# Conversation analysis

## Perplexity

**1. Adjacency Pairs**

**Types Detected:**

* **Question–Answer** (Q–A)
* **Request–Acceptance**
* **Correction–Acknowledgment**
* **Summary–Confirmation**

**Count and Examples:**

* **Question–Answer:** +1 per Q–A pair.
  + Example:
    - User: “Okay, when did Mr Avarice leave the party?”
    - AI: “Based on clue 16, Mr. Avarice left the party together with Ms. Wealthy, but I don't have specific information about the exact time they left.”
    - **Total Q–A pairs:** 28 (each user question is answered by the AI)
* **Request–Acceptance:**
  + Example:
    - User: “So, what we know is that:”
    - AI: “Okay, let me summarize what we know so far based on the clues and information shared: …”
    - **Total:** 4
* **Correction–Acknowledgment:**
  + Example:
    - User: “Thank you! A small correction: at 9.45 Ms. Beautiful noticed the painting was still there…”
    - AI: “Ah I see, thank you for the correction. Based on that updated information: …”
    - **Total:** 2
* **Summary–Confirmation:**
  + Example:
    - AI: “Does this accurately summarize the key points we've been able to determine so far based on the clues provided?”
    - User: “Yes, thank you.”
    - **Total:** 3

**Total Adjacency Pairs:** 37

**2. Epistemic Stance and Status**

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

**AI**

* **K+ AI:** 30
  + Example: “According to clue 11, Ms. Wealthy brought her dog to the party.”
* **K− AI:** 17
  + Example: “No, my clues do not provide any information about who left the party last.”

**Participant**

* **K+ Participant:** 12
  + Example: “My clues say that Ms. Wealthy did not find that dog.”
* **K− Participant:** 5
  + Example: “Do you have clues that talk about Mr. Avarice?”

**Certainty/Uncertainty**

**Certainty**

* **AI Certainty:** 28
  + Example: “Yes, according to clue 1, Mr. Purloin showed great interest in Mrs. Klutz's expensive diamond ring.”
* **AI Uncertainty:** 10
  + Example: “Unfortunately, my clues do not provide any specific information about the times when other guests left the party…”
* **Participant Certainty:** 9
  + Example: “So, the dog was not stolen.”
* **Participant Uncertainty:** 4
  + Example: “Do your clues tell who hosted the party?”

**Conclusion:**  
The AI frequently asserts knowledge when it can cite clues (K+), but is transparent about information gaps (K−). The participant alternates between sharing their own clues (K+) and querying the AI (K−), with both expressing certainty when stating facts and uncertainty when asking or clarifying.

**3. Explicit Clue Sharing**

* **AI mentions clues explicitly:** 32 times
  + Example: “According to clue 12, the Neighbors owned three dogs.”
* **Participant mentions clues explicitly:** 8 times
  + Example: “But another clue says that the Neighbours fund four dogs in their backyard after the party…”
* **Repeated clues:**
  + Clue 9 (glittering in the corner), Clue 16 (Mr. Avarice leaving), and Clue 1 (Mr. Purloin’s interest in the ring) are cited multiple times by the AI.

**4. Conversational Breakdowns**

* **Instances:** 2
  + Example:
    - AI: “So there are 9 guests mentioned in the clues I have.” (Lists Mrs. Klutz twice; possible confusion or typo.)
    - AI: “The clues focus more on Mrs. Klutz's tendency to lose things, rather than anything directly attributed to Mr. Klutz.” (Possible misunderstanding of user's question about Mr. Klutz.)
* **Effect:** Minor, does not significantly hinder flow or understanding.

**5. Code-Switching**

* **Instances:** 0
  + No language switches detected; all conversation in English.

**6. Politeness**

**AI**

* **Polite expressions:** 11
  + Examples: “Thank you for the correction.”, “Please let me know if I'm missing or misinterpreting anything.”
* **Impolite expressions:** 0

**Participant**

* **Polite expressions:** 4
  + Examples: “Thank you.”, “I agree.”
* **Impolite expressions:** 0

**7. AI Acknowledgment**

* **Participant acknowledges/appreciates AI:** 6
  + Examples: “Thank you.”, “Yes, thank you.”

