

Project Documentation

Project Title: Matrix Input and (Lower-Diagonal-Upper) factorization

1. Project Planning:

Objective: Create a user-friendly website to explain and demonstrate LDU (Lower-Diagonal-Upper) factorization, a method of decomposing a matrix into a product of three matrices: Lower triangular, Diagonal, and Upper triangular Matrices.

2. Steps

- To create a user-friendly web interface where users can specify the matrix dimensions.
- This will allow users to input values for each element in the matrix.
- To display the matrix in a structured, visually appealing format on the same page.
- Handles the logic for LDU factorization calculations.
- Processes the matrix input and performs the decomposition.
- Sends the results back to the front end.

5. Error Handling:

- The page should handle invalid input, such as non-numeric values.
- Error messages should be displayed in a clear and informative way.
- User-Friendly Interface:
 - The layout should be intuitive and easy to navigate.
 - Clear labels and instructions should be provided.

Team-

1. Aman Singh
2. Dilip Suthar
3. Disha Sahu
4. HIRAK NATH
5. Rohit Kumar

Project Start With-### Step 1: Set Up GitHub Accounts

1. *Create GitHub Accounts*: Ensure each team member has a GitHub account. If you don't have one, sign up at github.com.

1. Amansingh1207
2. hirak-abc
3. Dilip0552

4. Disha-01-alt
5. Rohitprasad95albert

Common Repository for project work:

[Click to Assignment_2 Repository](#)

Summarize the all-over Project

These are the things we need to do-

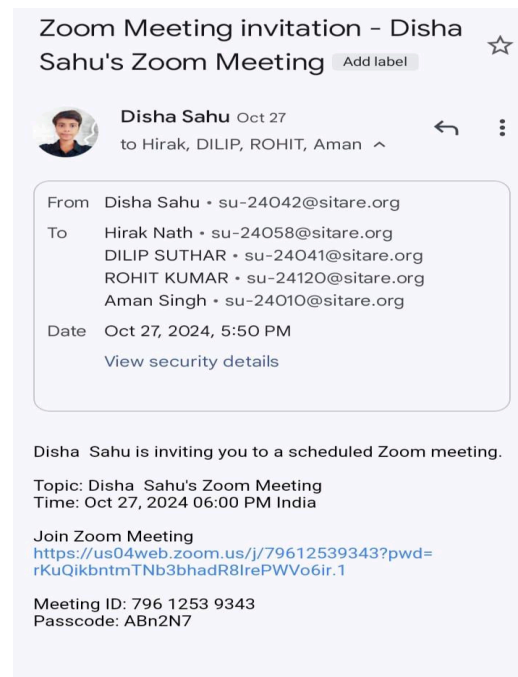
- 1) Ask the user for the order of the matrix.
- 2) Make the number of elimination matrices required for the LDU factorization.
- 3) Multiplying all the elimination matrices with A to get U.
- 4) Creating a diagonal matrix D.
- 5) Multiply L D U and check whether it equals A or not.
- 6) Handling the rest part of the front end.

Assign the roles -

- 1-3----->Dilip and Hirak
- 4-5----->Aman and Rohit
- 6----->Disha

Record of group discussion:

1. Meeting to discuss GitHub account and to assign the work.
Date: 27/10/2024
Time: 6:00 pm to 6:30 pm



2. Meeting to discuss the working of the project and needed implementation.
Date: 6/11/2024
Time: 9:00 pm to 9:30 pm

