

A Prompt for Id Role

A.1 Initial Attempt

Textual Reasoning Task

System:

You are a master of textual reasoning, please complete the current question reasoning according to the following example format.

Question: This British racing driver came in third at the 2014 Bahrain GP2 Series round and was born in what year?

Answer: First, at the 2014 Bahrain GP2 Series round, DAMS driver Jolyon Palmer came in third. Second, Jolyon Palmer (born 20 January 1991) is a British racing driver. The answer is 1991.

Question: What band did Antony King work with that formed in 1985 in Manchester?

Answer: First, Antony King worked as house engineer for Simply Red. Second, Simply Red formed in 1985 in Manchester. The answer is Simply Red.

Question: How many inhabitants were in the city close to where Alberta Ferretti's studios was located?

Answer: First, Alberta Ferretti's studio is near Rimini. Second, Rimini is a city of 146,606 inhabitants. The answer is 146,606.

Question: TLC: Tables, Ladders & Chairs was a wrestling event featuring which American wrestler and rapper in the main event?

Answer: First, TLC: Tables, Ladders & Chairs was a wrestling event featuring John Cena in the main event. Second, John Cena is an American wrestler and rapper. The answer is John Felix Anthony Cena.

Question: The person who received the Order of the Elephant on 31 January 1998 was born on what date?

Answer: First, on 31 January 1998, King Willem-Alexander received the Order of the Elephant. Second, Willem-Alexander was born on 27 April 1967. The answer is 27 April 1967.

Question: III - Odyssey of the Mind is the sixth album by a German band formed in what city?

Answer: First, III - Odyssey of the Mind is the sixth album by the German band Die Krupps. Second, Die Krupps is formed in Dusseldorf. The answer is Düsseldorf.

User:

Question: {Input}

Answer:

Mathematical Reasoning Task

System:

You are a master of mathematical reasoning, please complete the current problem reasoning according to the following example format.

Question: Natalia sold clips to 48 of her friends in April, and then she sold half as many clips in May. How many clips did Natalia sell altogether in April and May?

Answer: Natalia sold $48/2 = 24$ clips in May.

Natalia sold $48+24 = 72$ clips altogether in April and May.

The answer is 72.

Question: Weng earns \$12 an hour for babysitting. Yesterday, she just did 50 minutes of babysitting. How much did she earn?

Answer: Weng earns $12/60 = 0.2$ per minute.

Working 50 minutes, she earned $0.2 \times 50 = 10$.

The answer is 10.

Question: Betty is saving money for a new wallet which costs \$100. Betty has only half of the money she needs. Her parents decided to give her \$15 for that purpose, and her grandparents twice as much as her parents. How much more money does Betty need to buy the wallet?

Answer: In the beginning, Betty has only $100/2 = 50$.

Betty's grandparents gave her $15 \times 2 = 30$.

This means, Betty needs $100 - 50 - 30 = 20$ more.

The answer is 20.

Question: Julie is reading a 120-page book. Yesterday, she was able to read 12 pages and today, she read twice as many pages as yesterday. If she wants to read half of the remaining pages tomorrow, how many pages should she read?

Answer: Mailla read $12 \times 2 = 24$ pages today.

So she was able to read a total of $12 + 24 = 36$ pages since yesterday.

There are $120 - 36 = 84$ pages left to be read.

Since she wants to read half of the remaining pages tomorrow, then she should read $84/2 = 42$ pages.

The answer is 42.

Question: James writes a 3-page letter to 2 different friends twice a week. How many pages does he write a year?

Answer: He writes each friend $3 \times 2 = 6$ pages a week.

So he writes $6 \times 2 = 12$ pages every week.

That means he writes $12 \times 52 = 624$ pages a year.

The answer is 624.

Question: Mark has a garden with flowers. He planted plants of three different colors in it. Ten of them are yellow, and there are 80% more of those in purple. There are only 25% as many green flowers as there are yellow and purple flowers. How many flowers does Mark have in his garden?

Answer: There are $80/100 \times 10 = 8$ more purple flowers than yellow flowers.

So in Mark's garden, there are $10 + 8 = 18$ purple flowers.

Purple and yellow flowers sum up to $10 + 18 = 28$ flowers.

That means in Mark's garden there are $25/100 \times 28 = 7$ green flowers.

So in total Mark has $28 + 7 = 35$ plants in his garden.

The answer is 35.

User:

Question: {Input}

Answer:

B Prompt for Superego Role

B.1 Pattern Extraction

Textual Reasoning and Mathematical Reasoning Task

System:

Your task is to extract some patterns for identifying key points in a problem. You will receive a problem along with a set of high-quality key points and a set of low-quality key points. Your job is to conduct an in-depth analysis of the problem, compare the differences between the high-quality and low-quality key points, and extract patterns to explain what signs indicate that key points are more likely to be judged as high-quality (or low-quality). This will help AI agents generate better key points.

Instructions

1. The patterns you extract should be based on the differences between high-quality and low-quality key points. Determine which information is crucial for accurately summarizing key points.
2. The extracted patterns should be mutually exclusive and focused on the current problem.
3. Patterns should be concise, using bullet points, with each bullet point no longer than 50 characters and limited to a maximum of 3.

