What is Forecasting?

Forecasting means **predicting future values** based on past data.
 For example — if you observe your daily expenses for a month, you can **guess** how much you might spend next month. That guessing using **data and patterns** is called **forecasting**.

How does Forecasting Work?

1. **Collect Past Data**

   ○ Example: Previous prices, sales, temperature, stock values, etc.

2. **Find Pattern or Trend**

   ○ We check **whether data is moving up, down, repeating**, or has **seasonal patterns** (like weekend spikes).

3. **Use a Formula or Model**

   ○ A **mathematical model** or **machine learning algorithm** looks at the past data and tries to learn the pattern.

4. **Predict Future**

   ○ Using that learned pattern, it gives expected values for **future time points**.

Why "Small ApEn / SpEn means Forecastable"?

● ApEn (Approximate Entropy) and SpEn (Spectral Entropy) show **how much randomness** is present.

● **Small entropy = less randomness → easy to predict (forecastable)**

● **High entropy = too random → hard to predict**

Forecasting = Learning from past to guess the future.