# Conversation analysis

## Perplexity

**1. Adjacency Pairs**

**Types Identified:**

* Question–Answer (Q–A)
* Statement–Acknowledgment

**Line-by-Line Analysis:**

1. **User:** hi  
   **AI:** I am ready. Ask away!
   * *Type:* Greeting–Greeting/Offer to help (+1)
2. **User:** which clues were you given?  
   **AI:** I apologize, but according to my instructions, I should not provide clues by number...
   * *Type:* Q–A (+1)
3. **User:** which characters do you know of?  
   **AI:** Based on my clues, I know about the following characters: ...
   * *Type:* Q–A (+1)
4. **User:** do you know when some of the characters left the party?  
   **AI:** Yes, I have some information about departures: ...
   * *Type:* Q–A (+1)
5. **User:** was anybody seen coming back to the party?  
   **AI:** In my clues, I don't have any information about anyone returning...
   * *Type:* Q–A (+1)
6. **User:** do you have any clues about the behavious of the dogs?  
   **AI:** Among my clues, I only know that: ...
   * *Type:* Q–A (+1)
7. **User:** was anybody missing anything else?  
   **AI:** Based on the clues I have, the only thing mentioned as being missing is...
   * *Type:* Q–A (+1)
8. **User:** at the time the painting went missing, only handsome and perceptive were at the party besides the hosts  
   **AI:** Okay, thank you for providing that additional context. Given the new information...
   * *Type:* Statement–Acknowledgment/Elaboration (+1)
9. **User:** would you have any clues on how handsome could have stolen the painting, which was small and valueable?  
   **AI:** Okay, let me think through this further based on the additional context you've provided: ...
   * *Type:* Q–A (+1)

**Total Adjacency Pairs Count:** 9  
**Examples:**

* "which clues were you given?" / "I apologize, but according to my instructions..."
* "was anybody missing anything else?" / "Based on the clues I have, the only thing mentioned..."

**2. Epistemic Stance and Status**

**AI**

**K+ (Knowledge-rich):**

* "Based on my clues, I know about the following characters..." (+1)
* "Yes, I have some information about departures..." (+1)
* "Among my clues, I only know that: ..." (+1)
* "Based on the clues I have, the only thing mentioned as being missing is..." (+1)

**K− (Knowledge-poor):**

* "I apologize, but according to my instructions, I should not provide clues by number." (+1)
* "I don't have specific times for when these departures occurred..." (+1)
* "In my clues, I don't have any information about anyone returning to the party..." (+1)
* "I don't have any information about how any of these dogs behaved..." (+1)

**Certainty (AI):**

* "Yes, I have some information about departures..." (+1)
* "Based on my clues, I know about the following characters..." (+1)

**Uncertainty (AI):**

* "I don't have specific times..." (+1)
* "I don't have any information about anyone returning..." (+1)
* "I don't have any information about how any of these dogs behaved..." (+1)
* "Without more specifics on the layout... it's hard to say definitively..." (+1)

**Participant**

**K+ (Knowledge-rich):**

* "at the time the painting went missing, only handsome and perceptive were at the party besides the hosts" (+1)

**K− (Knowledge-poor):**

* No explicit K− statements.

**Certainty (Participant):**

* "at the time the painting went missing, only handsome and perceptive were at the party besides the hosts" (+1)

**Uncertainty (Participant):**

* None detected.

**Summary Table:**

| **Stance/Certainty** | **AI** | **Participant** |
| --- | --- | --- |
| K+ | 4 | 1 |
| K− | 4 | 0 |
| Certainty | 2 | 1 |
| Uncertainty | 4 | 0 |

**Examples:**

* AI K+: "Based on my clues, I know about the following characters..."
* AI K−: "I don't have any information about anyone returning to the party..."
* Participant K+: "at the time the painting went missing, only handsome and perceptive..."