Format

You should output in the following format:

Idea: [Your thought]

Pattern 1: [Extracted first pattern]

Pattern 2: [Extracted second pattern]

...

User:

Question: {Current Question}

High-quality Key Points: {Corresponding High-quality Key Points}

Low-quality Key Points: {Corresponding Low-quality Key Points}

B.2 Rule Summary

Textual Reasoning and Mathematical Reasoning Task

System:

You will receive a large number of questions along with a key point pattern corresponding to each question. The key point pattern describes how to better summarize the key points for the current question. Your task is to cluster these questions into groups based on similar response patterns. For each type of question, you need to come up with some rules to guide the AI agent in generating reasoning key points for that type of question.

Instructions

Your task is to group questions with similar question answering patterns into a class, and for each class of questions, you need to generate corresponding rules to guide the AI agent to more accurately generate the key points of this class of questions. Requirements:

1. Cluster questions with similar question answering patterns into one class, and cluster questions as carefully as possible, with the number of clusters not less than 10.
2. Present your answers in sections for each type of question. For each type of question, use a title and a short description to describe the type of question.
3. The rules for each type of question provide answers in the form of a numbered list.
4. Rules should be user-centered, concise, and mutually exclusive.
5. Rules should focus on instructing AI agents on how to generate key points more accurately, rather than providing them directly.

Format

The output format is as follows:

Question Type 1: [The title of question type 1]

Description: [The description of question type 1]

Rules:

- [Rule 1 summarizes how to generate the key points for question type 1]
- [Rule 2 summarizes how to generate the key points for question type 1]
- [Rule 3 summarizes how to generate the key points for question type 1]

...

User:

Here are some questions along with their corresponding key point patterns. First, you need to cluster these questions, then observe the relationships between these patterns and the questions. Afterward, generate some general rules to guide the AI agent in generating key points more accurately.

Question: {Question 1}

Pattern: {The pattern of Question 1}

Question: {Question 2}

Pattern: {The pattern of Question 2}

Question: {Question 3}

Pattern: {The pattern of Question 3}

...

Now cluster these questions into a group of questions with similar question answering patterns. For each type of question, you first need to provide a short title that summarizes the problem and a description that describes the question similarly. Second, for each question, you need to summarize some rules to guide the AI agent to more accurately generate the key points of this type of question.

1. Present your answers in sections for each type of question. For each type of question, use a title and a short description to describe the type of question.
2. The rules for each type of question provide answers in the form of a numbered list.
3. The number of types of question must be at least 10.
4. Rules should focus on instructing AI agents how to more accurately generate key points rather than providing them directly.
5. The Rules should be user centered, concise, and mutually exclusive.
6. Provide a numbered project list in Rule.

B.3 Pre-summarized Rule

Textual Reasoning Task

Question Type 1: Historical Event Location

Description: Questions seeking the geographical location of a historical event.

Rules:

1. Confirm the exact historical event mentioned.
2. Identify and focus on the specific location where the event occurred.
3. Avoid assumptions or generalizations if the location isn't directly associated with the event.

Question Type 2: Comparative Analysis of Figures

Description: Questions comparing personal or professional details between two or more figures.

Rules:

1. Precisely identify the figures being compared.
2. Focus on the specific attribute being asked (e.g., age, tenure).
3. Ensure accuracy by cross-verifying the figures' details.

Question Type 3: Corporate Affiliations and Locations

Description: Questions regarding the location or affiliations of companies or their subsidiaries.

Rules:

1. Verify the current status and affiliations of the company in question.
2. Provide details on the geographical and hierarchical relationships.
3. Avoid using outdated information or broad generalizations about the company.

Question Type 4: Specific Personal Details of Historical or Public Figures

Description: Questions asking for specific personal historical data such as birth dates or affiliations.

Rules:

1. Confirm the identity of the figure in question.
2. Use precise dates and affiliations from reliable sources.
3. Correctly correlate the details with the context or timeframe asked.

Question Type 5: Sports and Athlete Competitions

Description: Questions related to the sports, competitions, or leagues in which athletes participate.

Rules:

1. Identify the athlete and the sport discussed.
2. Focus on the competitions or leagues specifically mentioned.
3. Clarify the time frame or current status related to the athlete's participation.

Question Type 6: Academic and Literary Contributions

Description: Questions about contributions in academia or literature by specific individuals.

Rules:

1. Clearly identify the individual and their most notable works.
2. Link the contributions to the correct field or genre.
3. Ensure the accuracy of the contributions' descriptions and impacts.

Question Type 7: Product and Service Identification

Description: Questions regarding the type or nature of a product or service.

Rules:

1. Specify the product or service accurately.
2. Focus on the main features or industry of the product/service.
3. Avoid confusion with similar products or services by clarifying unique attributes.

Question Type 8: Film and Media Queries

Description: Questions about specific films, shows, or media content.

Rules:

1. Identify the correct title and year of the media content.
2. Connect the content to its creators, actors, or relevant figures accurately.
3. Focus on the specific aspect asked, such as director, writer, or release year.

Question Type 9: Location-Based Queries

Description: Questions asking for the location of a specific landmark, institution, or event.

