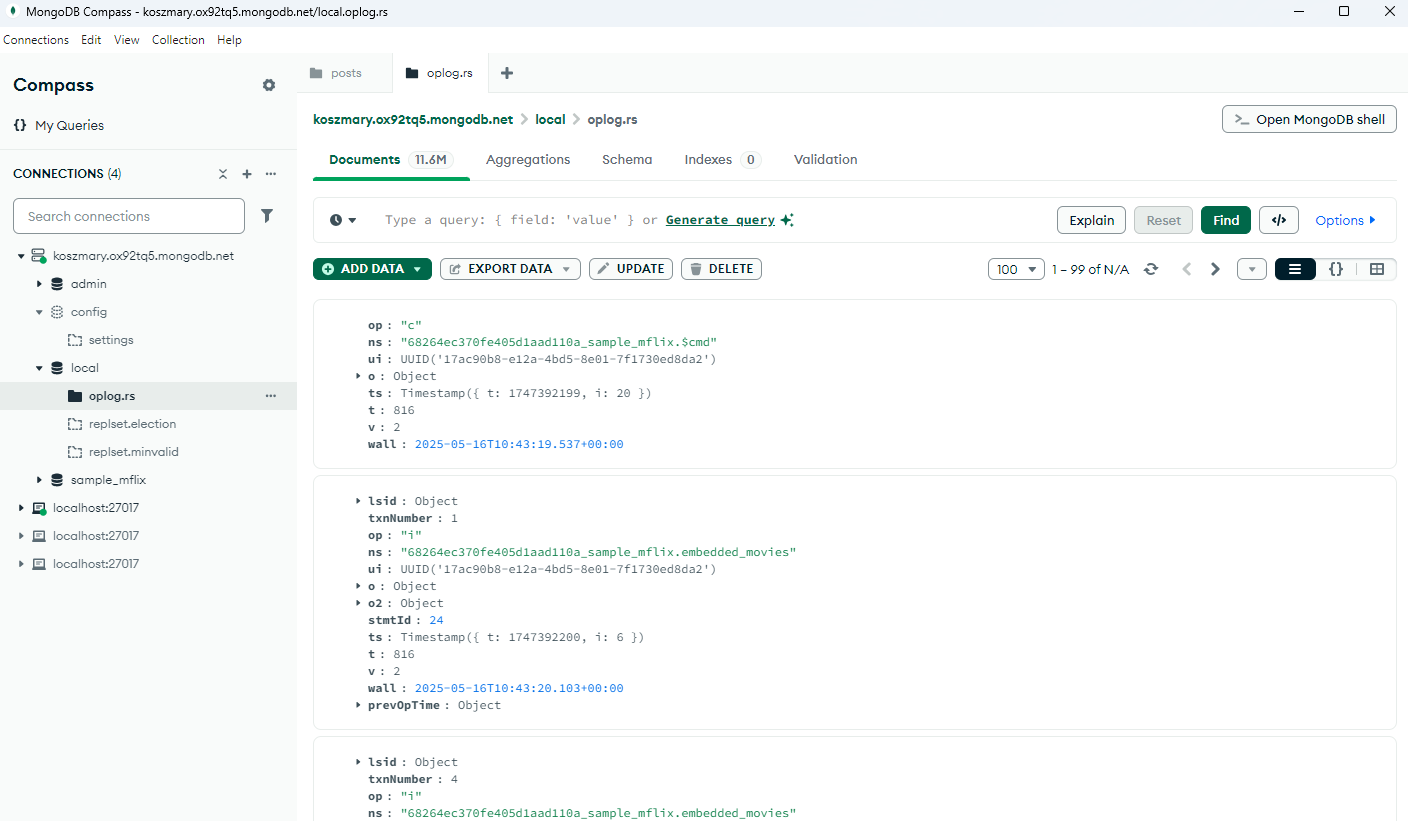
I started working with MongoDB and added text file in repo.

Everything worked and here are results after using cmd:

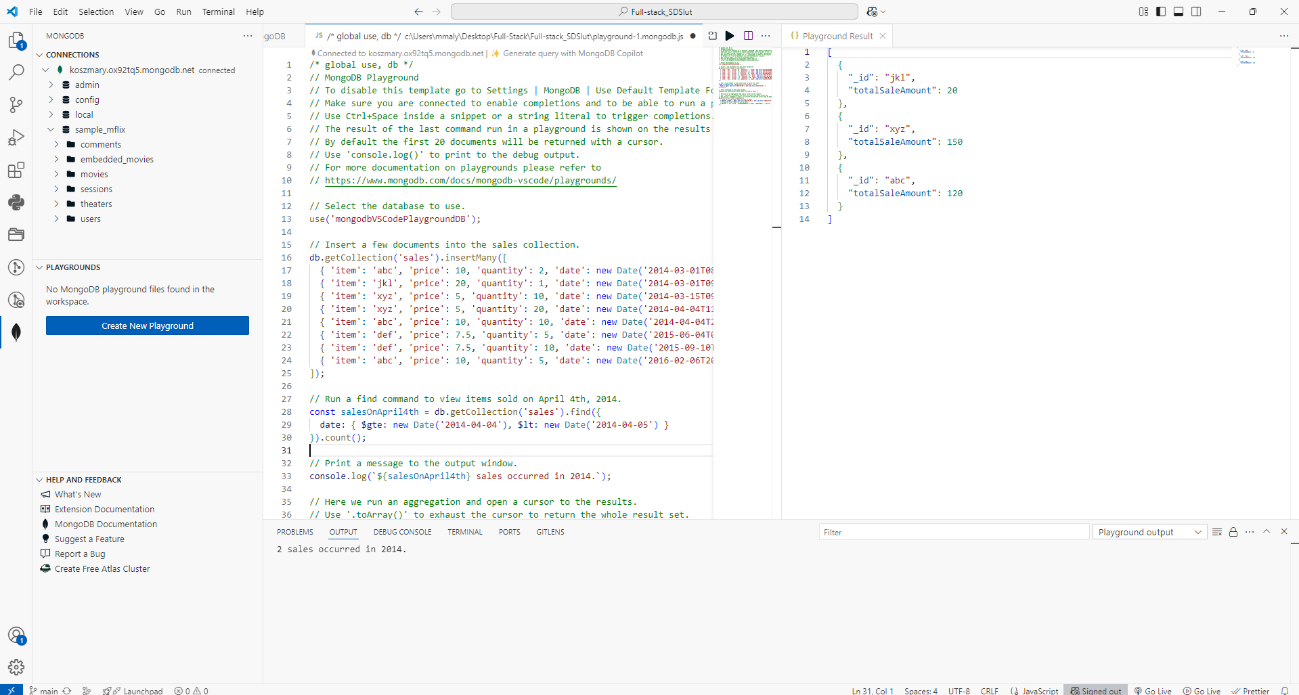




Added new database with sample data:



Database in VS:



MongoDB

Username: admin

Password: admin

mongosh "mongodb+srv://koszmary.ox92tq5.mongodb.net/" --apiVersion 1 --username admin

**17.05.2025**

# Express Part

Video:

“[**Express Crash Course**](https://www.youtube.com/watch?v=CnH3kAXSrmU)”