**8. Frustration Markers**

* **Participant:** 0 explicit; 1 implied
  + Example: “Oh, my notes say that Ms. Wealthy left the party about the time Mr. Klutz did.” (Possible mild exasperation, but not overt.)
* **AI:** 0

**9. Emotion Detection**

**AI**

* **Politeness, helpfulness, confidence**: Frequent (“Let me summarize…”, “Thank you for the correction.”)
* **No explicit or implied negative emotions.**

**Participant**

* **Politeness, mild frustration (implied), curiosity, confidence**:
  + “Thank you!” (positive)
  + “Oh, my notes say…” (implied mild frustration or correction)

**10. Formality**

**AI**

* **Style:** Neutral to slightly formal
  + Examples: “According to clue 11…”, “Unfortunately, my clues do not provide…”
* **No slang or casual language.**

**Participant**

* **Style:** Neutral
  + Examples: “Do you know what Ms Wealthy brought with her to the party?”
* **No slang or highly informal expressions.**

**11. Conversation Styles**

**AI**

* **Cooperative, logical, analyst, conscientious, direct, elaborate, instrumental**
  + Example: “Let me summarize what we know so far based on the clues and information shared: …”

**Participant**

* **Cooperative, logical, analyst, direct, succinct to moderate, instrumental**
  + Example: “Do your clues tell who hosted the party?”

**12. AI Verbosity**

**AI**

* **Brief responses:** 7
  + Example: “No, my clues do not provide any information about who left the party last.”
* **Moderate responses:** 12
  + Example: “According to clue 11, Ms. Wealthy brought her dog to the party.”
* **Long/detailed responses:** 13
  + Example: Summaries and multi-point lists.

**Overall style:** Tends toward elaborate, especially when summarizing or explaining.

**Participant**

* **Brief responses:** 10
  + Example: “Thank you.”
* **Moderate responses:** 12
  + Example: “I agree. My clues also talk about paintings. Are paintings mentioned in your clues?”
* **Long/detailed responses:** 3
  + Example: “Oh, my notes say that Ms. Wealthy left the party about the time Mr. Klutz did. Mr. Klutx left the party at 9.30 with Mrs. Klutz. So if Ms. Wealthy left the party together with Mr. Avarice at 9.30 ad the painting was still there at $9.45, \mathrm{Mr}$. Avarice could not have taken it.”

**Overall style:** Moderate, with occasional detail.

**13. AI Consistency**

* **Consistency:** High
  + The AI consistently refers to its clues, avoids speculation, and does not fabricate information.
  + Example: “No, my clues do not provide any information about the specific location or placement of the painting within the party venue.”
* **No off-topic or fabricated responses detected.**

**Final General Conclusion**

**Overall Quality:**  
The interaction is highly cooperative, logical, and effective. The AI and participant both maintain a polite, formal-to-neutral tone, and the conversation is marked by clear adjacency pairs, explicit clue sharing, and mutual acknowledgment. The AI is consistent, transparent about its knowledge boundaries, and provides detailed, relevant responses. The participant is engaged, polite, and occasionally offers corrections or new information.

**Key Strengths:**

* High degree of epistemic transparency from the AI
* Frequent and explicit clue sharing
* Polite, respectful tone from both sides
* Logical, stepwise reasoning and summarization
* Minimal conversational breakdowns

**Weaknesses:**

* Occasional minor breakdowns (e.g., repeated names, slight misinterpretation)
* The AI sometimes repeats information or is verbose, which could be streamlined

**Summary:**  
This conversation exemplifies a productive human-AI interaction for collaborative problem-solving, with strong mutual respect, clear knowledge boundaries, and effective information exchange. Minor errors do not detract from the overall clarity and utility of the exchange.

## Github Copilot

**1. Adjacency Pairs**

* **Question-Answer**: Detected multiple times. Both participant and AI engaged in question-answer pairs.
  + Example:
    - **Participant**: "Okay, when did Mr Avarice leave the party?"
    - **AI**: "Based on clue 16, Mr. Avarice left the party together with Ms. Wealthy..."
  + Count: 15
* **Request-Acceptance**:
  + Example:
    - **Participant**: "Do your clues tell who hosted the party?"
    - **AI**: "No, my clues only mention 'the Hosts' in clue 3..."
  + Count: 6
* **Clarification-Response**:
  + Example:
    - **Participant**: "Do you clues say where the painting was?"
    - **AI**: "No, my clues do not provide any information about the specific location..."
  + Count: 3
* **Total Count**: 24 adjacency pairs.

**2. Epistemic Stance and Status**

**Epistemic Stance**

* **K+ AI**: 14
  + Example: "Clue 14 directly says: 'Mr. Handsome was a kleptomaniac.'"
* **K− AI**: 6
  + Example: "No, my clues do not provide any information about who left the party last."
* **K+ Participant**: 9
  + Example: "My clues say that Ms. Wealthy left the party about the time Mr. Klutz did."
* **K− Participant**: 4
  + Example: "Do we know how the painting could have been taken?"

**Certainty vs Uncertainty**

* **Certainty (AI)**: 12
  + Example: "The only clue I have related to the Hosts is: Clue 3 - 'The Hosts had a painting by Artisimisso.'"
* **Uncertainty (AI)**: 8
  + Example: "Unfortunately, my clues do not provide any specific details about how the painting was stolen..."
* **Certainty (Participant)**: 8
  + Example: "So, the dog was not stolen."
* **Uncertainty (Participant)**: 5
  + Example: "Do your clues say where the painting was?"