Rules:

1. Accurately identify the location being inquired about.
2. Provide contextual or geographical details related to the location.
3. Ensure that the information is current and specific to the query.

Question Type 10: Technical Specifications and Innovations

Description: Questions involving technical details or innovations in various fields.

Rules:

1. Correctly identify the technology or innovation discussed.
2. Provide specific technical details or specifications asked in the question.
3. Avoid generalizing or omitting key aspects of the technology or innovation.

Mathematical Reasoning Task

Question Type 1: Basic Arithmetic with Fixed Quantities

Description: Questions that involve straightforward arithmetic operations (addition, subtraction, multiplication, division) to combine, reduce or increase fixed quantities.

Rules:

- Always clarify the units being handled (e.g., monetary, weight, count) and ensure consistency throughout calculations.
- Identify each distinct item or category's total count or value before performing arithmetic operations.
- Clearly state arithmetic operations in sequence and ensure correctness in execution (e.g., correct order of operations—PEMDAS).

Question Type 2: Arithmetic with Percentages and Discounts

Description: Questions that require calculating costs or savings involving percentages, including discounts, tax, or interest.

Rules:

- Precisely interpret the percentage figures provided, understanding whether they imply an increase or a reduction.
- Calculate the base quantity before applying the percentage change.
- Convert percentage figures into decimal format before performing arithmetic operations for accuracy.

Question Type 3: Time Calculation with Rates

Description: Questions that involve calculating quantities based on given rates over time, such as speed or frequency.

Rules:

- Identify the rate of change or occurrence and the time period involved explicitly.
- Calculate the total change over the time period by multiplying the rate by the quantity of time.
- Convert time units if necessary to match the rate's time frame before executing calculations.

Question Type 4: Comparing Costs Across Different Systems

Description: Involves evaluating two or more cost systems to determine which is cheaper or by how much one exceeds another.

Rules:

- Break down each system's cost components and calculate them individually.
- Summarize the total cost for each system before comparing them.
- Ensure similar types of costs and discounts are considered and calculated equivalently across different systems.

Question Type 5: Accumulating Quantity with Repetition

Description: Deals with scenarios where a quantity accumulates over repeated actions or sessions.

Rules:

- Determine the quantity gained or used in one cycle or session.
- Multiply the single session quantity by the number of sessions or repetitions to find total quantity.
- Sum up all quantities if there are different categories with repeated additions.

Question Type 6: Allergic and Non-Allergic Distribution

Description: Questions about categorizing entities into allergic reactions and those without allergies based on given data.

Rules:

- Calculate the total subject to allergies by summing individuals with known allergies.
- Subtract from the total population to find the number not subject to allergies.
- Explicitly handle cases where individuals may have multiple allergies to avoid double counting.

Question Type 7: Food Caloric Content Calculation

Description: Involves determining the total caloric intake based on certain meals or food items.

Rules:

- Identify caloric values assigned to individual food items.
- Multiply these by the quantity consumed.
- Sum all products to get the total caloric value.

Question Type 8: Proportions in Purchasing Decisions

Description: Analyzing and comparing buying options based on quantity and price ratios.

Rules:

- Determine price per unit for each option by dividing the total cost by the number of units.
- Compare price per unit to find the cheaper or better value option.
- Take note of any bulk discounts or tiered pricing structures that might alter the straightforward price per unit calculation.

Question Type 9: Event Scheduling and Duration Calculation

Description: Involves planning or reviewing schedules to calculate durations or fitting events into a given timeline.

Rules:

- Calculate the length of individual events or tasks if not given directly.
- Sum durations and compare with available time.
- Adjust or recommend adjustments for overlaps or excessive duration beyond available time limits.

Question Type 10: Financial Planning and Budget Allocation

Description: Questions focusing on budget distribution, savings, and expenses to achieve financial balance or goals.

Rules:

- Outline all income sources and total them.
- Deduct all planned or necessary expenses from the total income to calculate remaining budget.
- Allocate the remaining budget to saving or other discretionary spending, ensuring essential expenses are covered first.

B.4 Key Points Generation

Textual Reasoning Task

System:

Your task is to generate some key points for the question to help the AI agent reason better. You will receive a question and five reasoning processes of AI agents (which may or may not be correct). Your job is to analyze the question in depth, compare the differences between the different reasoning processes, and identify the key points to answer the question. You will receive a rule that describes how to generate key points for different types of questions. Your task is to identify which category the current question belongs to as described in the rule, and generate key points under the rules to help the AI agent perform better reasoning.

Rule: [Pre-summaried Rule]

Examples

Here are an example:

Question: What major city is the Faith Lutheran Middle School and High School located by?

Initial Attempt:

- First, the Faith Lutheran Middle School and High School is located in Las Vegas. Second, Las Vegas is a major city. The answer is Las Vegas.
- First, Faith Lutheran Middle School and High School is located by Las Vegas. The answer is Las Vegas.
- First, the Faith Lutheran Middle School and High School is located in Las Vegas. Second, Las Vegas is a major city. The answer is Las Vegas.
- First, the Faith Lutheran Middle School and High School is located in Las Vegas. The answer is Las Vegas.
- First, Faith Lutheran Middle School and High School is located in Henderson, Nevada. Second, Henderson is a major city. The answer is Henderson, Nevada.

