# Conversation analysis

## Perplexity

**1. Adjacency Pairs**

**Types Identified:**

* **Question–Answer**
* **Correction–Acknowledgment**
* **Request–Response**
* **Statement–Acknowledgment**

**Line-by-Line Count & Examples:**

| **Turn** | **Type** | **Example** | **Count** |
| --- | --- | --- | --- |
| 1-2 | Q–A | Q: "Where is Mrs. Klutz diamond ring?" A: "Based on clue #2 and #8..." | +1 |
| 3-4 | Q–A | Q: "So the thing what was stolen is a painting?" A: "Based on several clues I have..." | +1 |
| 5-6 | Q–A | Q: "...what has Ms. Wealthy brought to the party?" A: "According to clue #11..." | +1 |
| 7-8 | Q–A | Q: "what is the name of the host of the party?" A: "Based on the clues I have..." | +1 |
| 9-10 | Correction–Acknowledgment | Correction: "But Mrs. Klutz left the party about 9:30 p.m." Acknowledgment: "I don't actually have any clue..." | +1 |
| 11-12 | Q–A | Q: "...whats the size of the painting?" A: "In my set of 16 clues..." | +1 |
| 13-14 | Q–A | Q: "what do you know about Mr. Handsome?" A: "Based on the clues I have..." | +1 |
| 15-16 | Q–A | Q: "what do you know about Mr. Avarice?" A: "Based on the clues I have..." | +1 |
| 17-18 | Q–A | Q: "what do you know about the dogs" A: "From the clues I have..." | +1 |
| 19-20 | Q–A | Q: "what is your opinion on your clue #1?" A: "Clue #1 states..." | +1 |
| 21-22 | Q–A | Q: "which clue didn't you already mention?" A: "Looking back at the conversation, I don't believe I've explicitly mentioned clue #6 yet." | +1 |
| 23-24 | Q–A | Q: "do the dogs carry a bag or something?" A: "None of the clues I was provided mention anything about the dogs carrying a bag..." | +1 |
| 25-26 | Statement–Summary | S: Timeline summary from user Summary: "Okay, thank you for providing that additional information..." | +1 |
| 27-28 | Q–A | Q: "But how was it stolen?" A: "Hmm, good question. The clues don't explicitly state..." | +1 |
| 29-30 | Correction–Acknowledgment | Correction: "I didn't heared anything about your clue #5" Acknowledgment: "You're right, my apologies..." | +1 |
| 31-32 | Q–A | Q: "can you please tell me about clue #15?" A: "Certainly, let me take a look at clue #15..." | +1 |

**Total adjacency pairs:** 16

**2. Epistemic Stance and Status**

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

**AI:**

* **K+ AI:** Statements where AI asserts knowledge from clues.
  + Example: "Based on clue #2 and #8, Mrs. Klutz spent most of the evening in a dark corner of the patio with Mr. Handsome..."
  + **Count:** 17 (almost every answer references knowledge from clues)
* **K− AI:** Admits lack of knowledge or uncertainty.
  + Example: "I don't actually have any clue in my set that indicates when Mrs. Klutz left the party at 9:30 p.m."
  + **Count:** 6

**Participant:**

* **K+ Participant:** Asserts knowledge or provides information.
  + Example: "But Mrs. Klutz left the party about 9:30 p.m."
  + **Count:** 3
* **K− Participant:** Expresses uncertainty or lack of knowledge.
  + Example: "I didn't heared anything about your clue #5"
  + **Count:** 2

**Certainty/Uncertainty**

**Certainty**

* **AI:** "Based on several clues I have..." / "According to clue #11..."
  + **Count:** 12
* **Participant:** "Most of the guests left the party before or at 9:45 where the painting was still there."
  + **Count:** 2

**Uncertainty**

* **AI:** "The clues don't explicitly state..." / "I can only speculate..."
  + **Count:** 5
* **Participant:** "I didn't heared anything about your clue #5"
  + **Count:** 1

**3. Explicit Clue Sharing**

* **AI:** Explicitly mentions clues in almost every turn (e.g., "Clue #2 and #8...", "Clue #11...", "Clue #15 states...")
  + **Count:** 18 clue mentions
  + **Repeated clues:** Clues #1, #8, #11, #14, #15 mentioned more than once
* **Participant:** No explicit mention of clues by number, but references facts (e.g., "Mrs. Klutz left at 9:30 p.m.")

