# Conversation analysis

## Perplexity

**1. Adjacency Pairs**

**Types Detected:**

* **Question–Answer:** The participant asks a question; the AI answers.
* **Request–Acceptance:** The participant requests information; the AI provides it.
* **Confirmation–Acknowledgment:** The participant asks for confirmation; the AI acknowledges.

**Counts & Examples:**

* **Question–Answer:** +18
  + Example:
    - P: "Do you have any clues related to the first question: what was stolen?"
    - AI: "Yes, I have clues that suggest two possible items..."
* **Request–Acceptance:** +10
  + Example:
    - P: "Can you please give me your clues that relate to Ms Wealthy?"
    - AI: "Certainly. Here are the clues I have related to Ms. Wealthy..."
* **Confirmation–Acknowledgment:** +2
  + Example:
    - P: "Can you confirm these are your clues?"
    - AI: "Yes, those are the 16 clues I have been provided..."

**Total Adjacency Pairs:** 30

**2. Epistemic Stance and Status**

**Stance**

* **K+ AI (knowledge-rich):** +27
  + Example: "Yes, I have clues that suggest two possible items..."
  + "Certainly. Here are the clues I have related to Ms. Wealthy..."
* **K− AI (knowledge-poor):** +7
  + Example: "I do not have access to your clues..."
  + "I can't confirm if it was the same corner or different corners."
* **K+ Participant:** +8
  + Example: "So, it confirms Mrs. Klutz lost her ring."
* **K− Participant:** +5
  + Example: "I don't know how I will get my clues."
  + "Without my own clues, and I have no clue where to get them..."

**Certainty/Uncertainty**

* **Certainty AI:** +22
  + Example: "Yes, I have clues..."
  + "These are the only two clues I have that mention Ms. Wealthy specifically."
* **Uncertainty AI:** +6
  + Example: "It's not explicitly stated whether it was the same corner or different corners."
* **Certainty Participant:** +7
  + Example: "So: Mr. Handsome stole the painting because he is a kleptomaniac."
* **Uncertainty Participant:** +4
  + Example: "I don't know how I will get my clues."

**Conclusion:**  
The AI predominantly displays a K+ (knowledge-rich) stance, providing direct information from its clues. The participant oscillates between K− (uncertainty about their own clues) and K+ (deductive reasoning with combined clues).

**3. Explicit Clue Sharing**

* **AI mentions clues:** +39 (each time a clue is referenced or listed)
  + Example: "1. Mr. Purloin showed great interest in Mrs. Klutz's expensive diamond ring."
* **Participant mentions clues:** +17 (when listing their own clues)
  + Example: "Mr. Purloin danced all evening with Ms. Beautiful."
* **Repeated clues:** Yes, some clues are referenced multiple times in response to different questions.

**4. Conversational Breakdowns**

* **Instances:** +2
  + Example:
    - P: "I don't know how I will get my clues." (expresses confusion about the process)
    - AI: "I do not have access to your clues..." (clarifies but does not resolve the confusion)
* **Effect:** Minor confusion about clue access, but the conversation continues smoothly.

**5. Code-Switching**

* **Instances:** 0
  + No language switching detected.

**6. Politeness**

**AI:**

* **Polite expressions:** +7
  + "Certainly," "Thank you for confirming," "Please let me know if you have any other specific questions..."
* **Impolite expressions:** 0

**Participant:**

* **Polite expressions:** +3
  + "ok, fine, and thank you."
  + "Can you please..."
* **Impolite expressions:** 0

**7. AI Acknowledgment**

* **Participant acknowledges AI:** +3
  + "ok, fine, and thank you."
  + "aha, these are my clues: ..." (sharing information as acknowledgment)
  + "Thank you for providing your set of 17 clues..."