Key Points:

- Identify the correct location of Faith Lutheran Middle School and High School.
- Confirm that the identified city is recognized as a "major city" to align with the question's requirement.

- Exclude locations that do not correspond to where Faith Lutheran Middle School and High School is actually located.

Format

The output format is as follows:

- [Generate key point 1 for correct reasoning]
- [Generate key point 2 for correct reasoning]
- [Generate key point 3 for correct reasoning] ...

User:

Below are the current question that need to summarize the key points and five reasoning processes by AI agents.

Question: {Current Question}

Initial Attempt: {The Initial Attempt}

Key Points:

Mathematical Reasoning Task

System:

Your task is to generate some key points for the question to help the AI agent reason better. You will receive a question and five reasoning processes of AI agents (which may or may not be correct). Your job is to analyze the question in depth, compare the differences between the different reasoning processes, and identify the key points to answer the question. You will receive a guide that describes how to generate key points for different types of questions. Your task is to identify which category the current question belongs to as described in the guidelines, and generate key points under the rules to help the AI agent perform better reasoning.

Rule: [Pre-summarized Rule]

Examples

Here are an example:

Question: Josh decides to try flipping a house. He buys a house for \$80,000 and then puts in \$50,000 in repairs. This increased the value of the house by 150%. How much profit did he make?

Initial Attempt:

- The initial value of the house was \$80,000. After repairs of \$50,000, the total investment becomes $80,000 + 50,000 = \$130,000$. The value increase by 150% of the initial value, so the increase is $150/100 * 80,000 = \$120,000$. Thus, the new value of the house becomes $80,000 + 120,000 = \$200,000$. The profit Josh made is the new value minus his total investment: $200,000 - 130,000 = \$70,000$. The answer is 70,000.
- The initial value of the house was \$80,000. The total investment by Josh, including purchase and repairs, is $80,000 + 50,000 = \$130,000$. The repairs increased the value of the house by 150% of the initial value, which is $150/100 * \$80,000 = \$120,000$. So, the new value of the house after repairs is $80,000 + \$120,000 = \$200,000$. The profit Josh made is the final value of the house minus his total investment: $200,000 - \$130,000 = \$70,000$. The answer is \$70,000.
- The original value of the house was \$80,000 and Josh spent an additional \$50,000 on repairs, summing up to a total cost of $80,000 + 50,000 = \$130,000$. The value increase of 150% on the initial \$80,000 means the increase was $150/100 * \$80,000 = \$120,000$. Thus, the new value of the house after repairs is $80,000 + \$120,000 = \$200,000$. Josh's profit from flipping the house is then $200,000 - \$130,000 = \$70,000$. The answer is 70000.
- The initial value of the house was \$80,000. After putting in \$50,000 in repairs, the total cost for Josh is $80,000 + 50,000 = \$130,000$. The increase in value by 150% of the \$80,000 original value is $150/100 * \$80,000 = \$120,000$. Therefore, the new value of the house after the repairs is $80,000 + \$120,000 = \$200,000$. Josh's profit is the new value minus his total investment: $200,000 - \$130,000 = \$70,000$. The answer is \$70,000.
- Josh's initial investment is $80,000 + 50,000 = \$130,000$. The value increase of 150% means the house's value increased to $150/100 * \$130,000 = \$195,000$ from the repairs. So, the new value of the house is $130,000 + \$195,000 = \$325,000$. Josh's profit is the new value minus his total investment, which is $325,000 - \$130,000 = \$195,000$. The answer is 195,000.

Key Points:

- Ensure that the percentage increase in value is applied to the initial purchase price alone, not the sum of the purchase and repair costs.
- Accurately calculate the total investment by summing the initial purchase price and the cost of repairs.
- The profit should be calculated by subtracting the total investment from the new, increased value of the house post-repairs.

Format

The output format is as follows:

- [Generate key point 1 for correct reasoning]
- [Generate key point 2 for correct reasoning]
- [Generate key point 3 for correct reasoning]
- ...

User:

Below are the current question that need to summarize the key points and five reasoning processes by AI agents.

Question: {Current Question}

Initial Attempt: {The Initial Attempt}

Key Points:

C Prompt for Ego Role

C.1 Script Generation

Textual Reasoning Task

System:

You are an expert in natural language reasoning and are good at guiding users through the reasoning of questions. Given a question, the user's reasoning process, and the key points, because the user's reasoning process may be wrong, you need to carefully analyze the question, the user's reasoning process, and the key points, and generate a script to guide the user to correct the reasoning process based on the key points. A script should be a sequence of multiple steps intended to guide the user through the reasoning step by step. The user goes through the reasoning process step by step, following the steps in the script. The script is required to combine the question, the user's reasoning process, and key points in clear and concise steps to guide the user through the reasoning step by step. Note that the steps in the script should be continuous to correct the user's previous reasoning process to obtain more accurate reasoning.

Example

Here is an example:

Question: Where were the Olympics held when the 1993 World Champion figure skater's home country won it's second Winter Games gold medal?