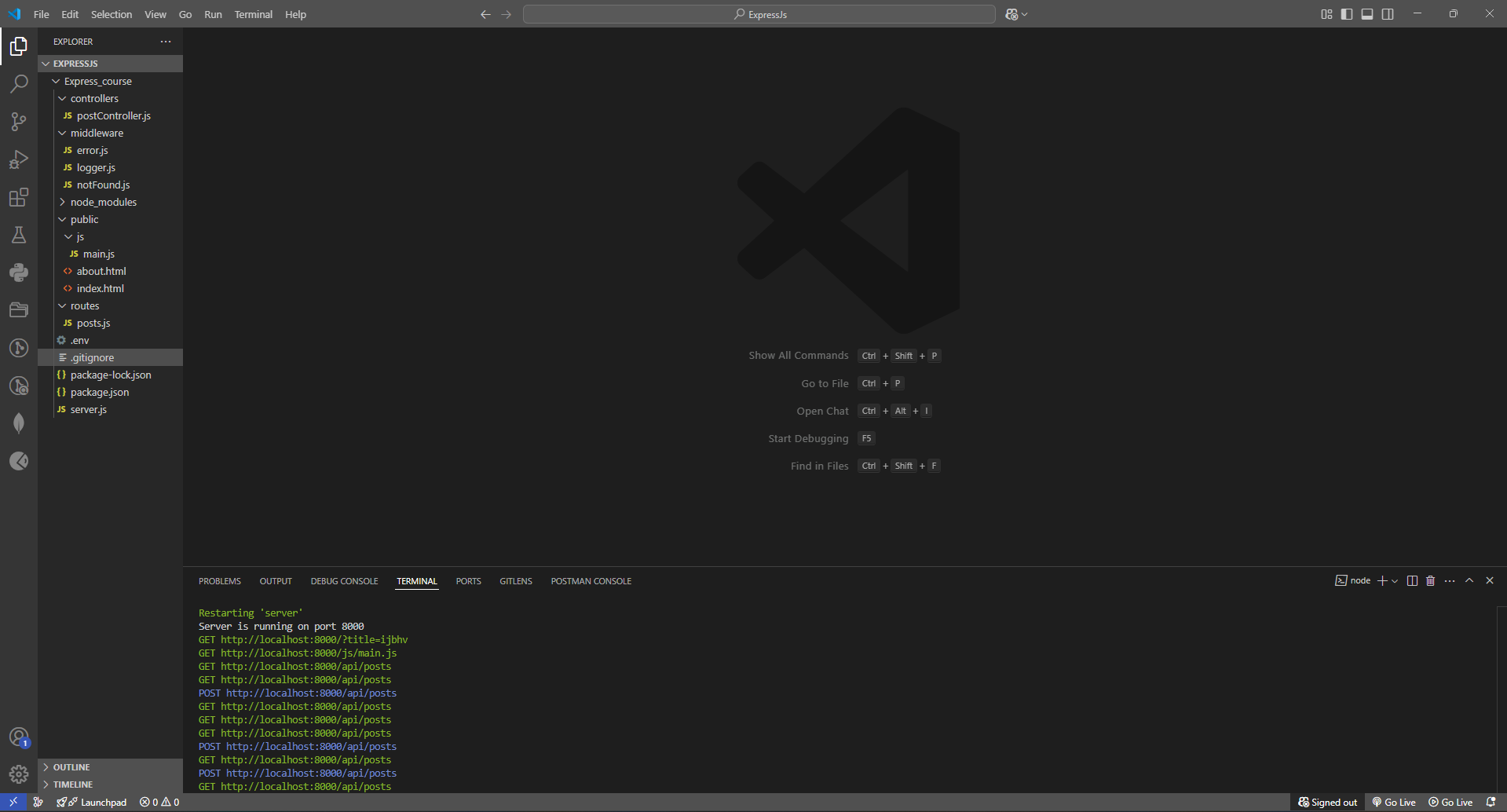
Content:

Express as framework for Node.js.

Usage, importance.

Opinionated vs Unopinionated framework.

Making project, files in repo.



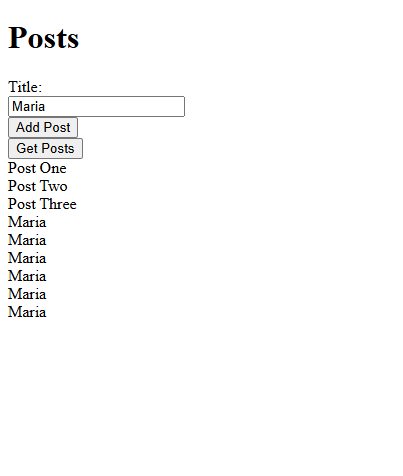
Everything is working properly.

Working localhost:

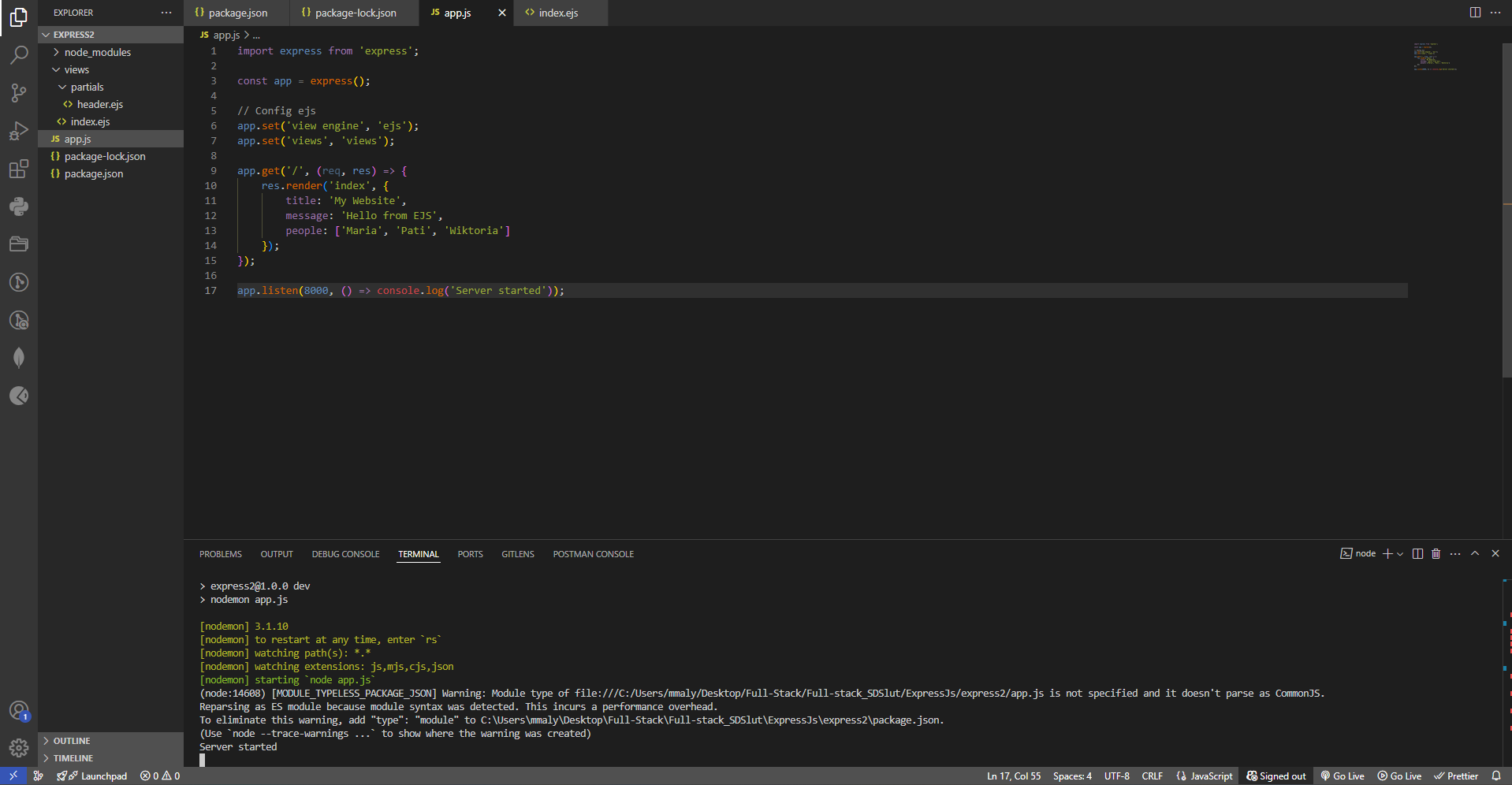
Get Post

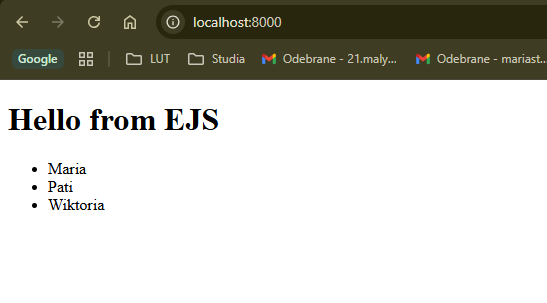


Add Post “Maria”



EJS part:





# React part

**18.05.2025**

Project: <https://react.dev/learn>

Content:

Using components, markup and styles.

Data display and share, conditions and lists.

Video: “[**React JS Crash Course**](https://www.youtube.com/watch?v=w7ejDZ8SWv8&ab_channel=TraversyMedia)”

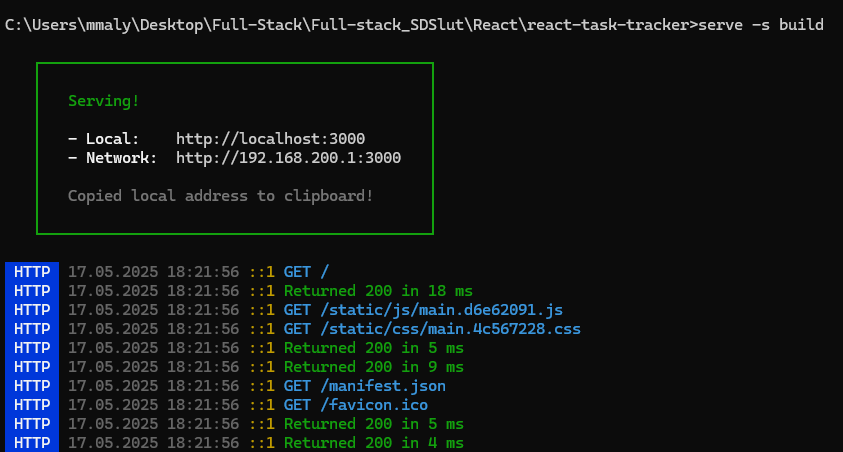
React as a library for building user interfaces – front end framework.

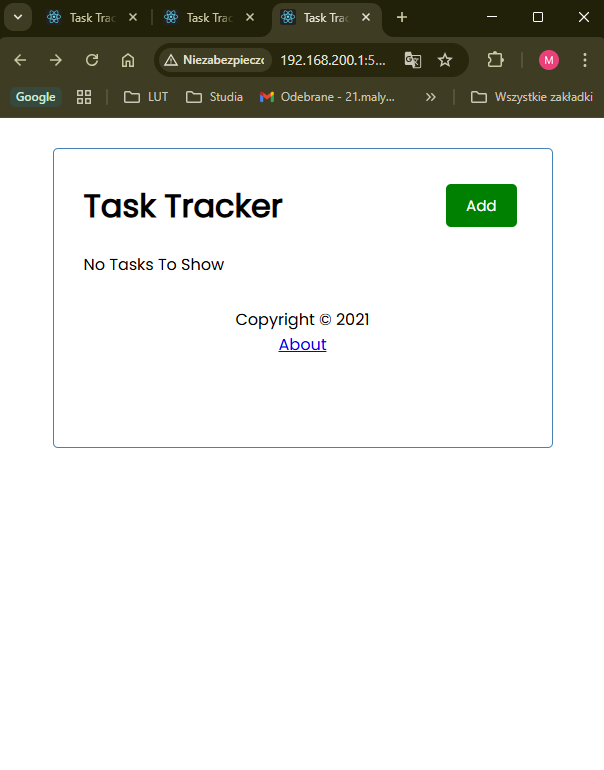
Importance , usage.

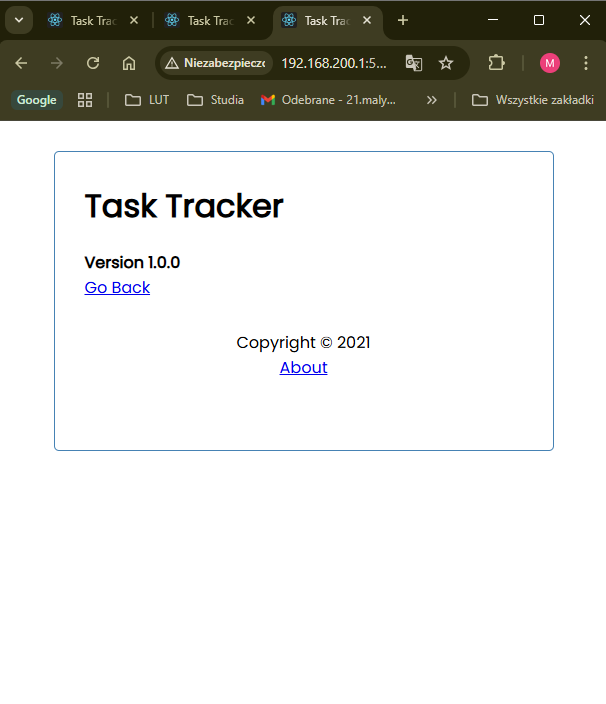
Components.

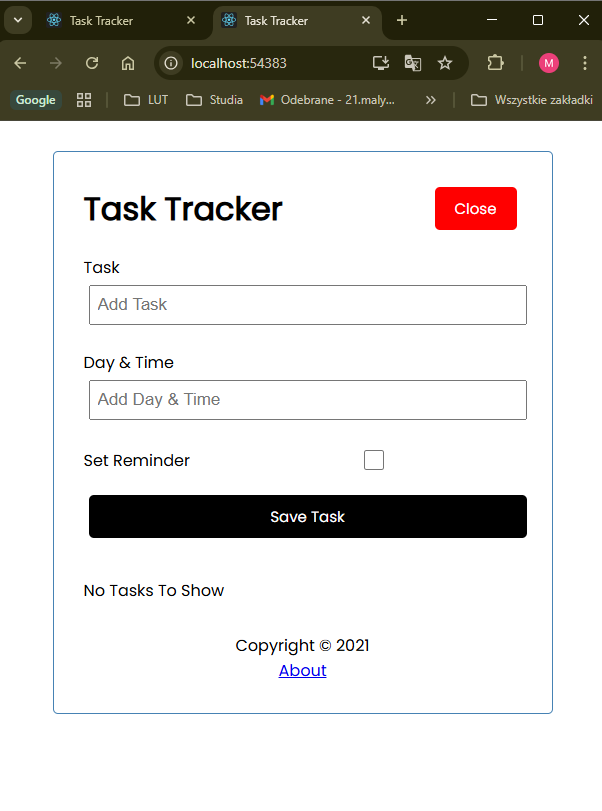
Working with State

Working project:





