**Loan Helper Documentation**

**Project Description:**

The **Loan Helper** is a web-based application designed to assist users in determining whether they are eligible to take out a loan based on specific criteria. These criteria include the user's annual income, CIBIL score, and previous loan history. The application performs eligibility checks and provides feedback to users based on the following logic:

1. **Annual Income**: Must be above or equal to ₹300,000.
2. **CIBIL Score**: Must be 700 or higher.
3. **Previous Loan**: The user must not have any previous loans to be eligible.

The tool also keeps track of user history, storing records of their eligibility checks with timestamps. It provides an API for users to programmatically check eligibility and access their history.

**Team Members:**

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**Project Phases:**

1. **Phase 1: Requirements Gathering:**

* In this phase, the team studied user needs and explored existing tools to identify what improvements could be made. They discovered that many tools lacked personalization and accuracy.

1. **Phase 2: Planning & Design:**

* Next, the team designed the application architecture and created a user-friendly interface. The focus was on making the tool easy to use, even for those with little technical knowledge.

1. **Phase 3: Development:**
   * During this phase, the team created the core features, including APIs for eligibility checks and EMI calculations. They also implemented a history feature to store past data securely.
2. **Phase 4: Testing:**

* Rigorous testing was done to ensure the application worked smoothly and gave accurate results. They tested the application using tools like Postman to make sure the APIs responded correctly.

1. **Phase 5: Deployment:**

* Finally, the project was deployed, making it available for use.

**Requirements:**

To run the **Loan Helper** project locally, you will need the following:

* **Python 3.x** installed on your machine.
* **Libraries**:
  + **JSON**: For parsing and handling JSON data.
  + **http.server**: For creating the HTTP server.
  + **datetime**: To track timestamps of loan eligibility checks.

Install the required libraries using:

**pip install json**

**Steps to Run:**

1. **Clone the Repository**:
   * Clone the repository containing the code to your local machine.
2. **Run the Server**:
   * Navigate to the directory where the code is saved and run the following command:

**python loan\_helper.py**

This will start an HTTP server running on **http://127.0.0.1:8080**.

1. **Access the Application**:
   * You can now access the application by sending HTTP requests to the server.

**Is This API-Based?**

Yes, the **Loan Helper** is API-based. It provides the following endpoints:

1. **POST /check\_eligibility**:
   * **Description**: This endpoint checks if the client is eligible for a loan based on their income, CIBIL score, and previous loan status.
   * **Request Body**: The JSON request body must include the following parameters:
     + name: Name of the client (string).
     + annual\_income: Annual income of the client (float).
     + cibil\_score: CIBIL score of the client (integer).
     + previous\_loan: Whether the client has a previous loan ("yes" or "no").

Example request body:

**{**

**"name": "John Doe",**

**annual\_income": 500000,**

**"cibil\_score": 750,**

**"previous\_loan": "no"**

**}**

* + **Response**: The response will return a message indicating eligibility. Example response:

**{**

**"eligibility": "Client is eligible for the loan."**

**}**

1. **GET /get\_history/{name}**:
   * **Description**: This endpoint retrieves the loan eligibility history of a specific client based on their name.
   * **Response**: The response will include an array of eligibility check history. Example response:

**{**

**"history": [{**

**"annual\_income": 500000,**

**"cibil\_score": 750,**

**"previous\_loan": "no",**

**"eligibility": "Client is eligible for the loan.",**

**"timestamp": "2024-12-31 12:34:56"**

**}]**

**}**

**Steps to Test Using Postman:**

**1. Test the Eligibility Check (POST Request)**

* **URL**: **http://127.0.0.1:8080/check\_eligibility**
* **Method**: POST
* **Headers**:
  + Content-Type: **application/json**
* **Body**: In the body section, choose raw and enter the following JSON data:

**{**

**"name": "John Doe",**

**"annual\_income": 500000,**

**"cibil\_score": 750,**

**"previous\_loan": "no"**

**}**

* **Expected Response**: A successful request will return:

**{**

**eligibility": "Client is eligible for the loan."**

**}**

A failed request (e.g., missing required fields) will return:

**{**

**"error": "Missing required fields"**

**}**

**2. Test the Loan History (GET Request)**

* **URL**: **http://127.0.0.1:8080/get\_history/John Doe**
* **Method**: GET
* **Expected Response**:

**{**

**"history": [{**

**"annual\_income": 500000,**

**"cibil\_score": 750,**

**"previous\_loan": "no",**

**"eligibility": "Client is eligible for the loan.",**

**"timestamp": "2024-12-31 12:34:56"**

**}]**

**}**

If no history is found for the client:

**{**

**"error": "No history found for client"**

**}**