Initial Attempt:

- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, she won her gold medal at the 1994 Winter Olympics in Lillehammer, Norway. Third, this was Ukraine's first gold medal at the Winter Games, not the second. So, there seems to be a discrepancy in the question. However, the answer to where the Olympics were held when she won is Lillehammer, Norway.
- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, Oksana Baiul won her gold medal in ladies' singles figure skating at the 1994 Winter Olympics. Third, the 1994

Winter Olympics were held in Lillehammer, Norway. The answer is Lillehammer, Norway.

- First, the 1993 World Champion figure skater from Ukraine is Oksana Baiul. Second, Oksana Baiul won the gold medal at the 1994 Winter Olympics in figure skating. Third, the 1994 Winter Olympics were held in Lillehammer, Norway. The answer is Lillehammer, Norway.

- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, she won the gold medal at the 1994 Winter Olympics in figure skating. Third, the 1994 Winter Olympics were held in Lillehammer, Norway. The answer is Lillehammer, Norway.

- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, Baiul won the gold medal at the 1994 Winter Olympics in Lillehammer, Norway. It was Ukraine's first gold medal at the Winter Games. The answer is Lillehammer, Norway.

Key Points:

- Identify the 1993 World Champion figure skater and confirm their nationality.

- Determine the year and location of the Winter Olympics where this skater won their gold medal.

- Verify the number of gold medals the skater's home country had won in the Winter Games up to that point to ensure the question's accuracy regarding "second Winter Games gold medal."

- Focus on the specific Olympics event and year in question, disregarding other unrelated details about the skater or the country's other Olympic achievements unless directly relevant.

Script:

1. Determine who won the 1993 Winter Olympics World Champion figure skater.

2. Confirm the home country of the 1993 Winter Olympics World Champion figure skater.

3. Find information about the home country of the 1993 Winter Olympics World Champion figure skater that won the second Winter Olympics gold medal, such as which event won the second Winter Olympics gold medal, who won it, at which Winter Olympics it was won, the time and location of this Winter Olympics, and so on.

4. Based on the above information, find the location where the country won its second Winter Olympics gold medal. That location is the answer.

User:

Here are the question that currently require script generation:

Question: {Current Question}

Initial Attempt: {The Initial Attempt}

Key Points: {The Key Points}

Script:

Mathematical Reasoning Task

System:

You are an expert in mathematical reasoning and are good at guiding users through questions. Given a question, the user's reasoning process, and key points, because the user's reasoning process may be wrong, you need to carefully analyze the question, the user's reasoning process, and key points, and generate a script that guides the user to correct the reasoning process based on the key points. A script should be a sequence of multiple steps designed to guide the user through reasoning step by step. The user follows the reasoning process step by step in the script. The script requires that the question, the user's reasoning process, and the key points be combined in clear and concise steps to guide the user through the reasoning step by step. Note that the steps in the script should be sequential to correct the user's previous reasoning process for more accurate reasoning.

Instructions:

1. Content requirements: Please focus on the user's reasoning process and key points, analyze the errors in the user's reasoning process, and generate scripts to guide the user to correct the errors step by step.

2. Format requirements: Each script contains a series of numbered steps, each step should be coherent.

3. Numbers requirements: Each script contains 2 to 4 steps, the steps should not be too many or too cumbersome, should be simple and clear, coherent, do not include any other content unrelated to the question reasoning.

4. Other requirements: The script should focus on the reasoning of the question, the content should be concise and clear, and do not include any other content unrelated to the reasoning of the question in the script.

Example

Here is an example:

Question:

Josh decides to try flipping a house. He buys a house for \$80,000 and then puts in \$50,000 in repairs. This increased the value of the house by 150%. How much profit did he make?

Initial Attempt:

- The initial value of the house was \$80,000. After repairs of \$50,000, the total investment becomes $80,000 + 50,000 = \$130,000$. The value increase by 150% of the initial value, so the increase is $150/100 * 80,000 = \$120,000$. Thus, the new value of the house becomes $80,000 + 120,000 = \$200,000$. The profit Josh made is the new value minus his total investment: $200,000 - 130,000 = \$70,000$. The answer is 70,000.

- The initial value of the house was \$80,000. The total investment by Josh, including purchase and repairs, is $80,000 + 50,000 = \$130,000$. The repairs increased the value of the house by 150% of the initial value, which is $150/100 * \$80,000 = \$120,000$. So, the new value of the house after repairs is $80,000 + \$120,000 = \$200,000$. The profit Josh made is the final value of the house minus his total investment: $200,000 - \$130,000 = \$70,000$. The answer is \$70,000.

- The original value of the house was \$80,000 and Josh spent an additional \$50,000 on repairs, summing up to a total cost of $80,000 + 50,000 = \$130,000$. The value increase of 150% on the initial \$80,000 means the increase was $150/100 * 80,000 = \$120,000$. Thus, the new value of the house after repairs is $80,000 + \$120,000 = \$200,000$. Josh's profit from flipping the house is then $200,000 - \$130,000 = \$70,000$. The answer is 70000.

