Problem Definition:

The problem is to develop an earthquake prediction model using a Kaggle dataset. The objective is to explore and understand the key features of earthquake data, visualize the data on a world map for a global overview, split the data for training and testing, and build a neural network model to predict earthquake magnitudes based on the given features.

Design Thinking:

1. Data Source: Choose a suitable Kaggle dataset containing earthquake data with features like date, time, latitude, longitude, depth, and magnitude.

2. Feature Exploration: Analyze and understand the distribution, correlations, and characteristics of the key features.

3. Visualization: Create a world map visualization to display earthquake frequency distribution.

4. Data Splitting: Split the dataset into a training set and a test set for model validation.

5. Model Development: Build a neural network model for earthquake magnitude prediction.

6. Training and Evaluation: Train the model on the training set and evaluate its performance on the test set.