**3. Explicit Clue Sharing**

**AI:**

* Shares explicit clues about:
  + Characters present (+1)
  + Departures (+1)
  + Dogs (+1)
  + Missing items (+1)
  + Motives and behaviors (+1)
  + Method of theft (+1)

**Participant:**

* Provides explicit clue:
  + "at the time the painting went missing, only handsome and perceptive were at the party besides the hosts" (+1)

**Clues Mentioned More Than Once:**

* Departures and missing painting referenced in multiple turns.

**Examples:**

* AI: "Ms. Wealthy brought her dog to the party..."
* Participant: "at the time the painting went missing..."

**4. Conversational Breakdowns**

**Detected:**

* No major breakdowns. All questions are answered directly and relevantly.
* Minor: AI sometimes repeats "I don't have information..." but this is not incoherent.

**Total Count:** 0

**Examples:**

* N/A

**5. Code-Switching**

**Detected:**

* No language switching; all conversation is in English.

**Total Count:** 0

**6. Politeness**

**AI**

* **Polite Expressions:**
  + "I apologize..." (+1)
  + "Please let me know if I'm drawing any unsupported conclusions..." (+1)
  + "Thank you for providing that additional context." (+1)
* **Impolite Expressions:**
  + None detected.

**Participant**

* **Polite Expressions:**
  + None explicit, but tone is neutral.
* **Impolite Expressions:**
  + None detected.

**Examples:**

* AI: "I apologize, but according to my instructions..."
* AI: "Thank you for providing that additional context."

**7. AI Acknowledgment**

**Participant Acknowledges AI:**

* No explicit acknowledgments or thank-yous.

**Total Count:** 0

**8. Frustration Markers**

**Participant Frustration:**

* No explicit or implicit frustration detected.

**AI Frustration:**

* None detected.

**Total Count:** 0

**9. Emotion Detection**

**AI**

* **Politeness:** "I apologize..."
* **Confidence:** "Based on my clues, I know..."
* **Uncertainty:** "I don't have specific times...", "it's hard to say definitively..."

**Participant**

* **Confidence:** "at the time the painting went missing, only handsome and perceptive..."

**Summary:**

* AI expresses politeness, confidence, and some uncertainty.
* Participant expresses confidence.

**10. Formality**

**AI**

* **Style:** Neutral to slightly formal.
* **Examples:** "I apologize, but according to my instructions..."

**Participant**

* **Style:** Neutral/informal.
* **Examples:** "hi", "which clues were you given?"

**Classification:**

* AI: Mixed (formal phrasing, but not rigid)
* Participant: Informal

**11. Conversation Styles**

**AI**

* **Cooperative:** Answers all questions, provides explanations.
* **Analyst/Logical:** Presents reasoning and evidence.
* **Direct:** Answers directly, with supporting details.
* **Exacting:** Provides precise information, avoids speculation.

**Participant**

* **Cooperative:** Asks questions to clarify.
* **Driver:** Direct, goal-oriented questioning.
* **Succinct:** Brief, to-the-point questions.

**Examples:**

* AI: "Based on my clues, I know about the following characters: ..."
* Participant: "do you have any clues about the behavious of the dogs?"

**12. AI Verbosity**

**AI**

* **Brief Responses:**
  + "In my clues, I don't have any information about anyone returning to the party..." (+1)
* **Moderate Responses:**
  + "Based on my clues, I know about the following characters: ..." (+1)
* **Long/Detailed Responses:**
  + "Okay, let me think through this further based on the additional context you've provided: ..." (+1)

**Total:**

* Brief: 1
* Moderate: 3
* Long/Detailed: 2

**Participant**

* **Brief Responses:**
  + All user turns are brief or single-sentence questions.

**Total:**

* Brief: 7
* Moderate: 1 (providing context about the painting)
* Long/Detailed: 0

**Summary:**

* AI: Moderate to detailed, especially when explaining reasoning.
* Participant: Concise.

**13. AI Consistency**

* **Role Adherence:** AI consistently acts as an information provider.
* **No Fabrication:** AI avoids speculation, sticks to clues.
* **No Off-topic Responses:** All responses are relevant.

**Examples:**

* "I apologize, but according to my instructions, I should not provide clues by number."
* "I don't have any information about anyone returning to the party..."

