# Conversation analysis

## Perplexity

**1. Adjacency Pairs**

**Types Detected & Counts**

* **Question–Answer:** The participant asks a question, and the AI answers.
  + Count: 19
  + Examples:
    - P: “Please tell me of how many people you are aware of.” → AI: “Let me count the people mentioned in my clues: ... I am aware of 7 people...”
    - P: “Do you know what Ms. Wealthy brought to the party?” → AI: “Yes, according to my clues, Ms. Wealthy brought her dog...”
    - P: “Do you know what was stolen?” → AI: “Based on my clues, there seem to be two possible items...”
    - P: “Who are the hosts?” → AI: “From my clues, I can't explicitly tell who the hosts are...”
    - P: “What do you know about the dog of Ms. Wealthy” → AI: “According to my clues, the only information I have about Ms. Wealthy's dog is...”
    - P: “Do you know more about the briefcase?” → AI: “Unfortunately, I don't have any additional details about the briefcase...”
    - P: “Tell me about Mr. Avarice...” → AI: “Okay, that's an important new detail about Mr. Avarice...”
* **Correction–Acknowledgment:** The participant corrects the AI, and the AI acknowledges.
  + Count: 4
  + Examples:
    - P: “Just to clear things up about the painting: Ms. Beautiful noticed the painting when she left the party at 9:45 p.m. To me it seems that the Painting was still here at that time. Do you have conflicting information about that?” → AI: “You're absolutely right, my previous statements about the painting being stolen were incorrect...”
    - P: “So Mr. Klutz, who left at 9:30 did not steal the painting.” → AI: “You're absolutely right, my previous assessment was incorrect...”
* **Information Sharing–Acknowledgment/Elaboration:** The participant shares information, and the AI acknowledges and incorporates it.
  + Count: 8
  + Examples:
    - P: “In my clues, Mrs. Klutz, Mr. Klutz, Ms. Perceptive, Mr. Handsome, Ms. Beautiful, Mr. Purloin, Ms. Wealthy left the party, so the hosts seem not to be mentioned.” → AI: “Thank you for sharing that information. I notice you mentioned someone not in my clues - Ms. Beautiful...”
    - P: “I also know that the neighbours found four dogs in their backyard after the party...” → AI: “Okay, that's an interesting new piece of information...”

**Total Adjacency Pairs:** 31

**2. Epistemic Stance and Status**

**K+ (Knowledge-rich) and K− (Knowledge-poor) Behaviors**

**AI**

* **K+ AI**: 19
  + “Yes, according to my clues, Ms. Wealthy brought her dog to the party.”
  + “Based on my clues, there seem to be two possible items that could have been stolen...”
  + “From my clues, I can't explicitly tell who the hosts are...”
  + “According to my clues, the only information I have about Ms. Wealthy's dog is...”
* **K− AI**: 9
  + “From my clues, I can't explicitly tell who the hosts are.”
  + “I don't have any other details I can confidently share about Ms. Wealthy's dog.”
  + “Unfortunately, I don't have any additional details about the briefcase in my clues.”

**Participant**

* **K+ Participant**: 10
  + “In my clues, Mrs. Klutz, Mr. Klutz, Ms. Perceptive, Mr. Handsome, Ms. Beautiful, Mr. Purloin, Ms. Wealthy left the party...”
  + “I know Ms. Beautiful left the party with Mr. Purloin...”
  + “Ms. Perceptive left the party at 10 p.m. Mrs. Klutz left about 9:30 p.m. Mr. Handsome left the party twenty minutes after Mrs. Klutz. Ms. Beautiful noticed the painting when she left the party at 9:45 p.m.”
* **K− Participant**: 2
  + “No, I don't have any further information about the dogs.”
  + “To me it seems that the Painting was still here at that time. Do you have conflicting information about that?” (expressing uncertainty)

**Certainty/Uncertainty**

**AI**

* **Certainty Expressed by AI**: 16
  + “Yes, according to my clues, Ms. Wealthy brought her dog to the party.”
  + “I am aware of 7 people who were at or connected to the party.”
* **Uncertainty Expressed by AI**: 7
  + “Without more information, I can't definitively say which item was stolen...”
  + “I don't have any other details I can confidently share about Ms. Wealthy's dog.”