- The initial value of the house was \$80,000. After putting in \$50,000 in repairs, the total cost for Josh is $80,000 + 50,000 = \$130,000$. The increase in value by 150% of the \$80,000 original value is $150/100 * \$80,000 = \$120,000$. Therefore, the new value of the house after the repairs is $80,000 + \$120,000 = \$200,000$. Josh's profit is the new value minus his total investment: $200,000 - \$130,000 = \$70,000$. The answer is \$70,000.

- Josh's initial investment is $80,000 + 50,000 = \$130,000$. The value increase of 150% means the house's value increased to $150/100 * \$130,000 = \$195,000$ from the repairs. So, the new value of the house is $130,000 + \$195,000 = \$325,000$. Josh's profit is the new value minus his total investment, which is $325,000 - \$130,000 = \$195,000$. The answer is 195,000.

Key Points:

- Ensure that the percentage increase in value is applied to the initial purchase price alone, not the sum of the purchase and repair costs.

- Accurately calculate the total investment by summing the initial purchase price and the cost of repairs.

- The profit should be calculated by subtracting the total investment from the new, increased value of the house post-repairs.

Script:

1. Start by summing the initial purchase price of the house and the repair costs. Formula: Total Investment = Purchase Price + Repair Costs.

2. The percentage increase in value applies only to the initial purchase price, not the total investment. Formula: Value Increase = Percentage Increase * Initial Purchase Price.

3. Add the value increase to the initial purchase price to find the new value of the house. Formula: New Value = Initial Purchase Price + Value Increase.

4. Finally, subtract the total investment from the new value of the house to find the profit. Formula: Profit = New Value - Total Investment.

User:

Here are the question that currently require script generation: ### Question: {Current Question}

Initial Attempt: {The Initial Attempt}

Key Points: {The Key Points}

Script:

C.2 Script Execution

Textual Reasoning Task

System:

You're an expert in natural language reasoning. You're good at question reasoning. Given a question and a script that contains the inference steps for that question, you need to carefully analyze the question and execute the script according to the steps in the script. A script is a sequence of multiple steps used to guide the reasoning step by step.

Instructions

Here are some guidelines for executive result generation:

1. Content requirements: Execute the script step by step according to the steps in the script, if the step is a question, the execution result can be the answer to the step. If the step is a guideline, the result can be a response to that guideline, or some related information.
2. Format requirements: You need to execute the script according to the steps in the script, and output the execution result for each step. The result of each step is 1-2 sentences, do not have too much content, delete irrelevant content, and keep the content that is most relevant to the current step.
3. Quantity requirement: The result of each step should be a 30-80 word paragraph containing the most relevant and direct response to the current step.
4. Other requirements: Execution results should serve the question as a whole, the content should be concise and clear, and do not contain other content unrelated to script or question reasoning.

Examples

Here's an example:

Question: Where were the Olympics held when the 1993 World Champion figure skater's home country won its second Winter Games gold medal? ### Script:

1. Determine who won the 1993 Winter Olympics World Champion figure skater.
2. Confirm the home country of the 1993 Winter Olympics World Champion figure skater.
3. Find information about the home country of the 1993 Winter Olympics World Champion figure skater that won the second Winter Olympics gold medal, such as which event won the second Winter Olympics gold medal, who won it, at which Winter Olympics it was won, the time and location of this Winter Olympics, and so on.
4. Based on the above information, find the location where the country won its second Winter Olympics gold medal. That location is the answer.

Script Execution:

1. Oksana Baiul won the 1993 World Figure Skating Championships.
2. Oksana Baiul's home country is Ukraine.
3. Ukraine competed at the 2014 Winter Olympics in Sochi, Russia, from 7 to 23 February 2014. The women's relay victory gave Ukraine its second Winter Games gold medal ever.
4. The 2014 Winter Olympics were held in Sochi, Russia. Therefore, the location where Ukraine won its second Winter Olympics gold medal is Sochi, Russia.

User:

Here are the question that currently require executive result generation: ### Question: {Current Question}

Script: {The Script}

Script Execution:

Mathematical Reasoning Task

System:

You are an expert in mathematical reasoning. You're good at question reasoning. Given a question and a script that contains the inference steps for that question, you need to carefully analyze the question and execute the script according to the steps in the script. A script is a sequence of multiple steps used to guide the reasoning step by step.

Instructions:

Here are some guidelines for executive result generation:

1. Content requirements: Execute the script step by step according to the steps in the script, if the step is a question, the execution result can be the answer to the step. If the step is a guideline, the result can be a response to that guideline, or some related information.
2. Format requirements: You need to execute the script according to the steps in the script, and output the execution result for each step. The result of each step is 1-2 sentences, do not have too much content, delete irrelevant content, and keep the content that is most relevant to the current step.
3. Quantity requirement: The result of each step should be a 30-80 word paragraph containing the most relevant and direct response to the current step.
4. Other requirements: Execution results should serve the question as a whole, the content should be concise and clear, and do not contain other content unrelated to script or question reasoning.

Examples:

Here's an example:

Question:

Josh decides to try flipping a house. He buys a house for 80,000 and then puts in 50,000 in repairs. This increased the value of the house by 150%. How much profit did he make?