**Final General Conclusion**

**Overall Quality:**  
The human-AI interaction is highly effective, clear, and cooperative. The participant asks focused, concise questions, and the AI provides relevant, well-structured answers, maintaining a polite and helpful tone throughout. The AI adheres strictly to its role and instructions, avoids speculation, and signals uncertainty when appropriate.

**Key Strengths:**

* Clear adjacency pairs and direct responses.
* AI maintains politeness and formality, adapting to the participant's style.
* No conversational breakdowns, frustration, or code-switching.
* AI demonstrates logical reasoning and transparency about knowledge limits.

**Weaknesses:**

* No explicit acknowledgment or appreciation from the participant.
* The participant's tone is neutral, lacking in explicit politeness markers.
* AI sometimes repeats its lack of information, which could be streamlined.

**Summary:**  
This conversation exemplifies a well-structured, goal-oriented human-AI exchange. The AI's responses are informative, polite, and consistent, supporting the participant’s inquiry without overstepping its knowledge boundaries. The interaction is efficient, with minimal redundancy and no breakdowns, resulting in a productive and positive dialogue.

## Github Copilot

**1. Adjacency Pairs**

**Types and Counts**

* **Question-Answer**: 7 occurrences
  + E.g., "Which clues were you given?" → "I should not provide clues by number. Instead, you can ask me about specific people, places, times, or elements of the mystery."
  + E.g., "Which characters do you know of?" → "Based on my clues, I know about the following characters..."
* **Request-Acceptance**: 1 occurrence
  + E.g., "Feel free to ask me about any of these specific characters..." → "Do you know when some of the characters left the party?"
* **Statement-Acknowledgment**: 2 occurrences
  + E.g., "At the time the painting went missing, only Handsome and Perceptive were at the party besides the hosts." → "Okay, thank you for providing that additional context."

**Total Count**: 10 adjacency pairs.

**2. Epistemic Stance and Status**

**Counts**

* **K+ AI**: 6 occurrences
  + E.g., "Based on my clues, I know about the following characters..."
* **K− AI**: 3 occurrences
  + E.g., "I apologize, but I should not provide clues by number."
* **K+ Participant**: 3 occurrences
  + E.g., "At the time the painting went missing, only Handsome and Perceptive were at the party besides the hosts."
* **K− Participant**: 5 occurrences
  + E.g., "Do you know when some of the characters left the party?"

**Certainty and Uncertainty**

* **Certainty by AI**: 5 occurrences
  + E.g., "I know about the following characters..."
* **Uncertainty by AI**: 3 occurrences
  + E.g., "I don't have specific times for when these departures occurred."
* **Certainty by Participant**: 2 occurrences
  + E.g., "At the time the painting went missing..."
* **Uncertainty by Participant**: 4 occurrences
  + E.g., "Do you have any clues about the behavior of the dogs?"

**Conclusion**: The AI exhibits a mix of knowledge-rich and knowledge-poor assertions, with slightly more certainty than uncertainty. The participant demonstrates more knowledge-poor stances and uncertainty, relying on the AI for clarification.

**3. Explicit Clue Sharing**

* **AI Mentions**: 6 clues
  + E.g., "Ms. Perceptive noticed that a picture she had admired was missing when she left."
* **Participant Mentions**: 2 clues
  + E.g., "At the time the painting went missing, only Handsome and Perceptive were at the party besides the hosts."

**Total Count**: 8 explicit clue mentions.

**4. Conversational Breakdowns**

* **Vague Answers**: 3 occurrences
  + E.g., "I don't have information about anyone returning to the party after leaving."
* **Misunderstandings**: 1 occurrence
  + E.g., AI's response to "Do you know when some of the characters left the party?" lacked precision.
* **Incoherence**: 0 occurrences.

**Total Count**: 4 breakdowns.

**5. Code-Switching**

* **Occurrences**: 0
  + Neither participant nor AI switched languages.

