**1. Sequence Diagram**

This diagram shows the interaction between the user, system, and data stores over time.

**Steps**:

1. User inputs health data.
2. System fetches the dataset and preprocesses it.
3. System trains the model (if not already trained).
4. System uses the model to predict diabetes.
5. System displays the result to the user.

A screenshot of a computer

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**2.Activity Diagram**

This diagram shows the flow of activities in the system.

**Steps**:

1. Start.
2. User inputs health data.
3. System checks if the model is trained.
   * If not, fetch dataset, preprocess data, and train the model.
4. Use the model to predict diabetes.
5. Display the result to the user.
6. End.

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**3.Detailed Level DFD (Level 1)**

This diagram breaks down the "Diabetes Prediction System" into sub-processes.

* **Processes**:
  1. **Data Collection**: Fetch the dataset from the external source.
  2. **Data Preprocessing**: Clean, normalize, and prepare the data for training.
  3. **Model Training**: Train the machine learning model using the preprocessed data.
  4. **Prediction**: Use the trained model to predict diabetes based on user input.
  5. **Result Display**: Show the prediction result to the user.
* **Data Stores**:
  1. **Raw Data Storage**: Temporarily stores the fetched dataset.
  2. **Processed Data Storage**: Stores cleaned and preprocessed data.
  3. **Model Storage**: Stores the trained model.
* **Data Flows**:
  1. Dataset flows from the external source to Raw Data Storage.
  2. Preprocessed data flows to Processed Data Storage.
  3. Trained model flows to Model Storage.
  4. User input flows to the Prediction process, and results are displayed.

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