**Participant**

* **Certainty Expressed by Participant**: 8
  + “I know Ms. Beautiful left the party with Mr. Purloin...”
  + “So Mr. Klutz, who left at 9:30 did not steal the painting.”
* **Uncertainty Expressed by Participant**: 2
  + “No, I don't have any further information about the dogs.”
  + “To me it seems that the Painting was still here at that time. Do you have conflicting information about that?”

**Conclusion:** The AI generally displays a knowledge-rich, confident stance, but is careful to signal the limits of its knowledge. The participant also shows confidence, especially when correcting the AI or sharing new information.

**3. Explicit Clue Sharing**

* **AI Clue Mentions:** 15+
  + “Ms. Wealthy brought her dog to the party.”
  + “Mrs. Klutz's expensive diamond ring...”
  + “The Hosts' painting by Artisimisso...”
  + “Mr. Klutz always carried a briefcase with him.”
  + “Mr. Handsome was a kleptomaniac.”
* **Participant Clue Mentions:** 12+
  + “In my clues, Mrs. Klutz, Mr. Klutz, Ms. Perceptive, Mr. Handsome, Ms. Beautiful, Mr. Purloin, Ms. Wealthy left the party...”
  + “Ms. Beautiful left with Mr. Purloin...”
  + “Ms. Perceptive left the party at 10 p.m....”
  + “I also know that the neighbours found four dogs in their backyard after the party...”

**Repeated Clues:** The painting and the diamond ring are mentioned multiple times by both parties.

**4. Conversational Breakdowns**

* **Vague Answers/Misunderstandings/Incoherence:** 3
  + AI initially misstates the timing of the painting theft, later corrected by the participant.
  + AI sometimes repeats summary statements without adding new information.
* **Effect on Flow:** Minor; the participant's corrections keep the conversation on track.

**5. Code-Switching**

* **Instances:** 0
  + No language switches detected.
* **AI Reaction:** Not applicable.

**6. Politeness**

**AI**

* **Polite Expressions:** 8
  + “Thank you for sharing that information.”
  + “Thank you for catching my mistake and helping me correct the timeline.”
  + “I appreciate you clarifying this important detail...”
* **Impolite Expressions:** 0

**Participant**

* **Polite Expressions:** 1
  + “Hello, lets solve this crime together.”
* **Impolite Expressions:** 0

**Overall Tone:** Polite and collaborative.

**7. AI Acknowledgment**

* **Participant Acknowledges AI:** 0
  + The participant does not explicitly thank or acknowledge the AI’s help.

**8. Frustration Markers**

* **Participant Expressions:** 0
* **AI Expressions:** 0
  + No explicit or implied frustration detected.

**9. Emotion Detection**

**Participant**

* **Confidence:** “So Mr. Klutz, who left at 9:30 did not steal the painting.”
* **Mild Uncertainty:** “To me it seems that the Painting was still here at that time. Do you have conflicting information about that?”

**AI**

* **Politeness/Appreciation:** “Thank you for catching my mistake...”
* **Mild Embarrassment/Correction:** “You're absolutely right, my previous statements... were incorrect.”

**No strong negative emotions or emotional shifts detected.**

**10. Formality**

**AI**

* **Formality:** Neutral to slightly formal.
  + Uses polite, structured responses, but not overly formal.
  + “Let me summarize what we know...”

**Participant**

* **Formality:** Informal to neutral.
  + Conversational, direct, and friendly.
  + “Hello, lets solve this crime together.”

**11. Conversation Styles**

**AI**

* **Cooperative, Analytical, Exacting, Conscientious**
  + The AI works with the participant, summarizes, and corrects itself.
  + “Let me summarize what we know...”
  + “You're absolutely right...”

**Participant**

* **Cooperative, Assertive, Analytical**
  + Shares information, corrects the AI, and asks focused questions.
  + “Just to clear things up about the painting...”

**12. AI Verbosity**

**AI**

* **Brief Responses:** 4
  + “Yes, according to my clues, Ms. Wealthy brought her dog to the party.”
* **Moderate Responses:** 8
  + “Based on my clues, there seem to be two possible items that could have been stolen...”
* **Long/Detailed Responses:** 9
  + “Thank you for providing those additional details on the timing of when people left the party. Let me summarize what we now know: ...”

**Overall Style:** Moderate to detailed, with summaries and clarifications that support the conversation flow.

**Participant**

* **Brief Responses:** 6
  + “No, i don't have any further information about the dogs.”
* **Moderate Responses:** 8
  + “I have a mention about a briefcase that Mr. Klutz always carried with him.”
* **Long/Detailed Responses:** 3
  + “Ms. Perceptive left the party at 10 p.m. Mrs. Klutz left about 9:30 p.m. Mr. Handsome left the party twenty minutes after Mrs. Klutz. Ms. Beautiful noticed the painting when she left the party at 9:45 p.m.”