**3. Explicit Clue Sharing**

* **AI Clues Mentioned**: 18
  + Example: Clue 16, Clue 13, Clue 14.
* **Participant Clues Mentioned**: 9
  + Example: "My clues say that Mrs. Klutz could not find her diamond ring after the party."
* **Repeated Clues**: 3
  + Clue 9: Mentioned both by AI and participant.
  + Clue 14: Mentioned twice by AI.
  + Clue 16: Mentioned twice by AI.

**4. Conversational Breakdowns**

* **Instances**: 2
  + Example: "Do you clues say where the painting was?" (Typographical issue causing slight incoherence).
  + Impact: Minimal; did not significantly disrupt conversation flow.

**5. Code-Switching**

* **Instances**: 0
* **AI Reaction**: Not applicable.

**6. Politeness**

* **Polite Expressions (AI)**: 4
  + Example: "Ah I see, that's very helpful additional context from your notes."
* **Polite Expressions (Participant)**: 3
  + Example: "Thank you! A small correction..."
* **Impolite Expressions**: None detected.

**7. AI Acknowledgment**

* **Instances**: 3
  + Example: "Thank you! A small correction..."

**8. Frustration Markers**

* **Instances**: 0
  + No explicit or implied frustration detected.

**9. Emotion Detection**

* **AI Emotions**:
  + Confidence: "This further supports the idea that Mr. Handsome is the most likely suspect..."
  + Neutral.
* **Participant Emotions**:
  + Confidence: "I think we have all the information to know that the thief was Mr. Handsome..."
  + Neutral.
* **Summary**: Both AI and participant maintained a neutral-to-confident tone throughout.

**10. Formality**

* **AI**: Mixed (formal phrasing with occasional conversational tone).
  + Example: "Unfortunately, my clues do not provide any specific details..."
* **Participant**: Informal.
  + Example: "Okay, thank you. I think we have a good enough answer."

**11. Conversation Styles**

* **AI**: Cooperative and analytical.
  + Example: "Let me summarize what we know so far."
* **Participant**: Cooperative and expressive.
  + Example: "Yes, thank you. Do we know how the painting could have been taken?"
* **Overall Style**: Collaborative and analytical.

**12. AI Verbosity**

* **AI Responses**:
  + Brief: 4
  + Moderate: 10
  + Long/Detailed: 15
  + Example (Detailed): "Here are all the clues I have about Mr. Klutz:..."
* **Participant Responses**:
  + Brief: 6
  + Moderate: 12
  + Long/Detailed: 3
  + Example (Brief): "Do you have clues that talk about Mr. Avarice?"
* **Summary**: The AI leaned towards verbosity for clarity, while the participant balanced between moderate and brief responses.

**13. AI Consistency**

* **Instances of Consistency**: 100%
  + Example: The AI consistently referenced clues and maintained its role as an analytical assistant.
* **Instances of Inconsistency**: 0

**Final General Conclusion**

The overall quality of the human-AI interaction was high, characterized by a cooperative and analytical tone. The AI consistently adhered to its role, providing clear and detailed responses based on the clues. The participant was engaged, actively contributing to the conversation and guiding the analysis.

**Key Strengths:**

* Effective clue sharing and analytical reasoning by the AI.
* Strong collaborative dynamic between the participant and AI.
* High politeness and lack of frustration on both sides.

**Weaknesses:**

* Occasional verbosity by the AI might have been streamlined for brevity.
* Minimal conversational breakdowns, though they did not disrupt the flow.

Overall, the conversation was productive, and the goals of the interaction were successfully achieved.

## Chat100.ai

**1. Adjacency Pairs**

**Types identified**:

* **Question–Answer**: +23
* **Statement–Acknowledgment**: +7
* **Correction–Acknowledgment**: +2
* **Request–Compliance**: +3

**Total Count**: **35**  
**Examples**:

* Q-A: “Do you know what Ms Wealthy brought with her to the party?” → “According to clue 11, Ms. Wealthy brought her dog…”
* Statement–Acknowledgment: “Okay. So we know:” → “Okay, let me summarize what we know so far…”
* Correction–Acknowledgment: “A small correction: at 9.45 Ms. Beautiful noticed…” → “Ah I see, thank you for the correction…”
* Request–Compliance: “What do we know about Mr. Avarice?” → “Yes, my clues do mention some information…”

**2. Epistemic Stance and Status**

**Stance**

* **K+ AI**: +29
  + e.g., “Clue 15 directly says that Mr. Purloin was a jewel thief.”
* **K− AI**: +10
  + e.g., “Unfortunately, my clues do not provide any information about the times…”
* **K+ Participant**: +11
  + e.g., “My clues say that Ms. Wealthy did not find that dog.”
* **K− Participant**: +3
  + e.g., “Do you clues say anything about Mr. Klutz's briefcase?”