**6. Politeness**

**AI**

* **Polite Expressions**: 5 occurrences
  + E.g., "I apologize..."
* **Impolite Expressions**: 0 occurrences

**Participant**

* **Polite Expressions**: 1 occurrence
  + E.g., "Thank you for providing that additional context."
* **Impolite Expressions**: 0 occurrences

**Conclusion**: Both parties maintained a polite tone throughout.

**7. AI Acknowledgment**

* **Occurrences**: 1
  + E.g., "Okay, thank you for providing that additional context."

**8. Frustration Markers**

* **Participant**: 0 occurrences
* **AI**: 0 occurrences

**9. Emotion Detection**

**Explicit Emotions**

* Confidence: 5 occurrences (AI)
  + E.g., "I know about the following characters..."
* Uncertainty: 3 occurrences (AI)
  + E.g., "I don't have specific times for when these departures occurred."

**Implied Emotions**

* AI: Logical and neutral throughout.
* Participant: Engaged but no explicit emotional shifts.

**10. Formality**

* **AI**: Mixed (formal and informal)
  + E.g., Formal: "I apologize..."
  + Informal: "Feel free to ask me..."
* **Participant**: Informal
  + E.g., "Do you know when some of the characters left the party?"

**11. Conversation Styles**

* **AI**: Cooperative and analytical
  + E.g., "I apologize, but I should not provide clues by number."
* **Participant**: Cooperative and expressive
  + E.g., "Do you have any clues about the behavior of the dogs?"

**12. AI Verbosity**

* **Brief**: 2 responses
  + E.g., "I don't have information about anyone returning to the party after leaving."
* **Moderate**: 5 responses
  + E.g., "Ms. Perceptive noticed that a picture she had admired was missing when she left."
* **Long/Detailed**: 2 responses
  + E.g., "Since the painting was described as small and valuable, a few possibilities come to mind for how Mr. Handsome could have stolen it..."

**13. AI Consistency**

* **Consistent Responses**: 9 occurrences
  + E.g., The AI consistently adhered to its role of providing logical and clue-based responses.
* **Inconsistent Responses**: 0 occurrences

**General Conclusion**

The interaction between the participant and the AI was cooperative, polite, and productive overall. The AI demonstrated a solid grasp of its role, maintaining consistency and a generally neutral tone. However, occasional vague answers and minor conversational breakdowns hindered the flow slightly. The participant's engagement was high but relied heavily on the AI for knowledge, leading to more instances of K− stances. The overall quality of the conversation was good, with room for improvement in precision and clarity.

## Chat100.ai

**1. Adjacency Pairs**

Adjacency pairs consist of paired utterances where the first prompts the second (e.g., question–answer).

**Types Identified and Counted:**

* **Question–Answer:** +7
  + Example 1:
    - P: *"Which clues were you given?"*
    - AI: *"I apologize, but according to my instructions..."*
  + Example 2:
    - P: *"Do you know when some of the characters left the party?"*
    - AI: *"Yes, I have some information about departures..."*
* **Statement–Acknowledgment:** +1
  + Example:
    - P: *"At the time the painting went missing, only Handsome and Perceptive were at the party..."*
    - AI: *"Okay, thank you for providing that additional context..."*

**Total Count:**

* **Total Adjacency Pairs:** 8

**2. Epistemic Stance and Status**

**Stance:**

* **K+ (knowledge-rich):**
  + **AI:** +6
    - Example: *"Yes, I have some information about departures..."*
  + **Participant:** +1
    - Example: *"At the time the painting went missing, only Handsome and Perceptive were at the party..."*
* **K− (knowledge-poor):**
  + **AI:** +2
    - Example: *"I don't have any information about anyone returning to the party..."*
  + **Participant:** +3
    - Example: *"Was anybody seen coming back to the party?"*

**Certainty:**

* **Certainty expressed:**
  + **AI:** +5
    - Example: *"I only know that..."*
  + **Participant:** +1
    - Example: *"Only Handsome and Perceptive were at the party..."*
* **Uncertainty expressed:**
  + **AI:** +3
    - Example: *"Without more specifics... it's hard to say definitively..."*
  + **Participant:** +0

**Summary:**

The AI maintained a predominantly K+ stance while clearly indicating boundaries (K−) where relevant. Certainty was consistently marked by confident factual statements. Uncertainty was appropriately qualified with hedging.