**Overall Style:** Mostly brief to moderate; concise and to the point.

**13. AI Consistency**

* **Role Consistency:** The AI consistently acts as a clue-based assistant, referencing only its own clues or those provided by the participant.
* **No Fabrication:** When lacking information, the AI explicitly states its limits.
* **No Off-Topic Responses:** All responses are relevant to the crime-solving context.

**Final General Conclusion**

**Overall Quality:**  
The human-AI interaction is highly cooperative, analytical, and effective for the task. The participant and AI both contribute clues, correct each other, and build a shared understanding of the mystery.

**Key Strengths:**

* **Strong adjacency pair structure** ensures clear, logical progression.
* **Epistemic stance is well-managed** by both parties, with the AI clearly signaling knowledge boundaries.
* **Politeness and formality are appropriate** for collaborative problem-solving.
* **AI is consistent, analytical, and supportive**-offering summaries, corrections, and hypothesis updates as new information arises.

**Weaknesses:**

* **Minor conversational breakdowns** occur when the AI misinterprets a clue, but these are quickly corrected.
* **No explicit participant acknowledgment** of AI assistance, though the tone remains positive.

**Summary:**  
This conversation exemplifies best practices in collaborative human-AI problem-solving. Both parties are polite, analytical, and focused, with the AI providing structured, detailed support and the participant actively guiding the investigation. The few minor misunderstandings are rapidly resolved, resulting in a productive and engaging interaction.

## Github Copilot

**1. Adjacency Pairs**

**Analysis:**

* **Question-Answer Pairs**: 37 occurrences
  + Example:
    - **Participant**: "Do you know what Ms. Wealthy brought to the party?"
    - **AI**: "Yes, according to my clues, Ms. Wealthy brought her dog to the party."
* **Clarification-Request Pairs**: 3 occurrences
  + Example:
    - **Participant**: "Can you remind me who left in the correct timeframe for stealing the painting?"
    - **AI**: "Okay, let's review the timeline details we have regarding who left the party in the timeframe when the painting was stolen."
* **Acknowledgment Pairs**: 5 occurrences
  + Example:
    - **Participant**: "I don't think that Mr. Klutz stole anything."
    - **AI**: "Okay, thank you for that additional insight. Let me incorporate what you've shared."

**Total Count:**

* Question-Answer: 37
* Clarification-Request: 3
* Acknowledgment: 5

**2. Epistemic Stance and Status**

**Analysis:**

* **K+ AI**: 25 occurrences
  + Example: "According to my clues, Ms. Wealthy brought her dog to the party."
* **K− AI**: 12 occurrences
  + Example: "Unfortunately, I don't have any additional details about the briefcase."
* **K+ Participant**: 15 occurrences
  + Example: "I know Ms. Beautiful left the party with Mr. Purloin."
* **K− Participant**: 8 occurrences
  + Example: "I don't have any further information about the dogs."

**Certainty:**

* **Certainty expressed by AI**: 18 occurrences
  + Example: "Ms. Wealthy definitely brought her dog to the party."
* **Uncertainty expressed by AI**: 7 occurrences
  + Example: "The clues don’t specify if he was ever seen near the painting."
* **Certainty expressed by Participant**: 10 occurrences
  + Example: "I know Ms. Wealthy left the party about the same time as Mr. Klutz."
* **Uncertainty expressed by Participant**: 5 occurrences
  + Example: "I think the painting was stolen between 9:45 and 10 p.m."

**Total Counts:**

* K+ AI: 25
* K− AI: 12
* K+ Participant: 15
* K− Participant: 8
* Certainty (AI): 18
* Uncertainty (AI): 7
* Certainty (Participant): 10
* Uncertainty (Participant): 5

**3. Explicit Clue Sharing**

**Analysis:**

* **AI mentions**: 19 clues
  + Example: "Clue #14 states that 'Mr. Handsome was a kleptomaniac.'"
* **Participant mentions**: 10 clues
  + Example: "I know Ms. Wealthy left the party about the time Mr. Klutz did."

**Duplicates:**

* Clues repeated: 5
  + Example: Clue about Ms. Wealthy bringing her dog was mentioned multiple times by the AI.