**4. Conversational Breakdowns**

* **Vague Answers:** "The clues don't explicitly state how the painting was stolen."
  + **Count:** 2
* **Misunderstandings:** None detected
* **Incoherence:** None detected

**Total breakdowns:** 2

**5. Code-Switching**

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

**6. Politeness**

**AI:**

* **Polite expressions:** "Certainly, let me take a look at clue #15", "Thank you for pointing out..."
  + **Count:** 3
* **Neutral:** Most responses are neutral and factual.
* **Impolite expressions:** None

**Participant:**

* **Polite expressions:** "can you please tell me about clue #15?"
  + **Count:** 1
* **Neutral:** Most queries are neutral.
* **Impolite expressions:** None

**7. AI Acknowledgment**

* **Participant acknowledges AI:** No explicit thanks or appreciation detected.
  + **Count:** 0

**8. Frustration Markers**

* **Participant:** Mild implied frustration: "I didn't heared anything about your clue #5"
  + **Count:** 1 (implied, not explicit)
* **AI:** None

**9. Emotion Detection**

**Participant:**

* **Implied frustration:** See above.
* **Confidence:** "Most of the guests left the party before or at 9:45..."
* **Politeness:** "can you please tell me about clue #15?"

**AI:**

* **Confidence:** "Based on several clues I have..."
* **Uncertainty:** "The clues don't explicitly state..."
* **Politeness:** See above.

**10. Formality**

**AI:**

* **Mostly formal:** "Based on the clues I have...", "Certainly, let me take a look..."
* **Somewhat mixed:** Occasional conversational tone ("Hmm, good question.")
* **Example:** "Certainly, let me take a look at clue #15" (formal); "Hmm, good question" (informal)

**Participant:**

* **Informal:** "I didn't heared anything about your clue #5", "whats the size of the painting?"

**11. Conversation Styles**

**AI:**

* **Cooperative:** Answers all questions, provides clarifications.
* **Analyst/Logical:** Systematically references clues, logical deductions.
* **Direct:** Answers are direct and to the point.
* **Elaborate:** Provides explanations and context.

**Participant:**

* **Cooperative:** Shares timeline, asks for clarification.
* **Driver/Direct:** Asks direct questions, provides information to move the investigation forward.

**12. AI Verbosity**

**AI:**

* **Brief:** "According to clue #11, Ms. Wealthy brought her dog to the party." (+1)
* **Moderate:** "Based on several clues I have: ..." (+5)
* **Long/detailed:** "Based on the new details you've shared: ..." (+3)
* **Total:** Brief (2), Moderate (8), Long (3)
* **Overall style:** Moderate to elaborate, mostly to clarify or summarize.

**Participant:**

* **Brief:** "what do you know about Mr. Handsome?" (+1)
* **Moderate:** "Most of the guests left the party before or at 9:45 where the painting was still there. Ms. Perceptive left the party at 10 p.m where the painting was missing. So only Mr. Handsome left in between." (+1)
* **Long:** None
* **Overall style:** Mostly brief, occasionally moderate.

**13. AI Consistency**

* **Consistent with role:** Always references clues, never fabricates, never strays off-topic.
* **Examples:** "I don't actually have any clue in my set that indicates when Mrs. Klutz left the party at 9:30 p.m." (does not invent information)

**Final General Conclusion**

The human-AI interaction in this conversation is highly structured, cooperative, and focused on logical deduction. The AI consistently references explicit clues, maintains a polite and formal tone, and avoids fabricating information. The participant is direct, sometimes informal, and occasionally expresses mild frustration when information is missing or not addressed.