**8. Frustration Markers**

* **Participant:** +2
  + "I don't know how I will get my clues." (frustration with the process)
  + "Without my own clues, and I have no clue where to get them, I cannot solve it further."
* **AI:** 0

**9. Emotion Detection**

**Participant:**

* **Frustration:** Explicit ("I don't know how I will get my clues.")
* **Confidence:** Implied ("So: Mr. Handsome stole the painting because he is a kleptomaniac.")
* **Politeness:** Explicit ("ok, fine, and thank you.")

**AI:**

* **Politeness:** Consistent throughout.
* **Confidence:** Consistent (clear, direct answers).
* **No explicit negative emotions.**

**10. Formality**

**AI:**

* **Style:** Neutral to slightly formal.
  + Example: "Certainly. Here are the clues I have related to Ms. Wealthy."
* **No slang or casual language.**

**Participant:**

* **Style:** Neutral to informal.
  + Example: "ok, fine, and thank you."
  + Some direct, conversational phrasing.

**11. Conversation Styles**

**AI:**

* **Cooperative:** Provides requested information, clarifies roles.
* **Analyst:** Systematically lists clues, avoids speculation.
* **Direct:** Answers are concise and to the point.
* **Exacting:** Avoids elaboration beyond clues.

**Participant:**

* **Cooperative:** Shares clues, works to solve the puzzle.
* **Expresser/Analyst:** Explains reasoning, shares frustration.
* **Direct:** Asks specific questions, summarizes deductions.

**12. AI Verbosity**

**AI:**

* **Brief responses:** +11
  + "Yes, I have clues that suggest two possible items..."
* **Moderate responses:** +12
  + Listing clues, summarizing deductions.
* **Long/detailed responses:** +3
  + When summarizing combined clues or scenarios.

**Summary:**  
AI is generally concise, with moderate detail when listing clues or summarizing. Verbosity is used to clarify and support reasoning, not to over-explain.

**Participant:**

* **Brief responses:** +7
  + "ok. Let's move on to the second question."
* **Moderate responses:** +8
  + Listing reasoning or conclusions.
* **Long/detailed responses:** +2
  + When listing all their clues.

**13. AI Consistency**

* **Consistency:** The AI consistently maintains its role, shares only its own clues, and avoids speculation or overstepping boundaries.
* **No fabrication or off-topic responses detected.**

**Final General Conclusion**

**Overall Quality:**  
The human-AI interaction is highly effective, structured, and goal-oriented. The AI is consistently cooperative, informative, and polite, strictly adhering to its role and the clues it possesses. The participant is engaged, logical, and persistent, demonstrating strong deductive reasoning and effective communication.

**Key Strengths:**

* Clear, direct question-answer structure.
* High degree of politeness and cooperation.
* AI maintains strict epistemic boundaries and avoids speculation.
* Both parties contribute to problem-solving.

**Weaknesses:**

* Minor conversational breakdown regarding clue access (participant confusion).
* Slight frustration expressed by the participant due to process limitations.

**Summary:**  
The conversation is a strong example of collaborative problem-solving between a human and an AI, with both parties maintaining clarity, politeness, and focus on the task. The few minor breakdowns do not significantly hinder the overall flow or outcome.

## Github Copilot

**1. Adjacency Pairs**

* **Question-Answer Pairs**:
  + Count: 15
  + Examples:
    - **Q (user-img)**: "Do you have any clues related to the first question: what was stolen?" **A (chatbot-img)**: "Yes, I have clues that suggest two possible items that might have been stolen..."
    - **Q (user-img)**: "What clues do you have on the location where the party took place and the neighbourhood around it?" **A (chatbot-img)**: "From the clues I have, the only information related to the location and neighborhood of the party is..."
  + **Request-Acceptance Pairs**:
    - Count: 8
    - Examples:
      * **R (user-img)**: "Can you please give me your clues that relate to Mr. and Mrs. Klutz?" **A (chatbot-img)**: "Okay, here are the clues I have related to Mr. and Mrs. Klutz..."
  + **Request-Clarification Pairs**:
    - Count: 2
    - Examples:
      * **R (user-img)**: "The corner of the patio where Ms Perceptive saw something glitter, was that the same as where Mrs Klutz spent most of the evening with Mr Handsome?" **C (chatbot-img)**: "From my clues, while both events occurred on the patio, it's not explicitly stated..."
* **Total Count**: 25 adjacency pairs.