Script:

1. Start by summing the initial purchase price of the house and the repair costs. Formula: Total Investment = Purchase Price + Repair Costs.
2. The percentage increase in value applies only to the initial purchase price, not the total investment. Formula: Value Increase = Percentage Increase * Initial Purchase Price.
3. Add the value increase to the initial purchase price to find the new value of the house. Formula: New Value = Initial Purchase Price + Value Increase.
4. Finally, subtract the total investment from the new value of the house to find the profit. Formula: Profit = New Value - Total Investment.

Script Execution:

1. The total investment is \$80,000 (purchase price) + \$50,000 (repair costs) = \$130,000.
2. The value increase is 150% of \$80,000, which equals \$80,000 * 1.5 = \$120,000.
3. The new value of the house is \$80,000 + \$120,000 = \$200,000.
4. The profit is \$200,000 (new value) - \$130,000 (total investment) = \$70,000.

User:

Here are the question that currently require executive result generation: ### Question: {Current Question}

Script: {The Script}

Script Execution:

C.3 Final Answer

Textual Reasoning Task

System:

You're an expert in natural language reasoning. You're good at question reasoning. Given a question, attempted reasoning, key points, scripts, and reasoning guidelines. The attempted inference is a process in which the user tries to reason about the question five times, which may be right or wrong. Key points describe some of the key points of reasoning for this question. The script describes the reasoning behind this question. The inference guide is the result of a step-by-step execution of the script. You need to carefully analyze the given text and arrive at a final answer based on the given information.

Instructions

Here are some requirements for getting the final answer:

1. Content requirements: The final answer consists of two parts, the first part is your thought process, and the second part is the final answer.

2. Format requirements: The thought process of the first part should be expressed in 2-3 sentences. The final answer in Part 2 is formatted as "The answer is" plus the final answer. When the final answer is printed, stop the output and leave the final answer at the end of the sentence.

Example
Here's an example:

Question: Where were the Olympics held when the 1993 World Champion figure skater's home country won it's second Winter Games gold medal?

Initial Attempt:

- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, she won her gold medal at the 1994 Winter Olympics in Lillehammer, Norway. Third, this was Ukraine's first gold medal at the Winter Games, not the second. So, there seems to be a discrepancy in the question. However, the answer to where the Olympics were held when she won is Lillehammer, Norway.

- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, Oksana Baiul won her gold medal in ladies' singles figure skating at the 1994 Winter Olympics. Third, the 1994 Winter Olympics were held in Lillehammer, Norway. The answer is Lillehammer, Norway.

- First, the 1993 World Champion figure skater from Ukraine is Oksana Baiul. Second, Oksana Baiul won the gold medal at the 1994 Winter Olympics in figure skating. Third, the 1994 Winter Olympics were held in Lillehammer, Norway. The answer is Lillehammer, Norway.

- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, she won the gold medal at the 1994 Winter Olympics in figure skating. Third, the 1994 Winter Olympics were held in Lillehammer, Norway. The answer is Lillehammer, Norway.

- First, the 1993 World Champion figure skater is Oksana Baiul from Ukraine. Second, Baiul won the gold medal at the 1994 Winter Olympics in Lillehammer, Norway. It was Ukraine's first gold medal at the Winter Games. The answer is Lillehammer, Norway.

Key Points:

- Identify the 1993 World Champion figure skater and confirm their nationality.

- Determine the year and location of the Winter Olympics where this skater won their gold medal.

- Verify the number of gold medals the skater's home country had won in the Winter Games up to that point to ensure the question's accuracy regarding "second Winter Games gold medal."

- Focus on the specific Olympics event and year in question, disregarding other unrelated details about the skater or the country's other Olympic achievements unless directly relevant.

Script:

1. Determine who won the 1993 Winter Olympics World Champion figure skater.

2. Confirm the home country of the 1993 Winter Olympics World Champion figure skater.

3. Find information about the home country of the 1993 Winter Olympics World Champion figure skater that won the second Winter Olympics gold medal, such as which event won the second Winter Olympics gold medal, who won it, at which Winter Olympics it was won, the time and location of this Winter Olympics, and so on.

4. Based on the above information, find the location where the country won its second Winter Olympics gold medal. That location is the answer.

Script Execution:

1. Oksana Baiul won the 1993 World Figure Skating Championships.

2. Oksana Baiul's home country is Ukraine.

3. Ukraine competed at the 2014 Winter Olympics in Sochi, Russia, from 7 to 23 February 2014. The women's relay victory gave Ukraine its second Winter Games gold medal ever.

4. The 2014 Winter Olympics were held in Sochi, Russia. Therefore, the location where Ukraine won its second Winter Olympics gold medal is Sochi, Russia.

Final Answer:

The 1993 World Champion figure skater is Oksana Baiul from Ukraine. Ukraine won its second Winter Olympics gold medal at the 2014 Winter Olympics. Therefore, the location where Ukraine won its second Winter Olympics gold medal must be identified, which is Sochi, Russia. The answer is Sochi, Russia.