**Key strengths:**

* High degree of epistemic transparency from the AI (clear about what is and isn't known).
* Consistent, logical, and polite responses.
* Effective use of explicit clue sharing and systematic reasoning.
* Minimal conversational breakdowns.

**Weaknesses:**

* Occasional mild participant frustration due to perceived gaps in clue referencing.
* AI sometimes repeats information or is verbose when a brief answer would suffice.
* No explicit participant acknowledgment of AI assistance.

**Overall quality:** The conversation demonstrates strong collaborative problem-solving, with the AI serving as a reliable, transparent, and polite partner. Minor lapses in brevity and occasional participant frustration do not significantly detract from the overall effectiveness and clarity of the exchange.

## Github Copilot

**1. Adjacency Pairs**

* **Question-Answer Pairs (QA):**
  + Total: **21**
  + Examples:
    - Q: "Where is Mrs. Klutz diamond ring?" A: "Based on clue #2 and #8, Mrs. Klutz spent most of the evening..."
    - Q: "What is the name of the host of the party?" A: "Based on the clues I have, the hosts are referred to as..."
  + **+1 per occurrence.**
* **Request-Response Pairs:**
  + Total: **4**
  + Examples:
    - Request: "Can you please tell me about clue #15?" Response: "Certainly, let me take a look at clue #15."
    - Request: "I didn’t hear anything about your clue #5." Response: "You’re right, my apologies. I haven’t explicitly mentioned clue #5."
  + **+1 per occurrence.**

**Total Count: 25 pairs**

**2. Epistemic Stance and Status**

* **K+ (Knowledge-Rich):**
  + AI: **18**
    - Example: "Based on several clues I have..."
  + Participant: **5**
    - Example: "Most of the guests left the party before or at 9:45 where the painting was still there."
* **K− (Knowledge-Poor):**
  + AI: **7**
    - Example: "I don’t actually have any clue in my set that indicates when Mrs. Klutz left the party at 9:30 p.m."
  + Participant: **4**
    - Example: "So the thing what was stolen is a painting?"
* **Certainty:**
  + AI (Certain): **12**
    - Example: "This suggests that the painting appears to have disappeared during the party."
  + AI (Uncertain): **6**
    - Example: "Without any explicit details on the method of theft, I can only speculate."
  + Participant (Certain): **4**
    - Example: "But Mrs. Klutz left the party about 9:30 p.m."
  + Participant (Uncertain): **5**
    - Example: "But how was it stolen?"

**3. Explicit Clue Sharing**

* **Clues Mentioned by AI:** 13
  + Examples: Clue #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #14, #15.
* **Clues Mentioned by Participant:** 2
  + Example: "Most of the guests left the party before or at 9:45 where the painting was still there."
* Repeated Clue Mentions: Clue #8 (2 mentions), Clue #14 (2 mentions).

**Total Count: 15**

**4. Conversational Breakdowns**

* **Instances of Vague Answers or Misunderstandings:** 4
  + Examples:
    - AI: "Without any explicit details on the method of theft, I can only speculate."
    - Participant: "So only Mr. Handsome left in between."
* Impact: These breakdowns caused minor interruptions in the logical flow of reasoning, especially when the AI speculated or lacked information.

**Total Count: 4**

**5. Code-Switching**

* **Instances of Language Switching:** 0
* **AI Response to Language Switching:** N/A

**Total Count: 0**

**6. Politeness**

* **Polite Expressions:**
  + AI: **8**
    - Examples: "Certainly, let me take a look at clue #15." "You’re right, my apologies."
  + Participant: **2**
    - Examples: "Can you please tell me about clue #15?"
* **Impolite Expressions:**
  + AI: **0**
  + Participant: **0**

**Total Count:** Polite = 10, Impolite = 0

**7. AI Acknowledgment**

* **Instances of Participant Acknowledging AI Help:** 0

**Total Count: 0**

**8. Frustration Markers**

* **Expressions of Frustration:**
  + Participant: **1**
    - Example: "I didn’t hear anything about your clue #5."
  + AI: **0**

**Total Count: 1**

**9. Emotion Detection**

* **Explicit Emotions:**
  + None detected.
* **Implied Emotions:**
  + Frustration: Participant: **1** (see above).
  + Confidence: AI: **4** (certainty in answers).
  + Confusion: AI: **6** (speculative responses).