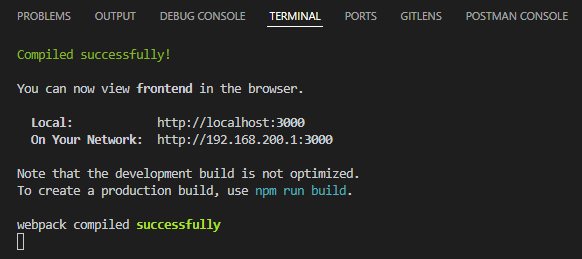


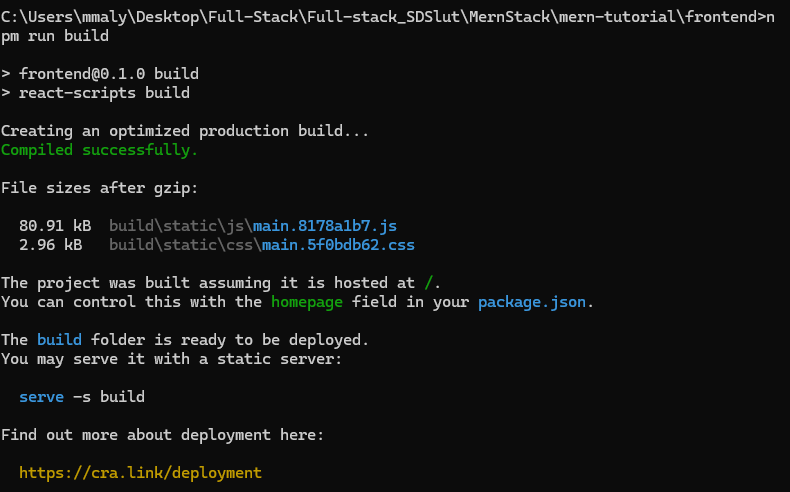


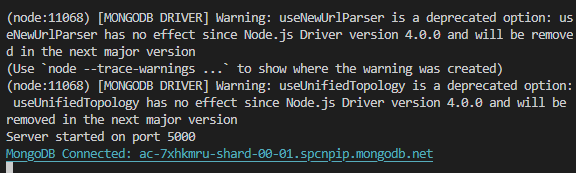
# MErn stack

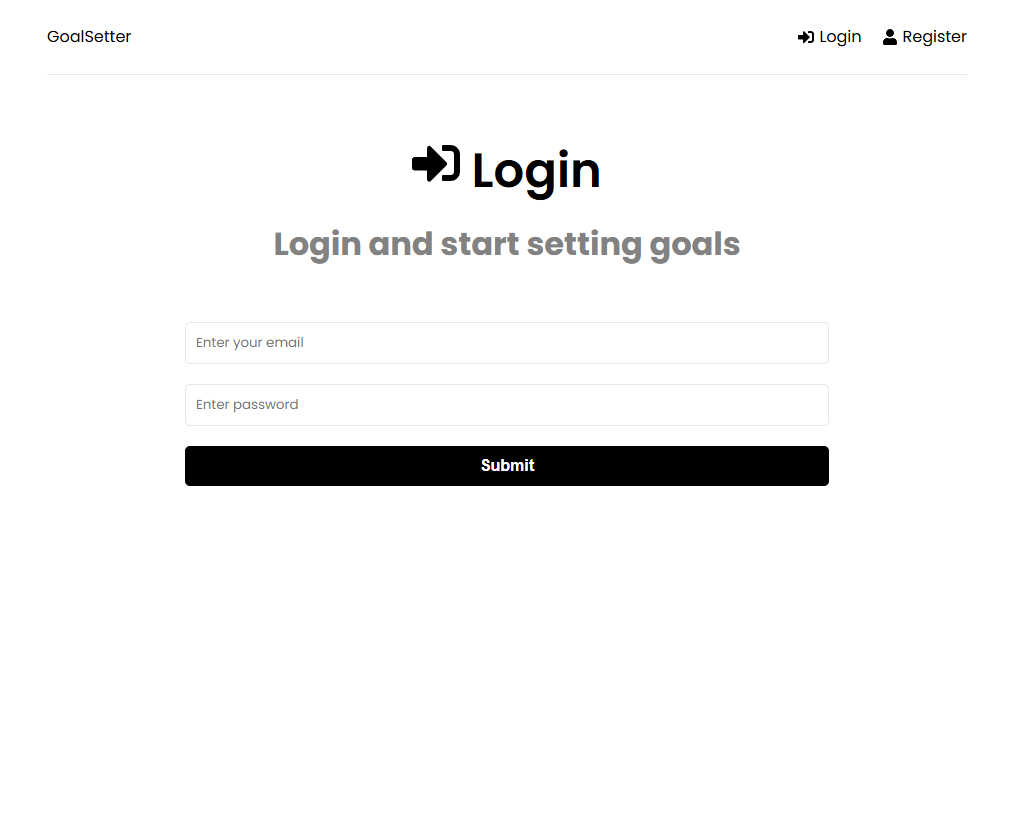
**19.05.2025**

Course work from [**playlist**](https://www.youtube.com/playlist?list=PLTMNWTDdd5z_CtvbzG6r1f4hjnCaphPTV)









# My project

I created the application as a simple and interactive platform for practicing basic mathematical operations. Its main goal is to enable users – especially children or people who want to improve their mathematical foundations – to practice adding, subtracting, multiplying and dividing on a daily basis.

I wanted the application to be quick, intuitive and motivating to use, which is why I introduced features such as:

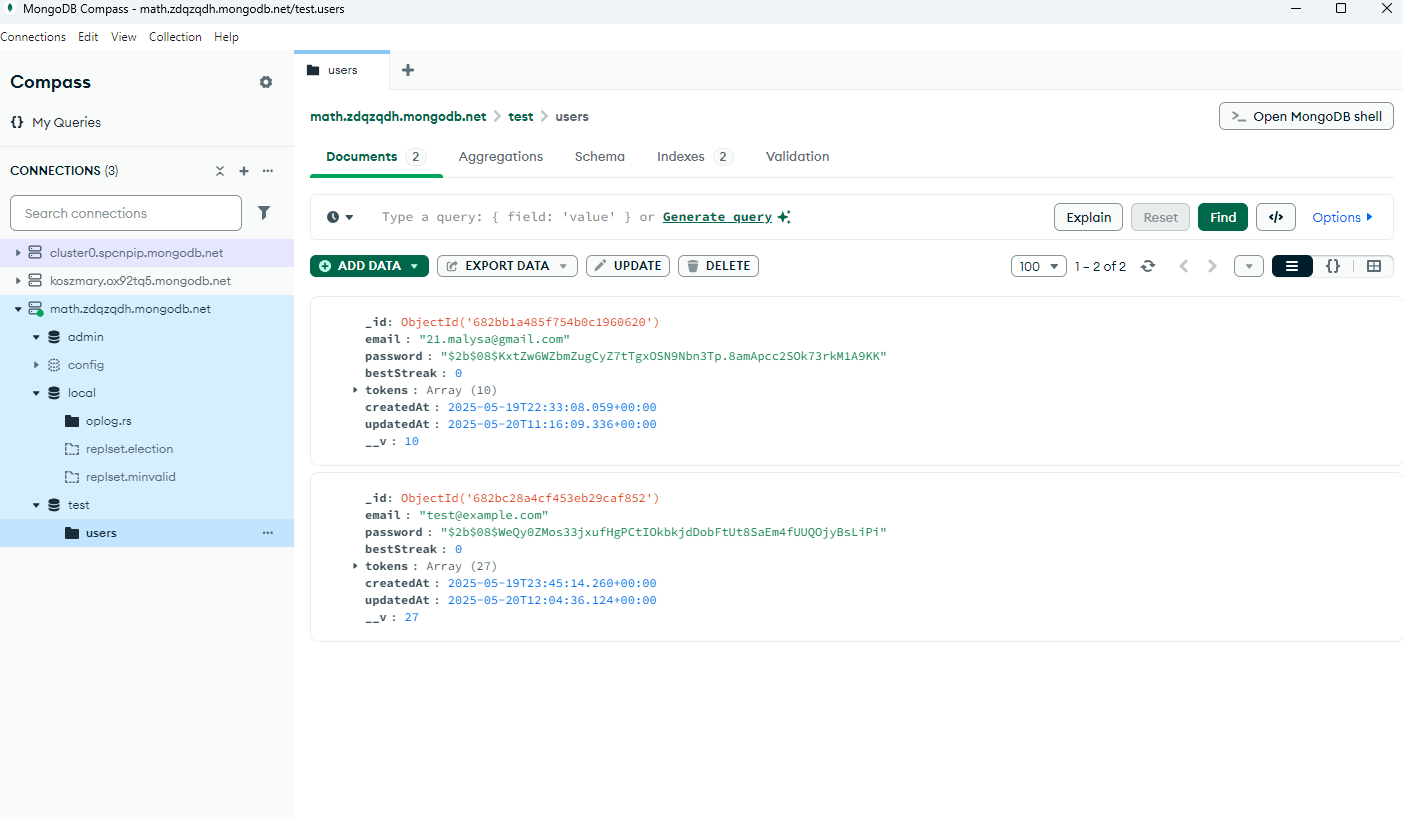
* counting the result and the current series of correct answers (streak),
* a system of messages informing about the correctness of the answer,
* a simple and clear interface.

I used a modular approach – each component has its own responsibility. Thanks to the backend with JWT authorization, you can log in and track your progress.

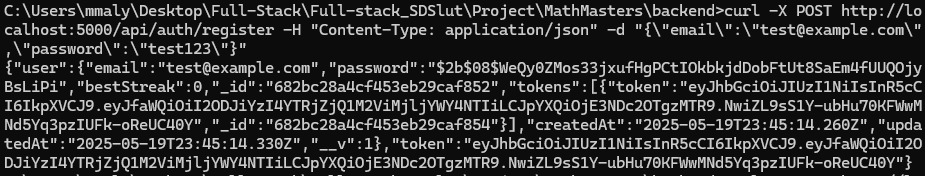
My goal was to create something that could be expanded – e.g. with new game modes, ranking, daily challenges, achievements or integration with a teacher account.

**Working backend:**

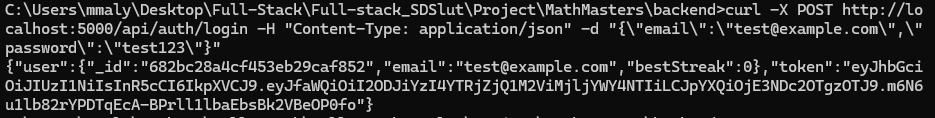
MongoDB compass:



Register

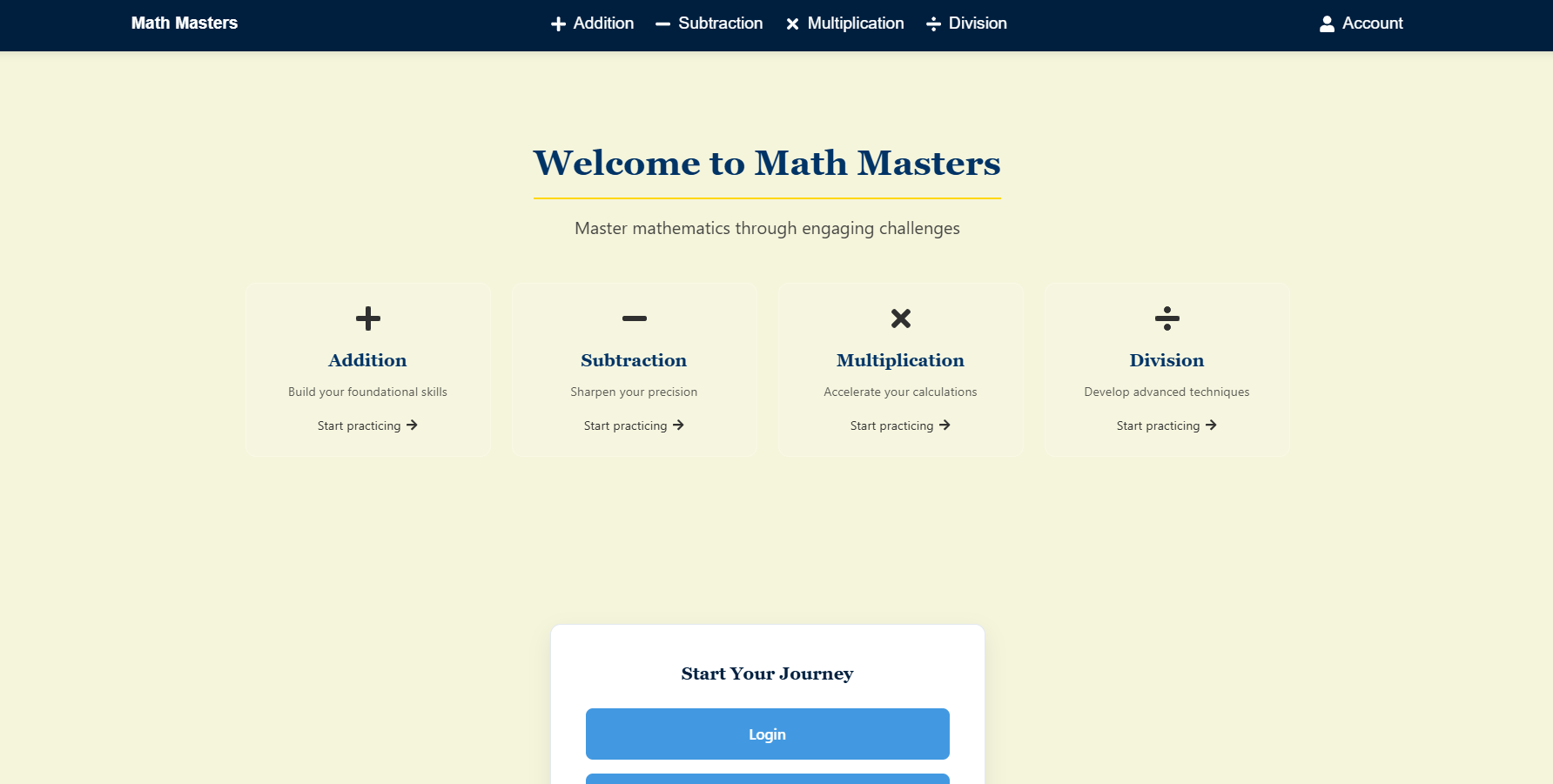


Login

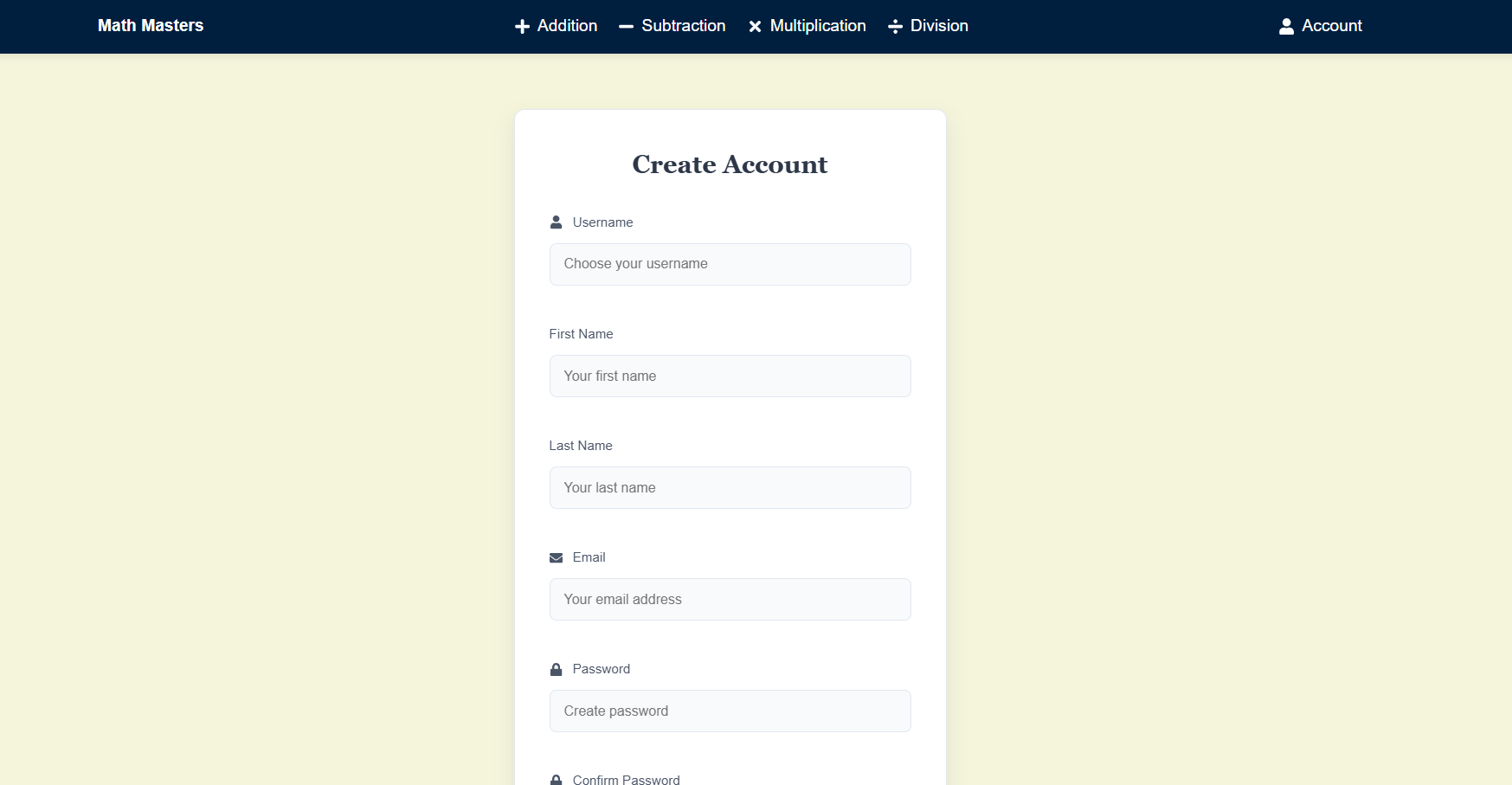


**Frontend:**

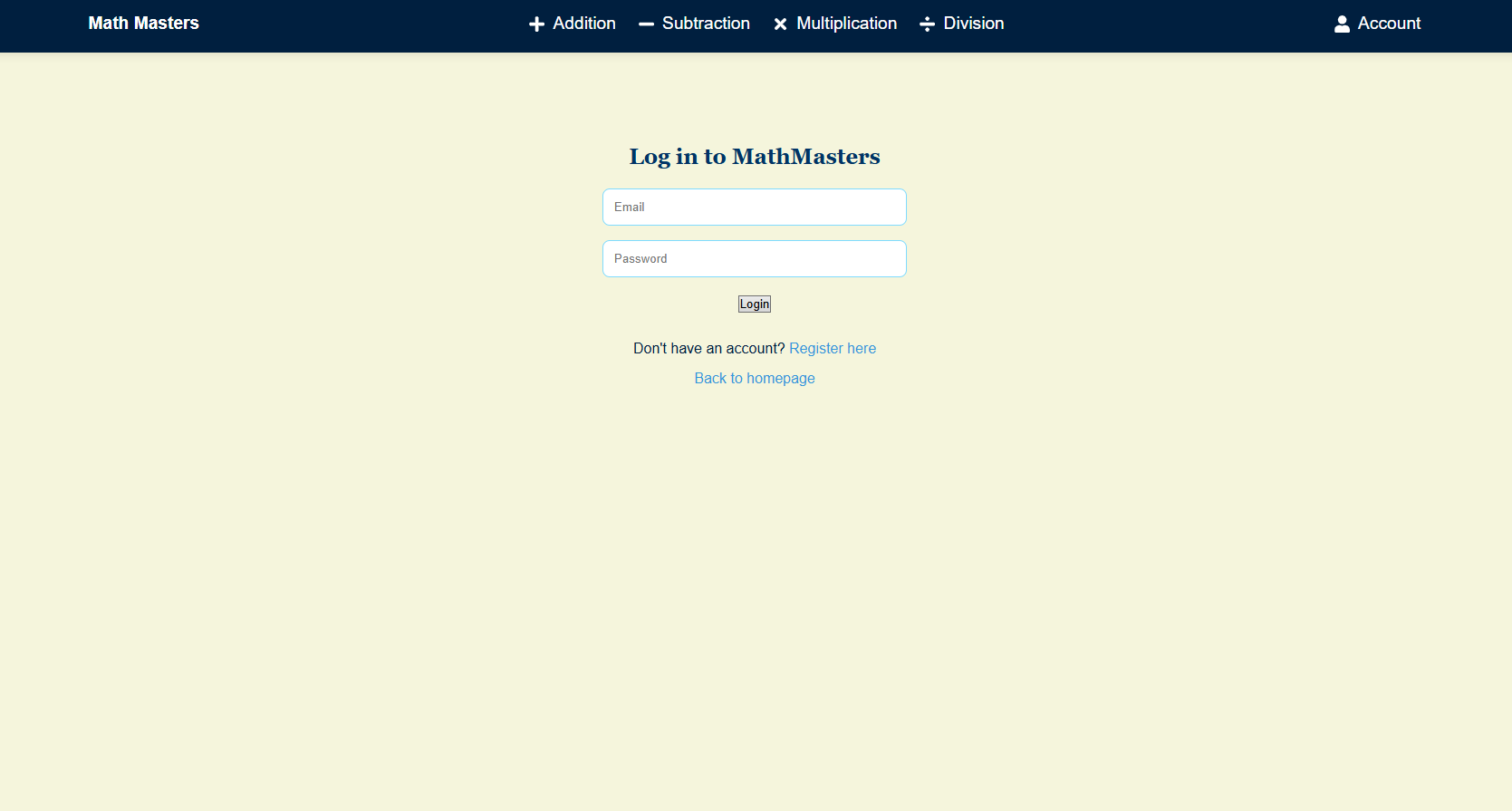