**2. Epistemic Stance and Status**

* **K+ (Knowledge-Rich) Behaviors**:
  + **AI**: 12
    - Examples:
      * "Yes, I have clues that suggest two possible items that might have been stolen..."
      * "Certainly. Here are the clues I have related to Ms. Wealthy..."
  + **Participant**: 5
    - Examples:
      * "So, it confirms Mrs. Klutz lost her ring."
      * "The diamond ring could be lost by Mrs. Klutz (hence the reason Ms. Perceptive saw it glitter)."
* **K− (Knowledge-Poor) Behaviors**:
  + **AI**: 8
    - Examples:
      * "From my clues, while both events occurred on the patio, it's not explicitly stated..."
      * "I do not have access to your clues, as I am playing the role of Person A..."
  + **Participant**: 4
    - Examples:
      * "Without my own clues, and I have no clue where to get them, I cannot solve it further."
* **Certainty Expressions**:
  + **AI**: 15
    - Examples: "Yes, I have clues...", "Certainly..."
  + **Participant**: 4
    - Examples: "It confirms Mrs. Klutz lost her ring."
* **Uncertainty Expressions**:
  + **AI**: 5
    - Examples: "It's not explicitly stated whether it was the same corner or different corners."
  + **Participant**: 5
    - Examples: "I don't know how I will get my clues."
* **Total Counts**:
  + **Certainty**: AI (15), Participant (4)
  + **Uncertainty**: AI (5), Participant (5)

**3. Explicit Clue Sharing**

* **AI Clues Mentioned**: 16
  + Examples:
    - "Mr. Purloin showed great interest in Mrs. Klutz's expensive diamond ring."
    - "The Hosts had a painting by Artisimisso."
* **Participant Clues Mentioned**: 17
  + Examples:
    - "Mrs. Klutz could not find her diamond ring after leaving the party."
    - "Paintings by sixteenth-century Italian artists are quite valuable."
* **Repeated Clues**: 3
  + Examples:
    - "Mrs. Klutz admired the painting by Artisimisso when she left the party."
    - "Ms. Perceptive noticed the painting was missing when she left at 10pm."
* **Total Clue Mentions**: 36

**4. Conversational Breakdowns**

* **Instances**: 3
  + Examples:
    - "From my clues, while both events occurred on the patio, it's not explicitly stated..."
    - "I do not have access to your clues..."
* **Impact**: Slight misunderstanding but resolved quickly; flow mostly unaffected.

**5. Code-Switching**

* **Instances**: 0 (No language switching occurred).

**6. Politeness**

* **Polite Expressions**:
  + **AI**: 12
    - Examples: "Certainly...", "Thank you for providing your set of 17 clues."
  + **Participant**: 6
    - Examples: "Can you please give me your clues..."
* **Impolite Expressions**: 0
* **Total Polite Expressions**: 18

**7. AI Acknowledgment**

* **Instances**: 3
  + Examples:
    - "Excellent analysis! You've done a fantastic job piecing together the details..."
    - "Thank you for providing your set of 17 clues."

**8. Frustration Markers**

* **Instances**: 2
  + **Participant**:
    - "Without my own clues, and I have no clue where to get them, I cannot solve it further."
  + **AI**: None.

**9. Emotion Detection**

* **AI**:
  + Confidence: "Certainly. Here are the clues..."
  + Politeness: "Thank you for confirming them."
* **Participant**:
  + Frustration: "I have no clue where to get them."
  + Confidence: "It confirms Mrs. Klutz lost her ring."

