**1. Import the random module**

import random

* The random module allows the program to **choose a random response** from a list.
* This makes the chatbot feel more natural and less repetitive.

**2. Define responses**

responses = dict(

greeting=[

"Hello! I'm your agriculture assistant. 🌱 How can I help you today?",

"Hi there! Ask me anything about farming and crops. 🚜"

],

fertilizer=[

"For better yield, use organic compost and nitrogen-rich fertilizer like urea.",

"Consider using phosphorus and potassium-based fertilizers for root growth."

],

pest=[

"Neem oil spray is effective for many pests.",

"Introduce natural predators like ladybugs to control pest population."

],

weather=[

"Please check the local forecast before sowing seeds.",

"Avoid watering plants if heavy rain is predicted."

],

default=[

"I'm not sure about that. Could you please rephrase?",

"Sorry, I don't understand. Can you ask another question?"

]

)

* This is a **dictionary** where each key represents a **category of questions**:
  + greeting → For saying hello.
  + fertilizer → Questions about fertilizers.
  + pest → Questions about pests.
  + weather → Questions about weather.
  + default → For any unrecognized input.
* The **values** are **lists of possible responses**.
* Later, the chatbot will randomly pick one response from the appropriate list.

**3. Define the chatbot function**

def get\_response(user\_input):

user\_input = user\_input.lower()

* get\_response() is the function that takes what the user types (user\_input) and returns a reply.
* user\_input.lower() converts the input to **lowercase**, so the chatbot can match keywords **without worrying about capitalization**.

**4. Check keywords and select a response**

if "hello" in user\_input or "hi" in user\_input:

return random.choice(responses["greeting"])

elif "fertilizer" in user\_input:

return random.choice(responses["fertilizer"])

elif "pest" in user\_input:

return random.choice(responses["pest"])

elif "weather" in user\_input:

return random.choice(responses["weather"])

else:

return random.choice(responses["default"])

* The chatbot **searches for keywords** in the user input: "hello", "hi", "fertilizer", "pest", "weather".
* If it finds a keyword, it uses random.choice() to select a **random response** from that category.
* If no keyword is found, it uses the default category.

**Example Usage**

print(get\_response("Hi there"))

# Output could be: "Hello! I'm your agriculture assistant. 🌱 How can I help you today?"

print(get\_response("Tell me about fertilizer"))

# Output could be: "Consider using phosphorus and potassium-based fertilizers for root growth."

print(get\_response("How is the weather today?"))

# Output could be: "Avoid watering plants if heavy rain is predicted."

print(get\_response("I want to plant carrots"))

# Output could be: "I'm not sure about that. Could you please rephrase?"

* The chatbot is **keyword-based**, not AI-powered.
* It works **only when certain keywords appear** in the input.
* For anything outside those keywords, it gives a **default response**.

✅ **Summary**

1. Dictionary responses holds different categories of replies.
2. get\_response() converts input to lowercase.
3. Checks for keywords in the input.
4. Picks a random reply from the appropriate category.
5. Uses default replies if no keyword matches.