Home page



Register page



Login page

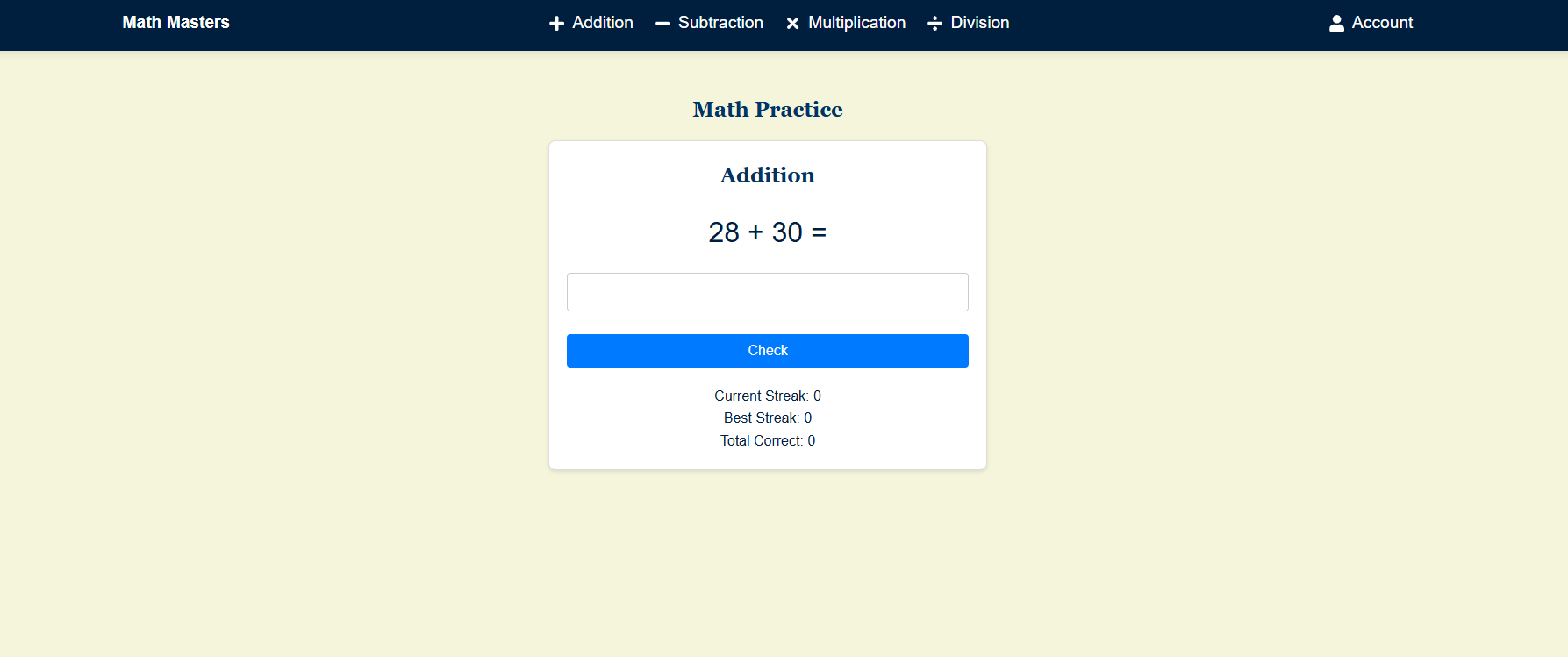


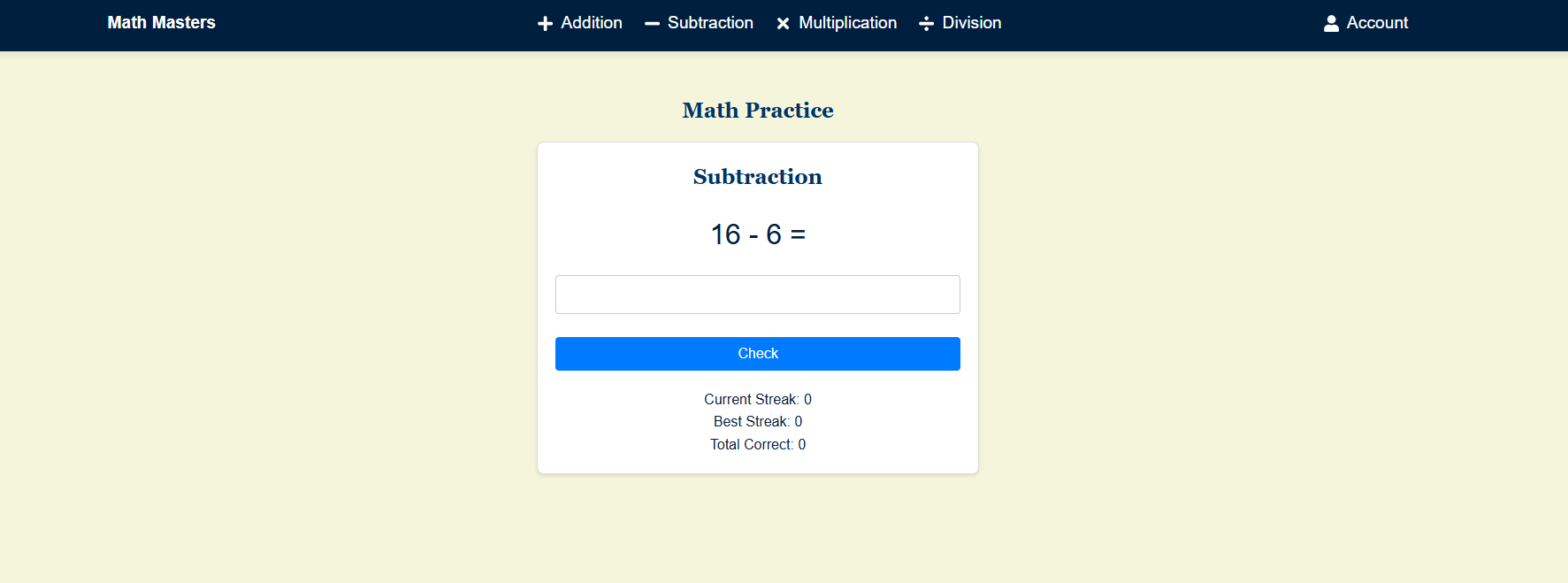
Example credentials:

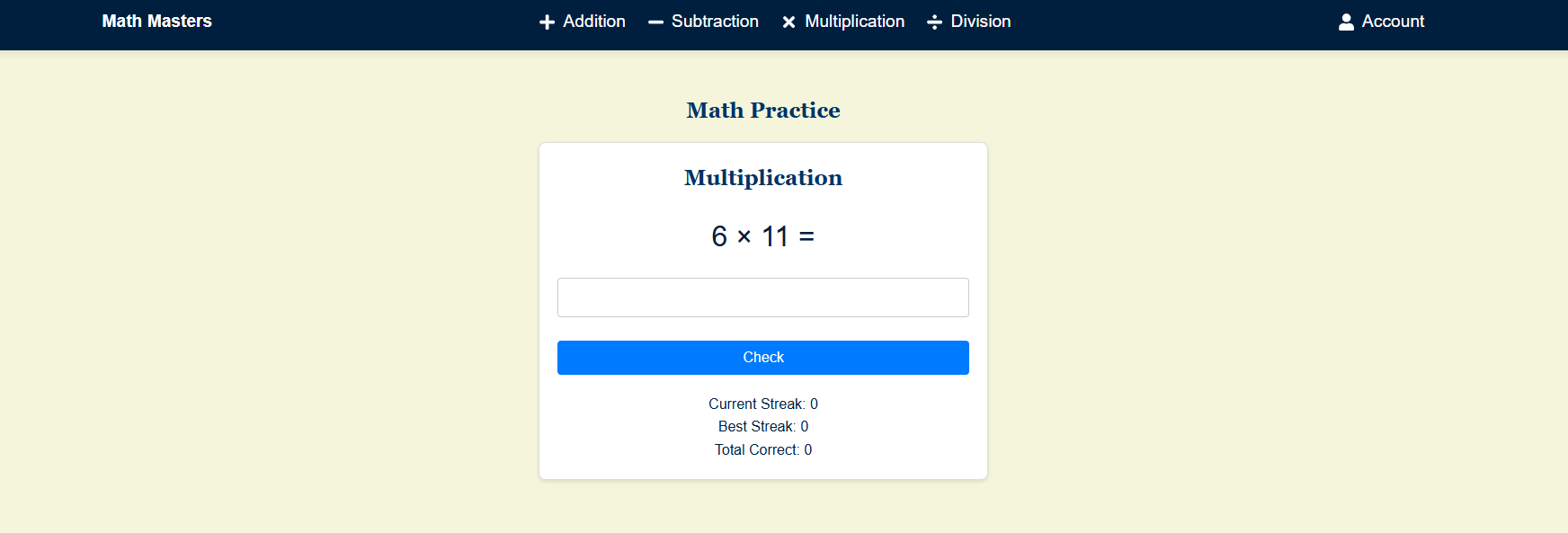
Email: [test@example.com](mailto:test@example.com)

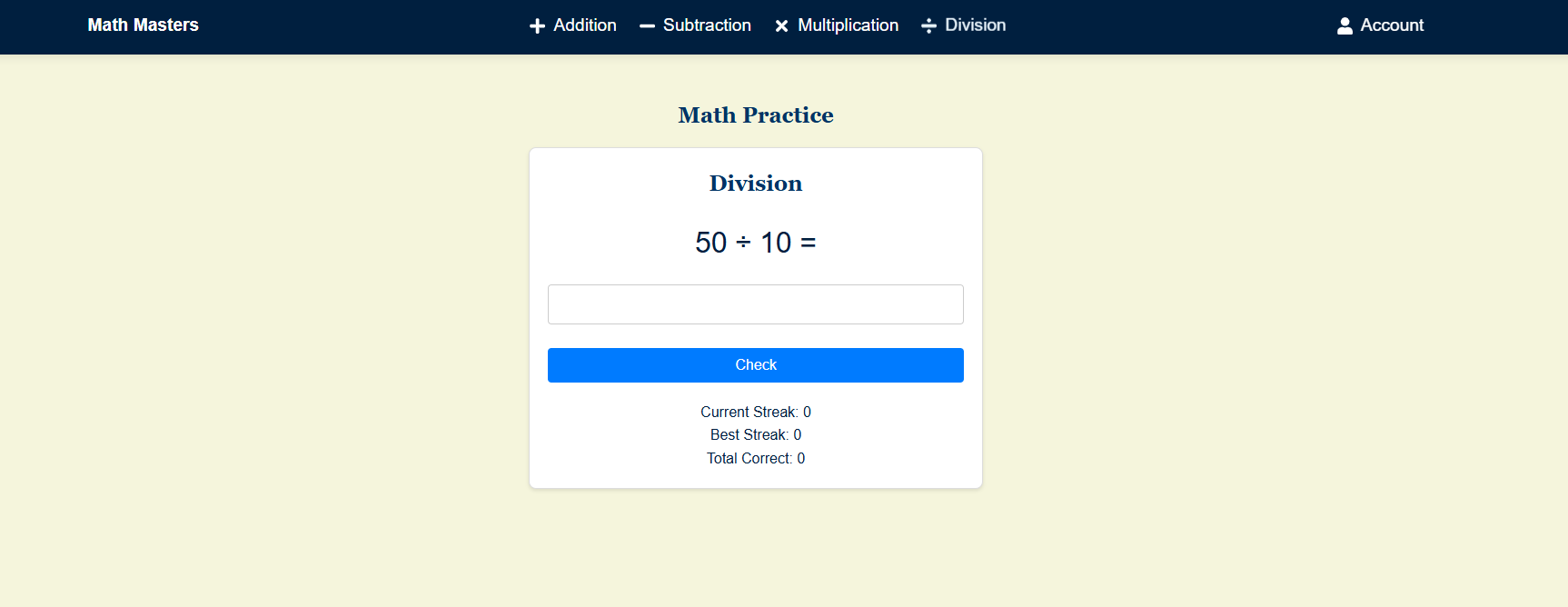
Password: test123

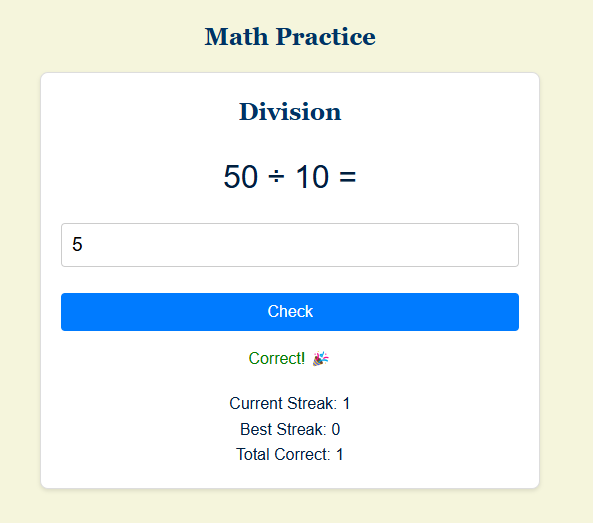
Practice page

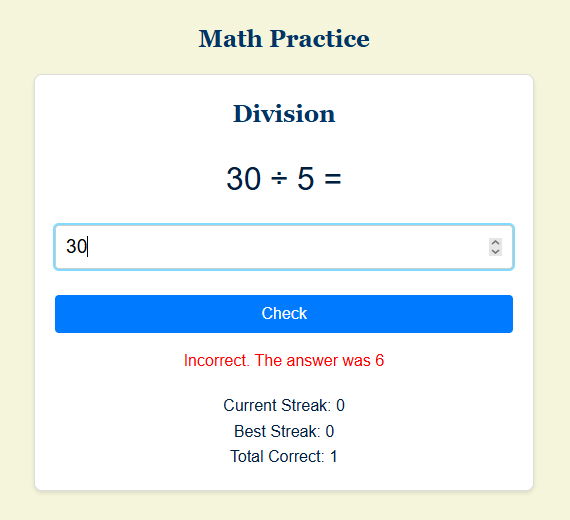












Video of my project running:

[**https://youtu.be/T7u3N2qqn2o**](https://youtu.be/T7u3N2qqn2o)