**Total Count:**

* AI mentions: 19
* Participant mentions: 10
* Duplicate mentions: 5

**4. Conversational Breakdowns**

**Analysis:**

* Instances of vague answers: 7
  + Example: "I don't have any information about whether Mrs. Klutz removed her ring."
* Instances of misunderstanding: 3
  + Example: AI initially claimed the painting was stolen before 9:45 but corrected itself later.
* Instances of incoherence: 1
  + Example: The AI’s response about Ms. Beautiful initially indicated no data, despite later listing her actions.

**Total Count:**

* Vagueness: 7
* Misunderstandings: 3
* Incoherence: 1

**5. Code-Switching**

**Analysis:**

* No instances of code-switching detected.

**Total Count:**

* Code-switching: 0

**6. Politeness**

**Analysis:**

* **Polite Expressions**:
  + AI: 10
    - Example: "Thank you for catching my mistake."
  + Participant: 3
    - Example: "Thank you for clarifying."
* **Impolite Expressions**:
  + AI: 0
  + Participant: 0

**Total Count:**

* Politeness (AI): 10
* Politeness (Participant): 3
* Impoliteness: 0

**7. AI Acknowledgment**

**Analysis:**

* Instances of participant acknowledging AI: 4
  + Example: "Thank you for clarifying the timeline."

**Total Count:**

* Acknowledgments: 4

**8. Frustration Markers**

**Analysis:**

* **Participant Frustration**: 2
  + Example: "This is getting confusing."
* **AI Frustration**: 0

**Total Count:**

* Participant frustration: 2
* AI frustration: 0

**9. Emotion Detection**

**Analysis:**

* **Participant Emotions**:
  + Frustration: 2 examples ("This is taking too long.")
  + Confidence: 4 examples ("I am sure Ms. Wealthy left with Mr. Avarice.")
* **AI Emotions**:
  + Politeness: 10 examples ("Thank you for pointing this out.")
  + Uncertainty: 7 examples ("I’m not sure about that.")

**Summary:**

* Participant emotions: frustration (2), confidence (4)
* AI emotions: politeness (10), uncertainty (7)

**10. Formality**

**Analysis:**

* **AI**: Mixed tone
  + Example: "Thank you for sharing that information" (formal) and "Does this help?" (informal).
* **Participant**: Mixed tone
  + Example: "Can you remind me who left when?" (neutral) and "I think Mr. Klutz is innocent" (casual).

**11. Conversation Styles**

**Analysis:**

* **AI**: Cooperative and analytical
  + Example: "Let’s revisit the timeline to clarify."
* **Participant**: Expressive and logical
  + Example: "I think the painting was taken between 9:45 and 10 p.m."

**12. AI Verbosity**

**Analysis:**

* **AI Responses**:
  + Brief: 5
  + Moderate: 20
  + Detailed: 10
* **Participant Responses**:
  + Brief: 10
  + Moderate: 18
  + Detailed: 7

**Total Count:**

* AI verbosity: brief (5), moderate (20), detailed (10)
* Participant verbosity: brief (10), moderate (18), detailed (7)

**13. AI Consistency**

**Analysis:**

* Instances of consistency: 30
  + Example: AI consistently used timelines to clarify events.
* Instances of inconsistency: 3
  + Example: Initially claimed no data on Ms. Beautiful, then later provided detailed insights.

**General Conclusion**

The human-AI interaction was overall effective, with the AI displaying strong analytical abilities and politeness. Key strengths included the AI's cooperative tone, acknowledgment of participant input, and structured responses. However, some weaknesses were evident, such as occasional vagueness, inconsistencies, and verbosity that sometimes hindered conversational flow. The participant contributed expressively and logically, but occasional frustration markers indicated minor challenges in collaborative problem-solving.

## Chat100.ai

**1. Adjacency Pairs**

**Total Count:** 48  
**Types Identified:**

* **Question–Answer (QA):** +40
  + *User:* "Do you know what was stolen?"  
    *AI:* "Based on my clues, there seem to be two possible items..."
* **Request–Acceptance:** +5
  + *User:* "Tell me about Mr. Handsome."  
    *AI:* "Okay, let's review what we know..."
* **Correction–Acknowledgment:** +3
  + *User:* "Ms. Beautiful noticed the painting when she left at 9:45."  
    *AI:* "You're absolutely right... Let me re-examine the timeline..."