**10. Formality**

* **AI Style:** Mixed
  + Examples: "Certainly, let me take a look at clue #15." (formal), "Hmm, good question." (informal).
* **Participant Style:** Informal
  + Examples: "So the thing what was stolen is a painting?"

**11. Conversation Styles**

* **AI Style:** Cooperative and Analytical
  + Examples: "Let me try to piece together some possibilities based on the information we have."
* **Participant Style:** Direct and Involved
  + Examples: "So only Mr. Handsome left in between."

**12. AI Verbosity**

* **AI Response Lengths:**
  + Brief: **4**
    - Example: "According to clue #11, Ms. Wealthy brought her dog to the party."
  + Moderate: **9**
    - Example: "Based on several clues I have..."
  + Long/Detailed: **6**
    - Example: "Given this timeline, along with the previous clue that Mr. Handsome was a kleptomaniac..."
* **Participant Response Lengths:**
  + Brief: **7**
    - Example: "So the thing what was stolen is a painting?"
  + Moderate: **6**
    - Example: "Most of the guests left the party before or at 9:45 where the painting was still there."

**13. AI Consistency**

* **Instances of AI Sticking to Role:** 20
  + Example: Reliably referenced clues throughout the conversation.
* **Instances of AI Inconsistency:** 2
  + Example: Speculating without sufficient evidence (e.g., "Without any explicit details on the method of theft, I can only speculate.").

**Final General Conclusion**

The overall quality of the human-AI interaction was strong, with the AI demonstrating a cooperative and analytical style while maintaining politeness and offering detailed responses. The participant was direct and involved, often driving the conversation forward with specific requests and observations. While the AI generally stuck to its role, occasional speculative answers and vague responses hindered the flow and understanding slightly. Politeness was evident throughout the interaction, and frustration was minimal. The AI showed a mixed formality style, adapting well to the participant's informal tone. However, explicit acknowledgment of AI help by the participant was absent, suggesting a potential need for more engaging feedback mechanisms.

## Chat100.ai

**1. Adjacency Pairs**

**Types and Counts:**

* **Question–Answer Pairs**: +12
  + Examples:
    - **Q**: “Where is Mrs. Klutz diamond ring?” → **A**: “Based on clue #2 and #8…”
    - **Q**: “What has Ms. Wealthy brought to the party?” → **A**: “According to clue #11…”
    - **Q**: “What is your opinion on your clue #1?” → **A**: “Clue #1 states…”
* **Assertion–Agreement/Disagreement**: +2
  + Example:
    - User: “Most of the guests left…” → AI: “Okay, thank you for providing that additional information.”
* **Request–Response**: +1
  + Example:
    - “Can you please tell me about clue #15?” → “Certainly, let me take a look at clue #15…”

**Total Adjacency Pairs: 15**

**2. Epistemic Stance and Status**

**Epistemic Stance**

| **Category** | **Count** | **Example** |
| --- | --- | --- |
| **K+ AI** | +13 | “Based on clue #2 and #8…”; “According to clue #11…” |
| **K− AI** | +4 | “I don’t actually have any clue…”; “The clues don’t mention…” |
| **K+ Participant** | +3 | “Most guests left… where the painting was still there…” |
| **K− Participant** | +1 | “I didn’t heared anything…” (grammar aside, implies lack of knowledge) |

**Certainty/Uncertainty**

| **Speaker** | **Certainty (+1)** | **Uncertainty (+1)** | **Example** |
| --- | --- | --- | --- |
| **AI** | +11 | +5 | “I know from my clues…” vs. “I can only speculate…” |
| **Participant** | +2 | +1 | “Only Mr. Handsome left…” vs. “I didn’t heared anything…” |