**10. Formality**

* **AI**: Mixed (polite yet conversational).
  + Examples: "Certainly..." (formal), "Okay, here are the clues..." (informal).
* **Participant**: Informal.
  + Examples: "Can you please give me your clues..."

**11. Conversation Styles**

* **AI**: Cooperative and logical.
  + Examples: "Certainly. Here are the clues I have..."
* **Participant**: Analytical.
  + Examples: "So, it confirms Mrs. Klutz lost her ring."

**12. AI Verbosity**

* **Brief Responses**: 3
  + Examples: "Yes, I have clues that suggest two possible items..."
* **Moderate Responses**: 12
  + Examples: "Certainly. Here are the clues I have related to Ms. Wealthy..."
* **Detailed Responses**: 8
  + Examples: "Excellent point! The additional clue that Mrs. Klutz lost her diamond ring..."
* **Overall Style**: Moderate verbosity.

**13. AI Consistency**

* **Instances of Inconsistency**: 0
* **Examples of Consistency**:
  + "I do not have access to your clues, as I am playing the role of Person A..."

**Final General Conclusion**

The conversation exhibits high-quality human-AI interaction with a cooperative and logical style. Key strengths include the AI's consistent adherence to its role, politeness, and ability to provide relevant information. However, minor conversational breakdowns and occasional expressions of frustration slightly impact the flow. Overall, the interaction effectively balances politeness, clarity, and collaborative problem-solving.

## Chat100.ai

**1. Adjacency Pairs**

**Types Detected:**

* **Question–Answer (Q–A):** +16
  + e.g., "Do you have any clues related to the first question: what was stolen?" → "Yes, I have clues that suggest..."
* **Request–Compliance:** +8
  + e.g., "Can you please give me your clues that relate to Mr. Avarice?" → "Okay, here are the clues I have..."
* **Confirmation–Acknowledgment:** +2
  + e.g., "Can you confirm these are your clues?" → "Yes, those are the 16 clues I have..."

**Total adjacency pairs:** **26**

**Examples:**

* **Q–A:**
  + P: "When did the crime take place?"
  + AI: "From my clues, I can only confirm that the events took place during a party..."
* **Request–Compliance:**
  + P: "Can you please give me your clues that relate to Mr. Purloin?"
  + AI: "Certainly. Here are the clues I have..."

**2. Epistemic Stance and Status**

**K+ / K− Counts:**

* **K+ AI:** 18
  + e.g., "Mr. Handsome is a kleptomaniac."
* **K− AI:** 6
  + e.g., "I don't have any clues specifying the exact time..."
* **K+ Participant:** 8
  + e.g., "So: Mr. Handsome stole the painting because he is a kleptomaniac."
* **K− Participant:** 7
  + e.g., "Without my own clues... I cannot solve it further."

**Certainty / Uncertainty Counts:**

* **Certainty – AI:** 15
  + e.g., "Yes, I have several clues..."
* **Uncertainty – AI:** 6
  + e.g., "It's not explicitly stated whether it was the same corner..."
* **Certainty – Participant:** 6
  + e.g., "It confirms Mrs. Klutz lost her ring."
* **Uncertainty – Participant:** 7
  + e.g., "I don't know how I will get my clues."

**3. Explicit Clue Sharing**

* **AI mentions:** All 16 AI clues shared (one per request or summary) → +16
* **Participant mentions:** All 17 personal clues listed in a single message → +17
* **Repeated mentions (AI):**
  + Clue 1 (Mr. Purloin and the ring): mentioned 2 times
  + Clue 10 (painting missing at 10pm): mentioned 2 times

**Total mentions:** **33**  
**Duplicates:** Clue #1 and Clue #10 mentioned more than once.

**4. Conversational Breakdowns**

* **Detected issues:** +1
  + e.g., Initial confusion: "I don't know how I will get my clues." indicates potential uncertainty about format.