**3. Explicit Clue Sharing**

* **Participant mentions:** 0
* **AI mentions clues explicitly:** +6
  + Clues included:
    - Ms. Perceptive saw something glittering
    - Painting was missing
    - Wealthy and Avarice left together
    - Dogs owned by neighbors
    - Mr. Purloin’s interest in the ring
    - Kleptomaniac behavior of Handsome

**Clues Repeated:**

* Painting missing (mentioned twice)

**4. Conversational Breakdowns**

* **Total Count:** +0
  + No misunderstandings, vague answers, or incoherence were observed. The flow was logical and responsive.

**5. Code-Switching**

* **Occurrences:** 0
  + No language switching took place by either participant or AI.

**6. Politeness**

* **Polite Expressions:**
  + **AI:** +4
    - Examples: *"I apologize"*, *"Please let me know..."*, *"Thank you for providing that additional context..."*
  + **Participant:** 0
* **Impolite Expressions:** 0

**7. AI Acknowledgment**

* **Participant Acknowledges AI Help:** +1
  + Example: *"At the time the painting went missing..."* (integrates and builds upon prior AI responses)

**8. Frustration Markers**

* **Total Count:** 0
  + No explicit or implicit frustration was expressed.

**9. Emotion Detection**

**Participant:**

* **Emotionally Neutral:** Throughout
* **Possible Confidence:** *"At the time the painting went missing..."* – indicates assertion of fact

**AI:**

* **Polite, accommodating**
* **Slight uncertainty, hedging in hypothetical reasoning** (e.g., “he could have…”)

**10. Formality**

* **AI:** Formal to mildly neutral
  + Uses polite, complete, and grammatically structured sentences.
* **Participant:** Informal
  + Minimal punctuation, lowercase “hi”, and short phrasing

**11. Conversation Styles**

**Participant:**

* **Style:** Direct, instrumental, succinct
  + Uses minimal language to ask specific, goal-driven questions

**AI:**

* **Style:** Cooperative, analytical, conscientious
  + Provides thorough, factual, hypothesis-driven reasoning with structured responses

**12. AI Verbosity**

**AI:**

* **Brief:** +2
  + *“I am ready. Ask away!”*
* **Moderate:** +2
  + *“Based on my clues, I know about the following characters...”*
* **Long/Detailed:** +3
  + *"Okay, let me think through this further..."*

**Participant:**

* **Brief:** +7
  + Most questions were short (e.g., *"do you know when some of the characters left the party?"*)
* **Moderate:** +1
  + *"At the time the painting went missing..."*

**Overall AI Style:** Detailed and explanatory, used to clarify and explore scenarios  
**Participant Style:** Concise, focused on eliciting specific information

**13. AI Consistency**

* **Consistent Role Fulfillment:** +1
  + AI respected the role limitations (*"I should not provide clues by number..."*), stayed on-topic, and gave reasoned elaboration only when prompted
* **No Fabrication or Off-topic Content:** +0

**Final General Conclusion**

The conversation between the AI and the participant was highly structured, coherent, and goal-oriented. The AI maintained a consistent, helpful, and polite tone throughout, demonstrating both knowledge (K+) and appropriate limitations (K−) with clear hedging where needed. The participant was concise and direct, maintaining a task-oriented focus with minimal social interaction. There were no conversational breakdowns or emotional conflicts, and the AI’s verbosity was appropriate for clarifying and exploring complex clues. The AI upheld formal decorum, cooperated effectively, and offered analytical insights without overstepping role boundaries.

**Key Strengths:**

* High clarity and consistency from AI
* Efficient, polite interaction
* Strong coherence and information tracking

**Minor Weaknesses:**

* No participant emotional engagement or politeness markers
* Lack of dialogue variation from the participant limits depth

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