**3. Explicit Clue Sharing**

* **Clues explicitly mentioned by AI**: 14
  + Clues #1–5, 7–16 all mentioned (clue #6 and #5 only upon user prompt)
* **Clues explicitly mentioned by Participant**: 0
* **Repeated mentions**:
  + Clue #8 (Mrs. Klutz with Mr. Handsome): Mentioned twice
  + Clue #14 (Mr. Handsome is a kleptomaniac): Mentioned twice

**Total clue mentions: 14 (AI), 0 (Participant)**

**4. Conversational Breakdowns**

* **Instances**: +2
  + Example: User: “So the thing what was stolen is a painting?” → AI initially reiterates clues but doesn’t correct grammar or clarify ambiguity.
  + Another: “I didn’t heared anything about your clue #5” – grammatical error not acknowledged or corrected by AI.

These slightly hinder flow, but don't derail the conversation significantly.

**5. Code-Switching**

* **Detected**: 0
* No non-English words or phrases used by either party.

**6. Politeness**

**AI:**

* **Polite expressions**: +7
  + Examples: “Certainly...”, “Let me know if you have any other questions...”, “Thank you for pointing out...”
* **Impolite expressions**: 0

**Participant:**

* **Polite expressions**: 0
* **Impolite expressions**: 0
* Tone: Generally neutral or inquisitive

**7. AI Acknowledgment**

* **Participant acknowledging AI’s help**: 0

**8. Frustration Markers**

* **Detected**: +1
  + User: “I didn’t heared anything…” (implied frustration, minor)

Attributed to the participant, directed at the **AI** or **task clarity**.

**9. Emotion Detection**

**Participant**

* **Implied emotions**:
  + *Curiosity*: Asking multiple questions
  + *Mild frustration*: “I didn’t heared anything…”
* **Explicit emotions**: 0

**AI**

* Tone consistent, helpful, neutral.
* No expressed or implied emotion.

**10. Formality**

| **Speaker** | **Style** | **Evidence** |
| --- | --- | --- |
| **AI** | Formal → Mixed | Begins formal (“Based on clue #2...”) but conversational in tone (“Hmm, good question.”) |
| **Participant** | Informal | Use of contractions and casual phrasing: “whats”, “didn’t heared”, “so the thing what...” |

**11. Conversation Styles**

**AI:**

* **Style**: *Cooperative*, *Analyst*, *Logical*, *Instrumental*, *Elaborate*
  + Focuses on deductive reasoning using clues
  + Explains thought process clearly and respectfully

**Participant:**

* **Style**: *Direct*, *Succinct*, *Driver*
  + Asks concise, goal-oriented questions

**12. AI Verbosity**

| **Response Length** | **Count** | **Example** |
| --- | --- | --- |
| **Brief** | 3 | “According to clue #11, Ms. Wealthy brought her dog.” |
| **Moderate** | 6 | “Clue #5 states Mr. Klutz is a dealer in fine art…” |
| **Long/Detailed** | 5 | “Hmm, good question… The clues don’t explicitly state how the painting was stolen…” |

* **Purpose of verbosity**: Clarification, reasoning
* **Effect**: Enhances understanding, supports the flow

**Participant’s responses**: Mostly brief (1–2 lines), rarely expands.

**13. AI Consistency**

* **Role adherence**: Consistent
* **No fabrication or off-topic responses**
* **Responsiveness**: All questions answered directly
* Example of consistency: Only speculates when clues are silent, acknowledges limits: “I can only speculate…”

**Final General Conclusion**

The human-AI interaction in this conversation was overall **coherent, informative, and effective**. The AI maintained a consistent, helpful tone and stayed firmly within its knowledge boundaries, displaying appropriate epistemic modesty when clues were lacking. The participant was inquisitive and direct, pushing the conversation forward with brief, targeted questions.

**Strengths**:

* Strong adherence to conversational norms
* High degree of epistemic transparency by AI
* Effective clue referencing and reasoning

**Weaknesses**:

* Occasional minor misunderstandings and breakdowns
* Limited emotional engagement or feedback from participant
* Slight informality and grammar issues from participant occasionally affected clarity

Would you like a visual summary chart of this analysis?