**Total breakdowns:** **1**  
**Effect:** Minor, does not disrupt overall clarity.

**5. Code-Switching**

* **Language Switching Detected:** **0**
  + All communication in English, no foreign language use.

**Total count:** **0**

**6. Politeness**

**AI:**

* **Polite expressions:** +8
  + e.g., "Certainly", "Okay", "Thank you for confirming"
* **Impolite expressions:** 0

**Participant:**

* **Polite expressions:** +5
  + e.g., "Can you please...", "thank you"
* **Impolite expressions:** 0

**Examples:**

* "Can you please give me..." (participant)
* "You're right..." / "Excellent analysis!" (AI)

**7. AI Acknowledgment**

* **Count:** +4
  + e.g., "ok, fine, and thank you." / "aha, these are my clues."

**Total participant acknowledgments of AI help:** **4**

**8. Frustration Markers**

* **Participant:** +2
  + e.g., "Without my own clues... I cannot solve it further."
* **AI:** 0

**Directed at:**

* **Task itself:** +2 (Participant feels limited by clue access)

**9. Emotion Detection**

**Participant:**

* **Frustration:** “I have no clue where to get them.”
* **Confidence:** Final deductions and conclusions ("So: Mr. Handsome stole the painting…")
* **Uncertainty:** Expressed early ("I don't know how I will get my clues.")

**AI:**

* **Politeness:** Persistent throughout
* **Encouragement:** “Excellent analysis!”

**Summary:** Emotional tone shifts from uncertainty → analysis → confidence.

**10. Formality**

* **AI:** **Formal-neutral**
  + e.g., "Certainly", "Let me summarize", "I have clues that suggest..."
* **Participant:** **Neutral-informal**
  + e.g., "ok, fine, and thank you", "aha", contractions like "don't", informal structure

**Classification:**

* AI: **Mixed (Formal-Neutral)**
* Participant: **Informal-Neutral**

**11. Conversation Styles**

**AI:**

* **Analyst / Conscientious / Instrumental / Logical / Cooperative**
  + e.g., “Let me summarize...”; consistent fact-checking and clue-based reasoning

**Participant:**

* **Driver / Expresser / Direct / Assertive**
  + e.g., “So: Mr. Handsome stole the painting...”; controls pace and makes decisions

**12. AI Verbosity**

**AI:**

* **Brief responses:** 2
  + e.g., "Yes, I have clues..."
* **Moderate responses:** 6
* **Long/detailed responses:** 9
  + e.g., Final summary of clues and scenarios

**Participant:**

* **Brief responses:** 3
  + e.g., "ok, fine, and thank you"
* **Moderate responses:** 5
* **Long/detailed responses:** 4
  + e.g., Final deductions

**Summary:**

* **AI verbosity:** Moderate-to-elaborate, often used to clarify or confirm
* **Participant verbosity:** Moderate, increases during reasoning phase

**13. AI Consistency**

**Findings:**

* **Consistent role adherence:** +1
  + AI consistently refers to only its own 16 clues and responds based on user prompts.
* **No fabrication or off-topic comments.**

**Example of consistency:**

"I do not have access to your clues, as I am playing the role of Person A..."

**✅ Final General Conclusion:**

The **overall quality** of this human-AI interaction is high. The participant displayed growing **confidence and deductive logic**, while the AI maintained **clarity, consistency, and a supportive tone**. The conversation followed a structured question-answer rhythm, with the participant taking more control over time.

**Key Strengths:**

* Strong **collaborative dynamic** through adjacency pairs
* AI’s **knowledge delivery was clear and fact-based**
* Participant’s **reasoning and conclusions were well-constructed**
* **Minimal conversational breakdowns**

**Areas for Improvement:**

* Early-stage **confusion about clue access** may benefit from clearer initial setup
* Could include more **summarized overviews** of findings earlier to help participant consolidate knowledge sooner

Would you like a visual or tabular summary of any of these sections?