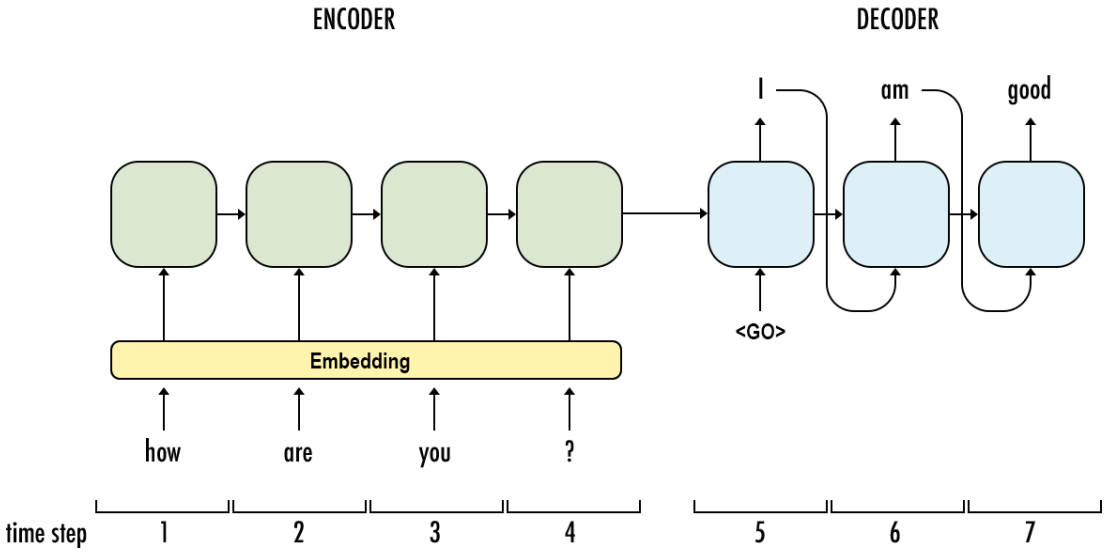

Sure! Here's a **simple explanation** of how a **Sequence-to-Sequence (Seq2Seq) model** works:

💡 What is a Seq2Seq Model?

A **Seq2Seq model** is a type of neural network that **converts one sequence into another**. It is often used for tasks like:

- Translating a sentence from one language to another.
- Summarizing a paragraph.

⚙️ How It Works (Step by Step)

1. Encoder: Understands the input

- Takes the **input sequence** (like a sentence in English).
- Processes each word using an RNN (LSTM or GRU).
- At the end, it outputs a **context vector** (a summary of the whole input).

👉 Example:
Input: "I am happy"

The encoder converts it to a context vector:

[0.4, 0.7, -0.2, ...] (just numbers that summarize the meaning)

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2. Decoder: Generates the output

- Takes the **context vector** from the encoder.
- Uses it to start generating the **output sequence** (like the sentence in French).
- It predicts one word at a time.

👉 Example:
Output: "Je suis heureux"

The decoder starts with <start> and then predicts:

→ "Je" → "suis" → "heureux" → "<end>"

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3. Training: Teacher Forcing

- During training, the correct word from the target sequence is given at each step to help the model learn faster.

🧠 **Summary**

Component	Role
Encoder	Reads the input sequence and compresses it
Context Vector	A summary of the input
Decoder	Uses the context to generate the output sequence