

# ■ Context A to Z – Simple, Fun & Deep

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## ### ■ Chapter List

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## ## 1■■ ■ Context ka Buniyadi Taaruf

**What?**

Context = “Wo pehle ki baatein jo AI ko yaad rehni chahiye, taa ke agli baat relevant ho.”

**Why?**

- Bina context: AI har baar poochay “Kaun ho?”, “Kya kaha?”
- Context se: AI “Oh haan, main janta hoon!”

## ## 2■■ ■ Simple Analogy: Chat App

1. **Tum:** “Hi, main Hammad hoon.”
  2. **AI:** “Hello Hammad!”
  3. **Tum (2 min baad):** “Main Karachi se hoon.”
  4. **AI:** Agar yaad rakhega, bolega “Karachi kia scene hai?”
    - *Nahi yaad:* “Karachi koun si cheez?” ■
- > Context = WhatsApp chat history—pehli lines scroll karke dekhna.

## ## 3■■ ■ Teen Levels of Context

Level	Kya Rakhta?	Example
Basic	Sirf aakhri message	“User: Hello”
Session	Pichhle 3–5 messages	“User: Hi” → “AI: Hello” → “User: Bye”
Persistent	User profile, preferences (DB me)	“User likes cricket” stored for next week

## ## 4■■ ■ Python Example (Beginner Friendly)

```
# Simple in-memory context
history = []

def chat(user_text):
    history.append({"role": "user", "content": user_text})
    # AI uses 'history' to reply
```

```

    reply = f"(AI replies based on {len(history)} messages)"
    history.append({"role": "assistant", "content": reply})
    print(reply)

# Usage
chat("Hey, I'm Hammad.")
chat("I love pizza.")
chat("What do you know about me?")

```

## ## 5 ■ ■ ■ Advanced Tip (Pro Devs ke Liye)

```

# 1. Sliding Window:
window = history[-5:]

# 2. Summaries:
# Purane history ka short summary banao, fir send karo.

# 3. Memory Store:
# "User likes cricket" ko DB me store karo, har session load karo.

```

## ## 6 ■ ■ ■ Fun Q&A;

- **Q:** Agar history bohot badi ho jaye?
- A:** Summarize kardo ya oldest messages delete karo.
- **Q:** Agar user ne password bhej diya?
- A:** Mask it! Guardrail lagao—context se remove karo.
- **Q:** Kaise debug karein?
- A:** `print("=== CONTEXT ==="); for msg in history: print(msg)`

## ## 7 ■ ■ ■ Summary & Next Steps

- **Context** = Chat history + user info + tool outputs
  - **Implement:** Simple list ya memory module
  - **Optimize:** Window + summary + persistent store
- \*\*Agla Mission:\*\*** Ab “Guardrails” ki taraf jump karte hain—jisme hum “AI ko kya mat karne do” set karenge!
- **Command:** `Hammad Bhai, guardrails samjhao!` ■ ■