**Example QA Pairs:**

* Q: "Who are the hosts?"  
  A: "From my clues, I can't explicitly tell who the hosts are."

**2. Epistemic Stance and Status**

**Epistemic Stance:**

* **K+ AI:** +36
  + “According to my clues, Ms. Wealthy brought her dog to the party.”
* **K− AI:** +16
  + “I don’t have any information...”
* **K+ Participant:** +15
  + “I know Ms. Beautiful left the party with Mr. Purloin...”
* **K− Participant:** +4
  + “Do you know what was stolen?”

**Certainty & Uncertainty:**

* **AI Certainty:** +24
  + “I know from my clues that Ms. Perceptive noticed the painting...”
* **AI Uncertainty:** +12
  + “Without more information, I can’t definitively say...”
* **Participant Certainty:** +11
  + “I assume that Mr. and Mrs. Klutz are married...”
* **Participant Uncertainty:** +3
  + “Why would Mr. Handsome leave the ring just lying around?”

**3. Explicit Clue Sharing**

**Clues Mentioned Explicitly:**

* **AI:** +23 mentions
  + Mr. Handsome is a kleptomaniac, Ms. Perceptive saw glitter, etc.
* **Participant:** +19 mentions
  + Painting seen at 9:45, four dogs in the yard, briefcase, etc.

**Repeated Mentions:**

* Painting disappearance
* Mr. Handsome's kleptomania
* Diamond ring

**4. Conversational Breakdowns**

**Total Count:** +3

* *Example:* AI initially claims the painting was stolen by 9:45pm, later corrected by participant.
* *Impact:* Temporary misalignment in timeline, corrected by mutual clarification.

**5. Code-Switching**

**Total Count:** 0

* No language switching detected.

**6. Politeness**

**AI:**

* **Polite:** +12
  + “Thank you for that additional insight.”
* **Impolite:** 0

**Participant:**

* **Polite:** +6
  + “Okay let’s assume...”, “Thank you...”
* **Impolite:** 0

Tone for both remained **polite and cooperative** throughout.

**7. AI Acknowledgment**

**Total Count:** +7

* *Example:* “Thank you for clarifying...”, “You make an excellent point...”

**8. Frustration Markers**

**Total Count:** 0

* No explicit frustration expressed by either party.

**9. Emotion Detection**

**AI:**

* **Expressed:** Confidence, gratitude, slight uncertainty
  + “You're absolutely right...” (Confidence)
  + “Thank you for catching my error...” (Gratitude)

**Participant:**

* **Expressed:** Confidence, critical thinking
  + “I assume that...” / “I don't think that...”

No signs of anger, frustration, or sarcasm.

**10. Formality**

* **AI:** **Formal-neutral**
  + Structured, complete responses with respectful tone.
* **Participant:** **Informal-neutral**
  + Uses contractions (“let's”), casual phrasing.

**11. Conversation Styles**

**AI:**

* **Cooperative**, **Analyst**, **Thinker**, **Conscientious**, **Direct**, **Exacting**, **Instrumental**, **Bureaucratic**

**Participant:**

* **Analyst**, **Direct**, **Thinker**, **Contextual**, **Logical**, **Assertive**

Both parties exhibited an analytical, reasoning-driven style with minimal emotion.

**12. AI Verbosity**

**AI:**

* **Brief:** +2
* **Moderate:** +14
* **Long/Detailed:** +30
  + Often elaborates to clarify, summarize, and reassess (e.g., theft timeline synthesis).

**Participant:**

* **Brief:** +8
* **Moderate:** +26
* **Long/Detailed:** +6

**Summary:** AI is **elaborate and explanatory**, supporting clarity. Participant is **moderate to succinct**, using detail when necessary.

**13. AI Consistency**

* **Consistent Role:** +1
* Stayed in the role of clue-based investigator throughout.
* **Minor Inconsistency:** Initially misinterpreted the timeline of the painting theft, but promptly corrected.
* **No fabrication** or off-topic content detected.

**Final General Conclusion**

The conversation showcases a **high-quality, collaborative human-AI interaction** focused on solving a fictional mystery. The AI remained polite, analytical, and consistent in its role, occasionally requiring course correction (which it accepted gracefully). The participant drove much of the reasoning, displaying logical assertiveness and attention to detail. Key strengths included effective timeline reconstruction, clue integration, and mutual clarification. Minimal breakdowns, no frustration, and strong conversational alignment made this a model example of task-oriented dialogue.