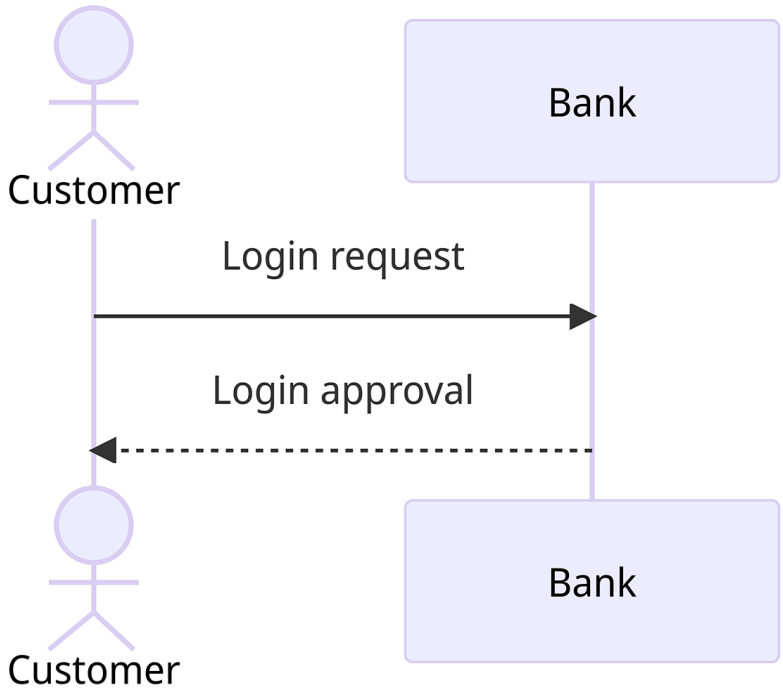
Karbon SDE Internship - Hackathon

Challenge 1: Draw sequence diagram (30 minutes)



Example Sequence Diagram of a Simple Login Process

Problem Statement:

Draw a sequence diagram for the flow of adding a new book to a reading list in a web application.

1. User Action: User clicks on "Add New Book" button.
2. Client-Side: The client sends a request to the server with the book details.
3. Server-Side: The server processes the request and saves the book details to the database.
4. Database: The database stores the new book entry.
5. Server Response: The server sends a confirmation response back to the client.6. Client Update: The client updates the UI to reflect the new book in the reading list.

Submission:

Export your diagram as a PNG or PDF file, share it via Google drive link.

Evaluation Criteria:

Clarity: Is the sequence diagram easy to understand?

Accuracy: Does the sequence diagram accurately represent the flow of adding a new book?

Detail: Does the diagram include all necessary steps and interactions?

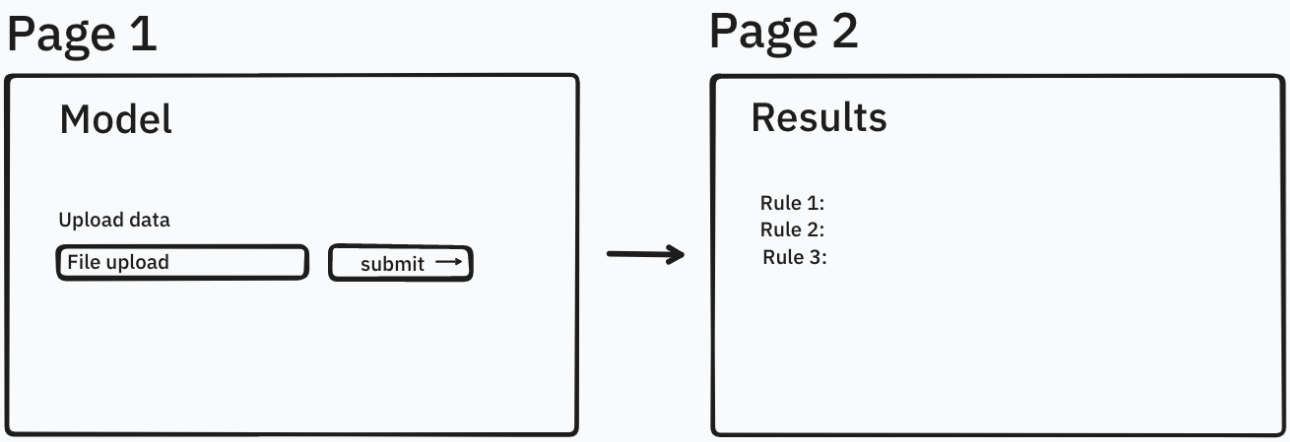
Challenge 2: Full stack development (2hr)

This challenge involves developing a financial analysis model and creating a web application to utilize it.
Please see this video explaination - Karbon Challenge

All required files can be found here - Files

Problem statement

1. **Module 1** - Create a simple financial analysis model. **(1 hour)**
   You have been given 3 files -
   a. `rules.py` -> Financial analysis model uses rules defined in this file. Please read the function comments and write your implementation. Please check the example rule `latest_financial_index` for your reference.
   b. `model.py` -> uses rules defined in `rules.py` to output results in json format.
   c. `data.json` -> This is data file used in rules.
2. **Module 2** - Create a Web App that uses the `model.py` defined in module 1. (Any framework/ Nocode tool will work) **(30 mins)**
   This web application will have two pages-
   a. Page 1 - On this page, you can upload the data file `data.json` and click on submit. After clicking submit, you have to use `model.py` to get the result in json.
   b. Page 2 - On this page, you have to display results that you got from `model.py`



3. **Module 3** - Share code via github. **(10 mins)**
4. **Module 4** - Deploy the application and share link. (you can use anything such as Vercel, Netlify, Firebase etc) **(20 mins)**

Evaluation Criteria

1. If you complete all 4 Modules, you can share -
    a. Github link for full code.
    b. App link from Module 4 for evaluation
    c. A video explaining your solution, You can use loom to create your video and share links. (https://loom.com/)
2. If you are unable to complete all the 4 Modules, you can share -
    a. Github link for code written.
    b. A video explaining your progress, which will be used for evaluation. You can use loom to create your video and share links. (https://loom.com/)