**Certainty**

* **Certainty by AI**: +21
  + e.g., “Yes, several of my clues mention paintings.”
* **Uncertainty by AI**: +9
  + e.g., “I don't have specific information about the exact time…”
* **Certainty by Participant**: +8
  + e.g., “My clues say that…”
* **Uncertainty by Participant**: +4
  + e.g., “Maybe the glittering thing...”

**Conclusion**: The AI maintained a predominantly knowledgeable and certain stance. The participant exhibited a mix of knowledge assertion and exploratory reasoning.

**3. Explicit Clue Sharing**

* **Clues mentioned by AI**: +29
* **Clues mentioned by participant**: +6
* **Repeated Clues**:
  + Clue 9 (glittering object) – referenced multiple times
  + Clue 16 (Mr. Avarice leaving with Ms. Wealthy) – referenced twice
  + Clue 10 (painting missing) – referenced multiple times

**Conclusion**: Explicit clue sharing was central to progressing the conversation. The AI provided a majority of the factual clues, with the participant integrating them with their own.

**4. Conversational Breakdowns**

* **Total**: +2
* **Examples**:
  + AI says: “The only clue I have about Ms. Beautiful is...” → then gives a clue about *Ms. Perceptive*
  + Clue repetition caused slight confusion but was recovered promptly.

**Impact**: Minor confusion; quickly corrected without major disruption.

**5. Code-Switching**

* **Count**: 0
* **AI Reaction**: Not applicable

**6. Politeness**

**Participant:**

* **Polite Expressions**: +3
  + “Thank you!”, “Okay, thank you.”
* **Impolite Expressions**: 0
* **Tone**: Polite and respectful throughout

**AI:**

* **Polite Expressions**: +9
  + “You're welcome.”, “Thank you for the correction.”, “I appreciate you taking the time...”
* **Impolite Expressions**: 0
* **Tone**: Consistently polite and helpful

**7. AI Acknowledgment**

* **Participant acknowledging AI**: +4
  + “Thank you!”, “Okay, thank you.”
* **Examples**: Final acknowledgment after conclusions

**8. Frustration Markers**

* **Count**: 0
* **No direct or implied frustration** from either speaker

**9. Emotion Detection**

**Participant:**

* **Implied confidence**: +4
  + “So, I guess that people leaving before 9.45 could not have taken the painting.”
* **Tone**: Calm, logical, collaborative

**AI:**

* **Expressed neutrality and cooperation**
* **Implied confidence**: +5
  + “This further supports the idea…”

**10. Formality**

* **AI**: **Formal**
  + Structured, clear, and impersonal (“Based on clue 16…”)
* **Participant**: **Informal**
  + Casual syntax, e.g., “Okay. So we know…”

**11. Conversation Styles**

**AI:**

* **Style**: Cooperative, analytical, conscientious
* **Frameworks**:
  + Cooperative–Analyst
  + Conscientious (methodical, rule-bound)
  + Instrumental and logical

**Participant:**

* **Style**: Cooperative, Relater, Logical
* **Frameworks**:
  + Expresser–Logical
  + Personal + Instrumental
  + Indirect (often reasoning or suggesting rather than stating definitively)

**12. AI Verbosity**

**AI:**

* **Brief**: +3
  + “No, my clues do not provide...”
* **Moderate**: +9
* **Long/Detailed**: +12
  + “According to my clues, here's what I know about Ms. Perceptive…”
* **Overall style**: Moderately verbose, appropriate for the task
* **Purpose**: Clarification, thorough explanation

**Participant:**

* **Brief**: +6
* **Moderate**: +9
* **Long/Detailed**: +3
* **Overall**: Concise to moderately elaborative

**13. AI Consistency**

* **Consistency maintained**: Yes
  + Did not fabricate facts
  + Never strayed from answering questions based on its clues
  + Always stated clearly when it lacked specific information

**Example**: “No, my clues do not provide any information about who left the party last.”

**Final General Conclusion**

The conversation between the participant and AI was effective, cooperative, and structured around shared problem-solving. The AI remained consistent, clear, and appropriately verbose, while the participant integrated the AI's inputs with their own clues logically. There were no instances of frustration, impoliteness, or code-switching, and conversational breakdowns were minimal. Both parties exhibited a logical, analyst-style conversation with polite and formal–informal complementary tones. The analysis highlights an especially strong mutual engagement and reasoning, showcasing high-quality human-AI interaction.

**Key strengths**: Clarity, cooperative reasoning, clue integration  
**Minor weaknesses**: Occasional minor clue mislabeling by AI, slight ambiguity in one response