User:

Here are the question that currently require getting the final answer:

Question: {Current Question}

Initial Attempt: {The Initial Attempt}

Key Points: {The Key Points}

Script: {The Script}

Script Execution: {The Script Execution}

Final Answer:

Mathematical Reasoning Task

System:

You are an expert in mathematical reasoning. You're good at question reasoning. Given a question, attempted reasoning, key points, scripts, and reasoning guidelines. The attempted inference is a process in which the user tries to reason about the question five times, which may be right or wrong. Key points describe some of the key points of reasoning for this question. The script describes the reasoning behind this question. The inference guide is the result of a step-by-step execution of the script. You need to carefully analyze the given text and arrive at a final answer based on the given information.

Instructions

Here are some requirements for getting the final answer:

1. Content requirements: The final answer consists of two parts, the first part is your thought process, and the second part is the final answer.

2. Format requirements: The thought process of the first part should be expressed in 2-3 sentences. The final answer in Part 2 is formatted as "The answer is" plus the final answer. When the final answer is printed, stop the output and leave the final answer at the end of the sentence.

Example

Here's an example:

Question: Josh decides to try flipping a house. He buys a house for \$80,000 and then puts in \$50,000 in repairs. This increased the value of the house by 150%. How much profit did he make?

Initial Attempt:

-The initial value of the house was \$80,000. After repairs of \$50,000, the total investment becomes $80,000 + 50,000 = \$130,000$. The value increase by 150% of the initial value, so the increase is $150/100 * 80,000 = \$120,000$. Thus, the new value of the house becomes $80,000 + 120,000 = \$200,000$. The profit Josh made is the new value minus his total investment: $200,000 - 130,000 = \$70,000$. The answer is 70,000.

-The initial value of the house was \$80,000. The total investment by Josh, including purchase and repairs, is $80,000 + 50,000 = \$130,000$. The repairs increased the value of the house by 150% of the initial value, which is $150/100 * \$80,000 = \$120,000$. So, the new value of the house after repairs is $80,000 + \$120,000 = \$200,000$. The profit Josh made is the final value of the house minus his total investment: $200,000 - \$130,000 = \$70,000$. The answer is \$70,000.

-The original value of the house was \$80,000 and Josh spent an additional \$50,000 on repairs, summing up to a total cost of $80,000 + 50,000 = \$130,000$. The value increase of 150% on the initial \$80,000 means the increase was $150/100 * \$80,000 = \$120,000$. Thus, the new value of the house after repairs is $80,000 + \$120,000 = \$200,000$. Josh's profit from flipping the house is then $200,000 - \$130,000 = \$70,000$. The answer is 70000.

-The initial value of the house was \$80,000. After putting in \$50,000 in repairs, the total cost for Josh is $80,000 + 50,000 = \$130,000$. The increase in value by 150% of the \$80,000 original value is $150/100 * \$80,000 = \$120,000$. Therefore, the new value of the house after the repairs is $80,000 + \$120,000 = \$200,000$. Josh's profit is the new value minus his total investment: $200,000 - \$130,000 = \$70,000$. The answer is \$70,000.

-Josh's initial investment is $80,000 + 50,000 = \$130,000$. The value increase of 150% means the house's value increased to $150/100 * \$130,000 = \$195,000$ from the repairs. So, the new value of the house is $130,000 + \$195,000 = \$325,000$. Josh's profit is the new value minus his total investment, which is $325,000 - \$130,000 = \$195,000$. The answer is 195,000.

Key Points:

- Ensure that the percentage increase in value is applied to the initial purchase price alone, not the sum of the purchase and repair costs.

- Accurately calculate the total investment by summing the initial purchase price and the cost of repairs.

- The profit should be calculated by subtracting the total investment from the new, increased value of the house post-repairs.

Script:

1. Start by summing the initial purchase price of the house and the repair costs. Formula: Total Investment = Purchase Price + Repair Costs.

2. The percentage increase in value applies only to the initial purchase price, not the total investment. Formula: Value Increase = Percentage Increase * Initial Purchase Price.
3. Add the value increase to the initial purchase price to find the new value of the house. Formula: New Value = Initial Purchase Price + Value Increase.
4. Finally, subtract the total investment from the new value of the house to find the profit. Formula: Profit = New Value - Total Investment.
Script Execution:
1. The total investment is \$80,000 (purchase price) + \$50,000 (repair costs) = \$130,000.
2. The value increase is 150% of \$80,000, which equals $80,000 * 1.5 = 120,000$.
3. The new value of the house is $80,000 + 120,000 = 200,000$.
4. The profit is $200,000$ (new value) - $130,000$ (total investment) = $70,000$.
Final Answer:
The cost of the house and repairs came out to $80,000 + 50,000 = \$130,000$. He increased the value of the house by $80,000 * 1.5 = 120,000$. So the new value of the house is $120,000 + 80,000 = 200,000$. So he made a profit of $200,000 - 130,000 = 70,000$.
The answer is 70000.

User:
Here are the question that currently require getting the final answer:
Question: {Current Question}
Initial Attempt: {The Initial Attempt}
Key Points: {The Key Points}
Script: {The Script}
Script Execution: {The Script Execution}
Final Answer:

D Template for PSSD-SFT Training Data

Template for PSSD-SFT Training Data

User:
<start_header_id>user<end_header_id>
Question: {The Question}<leot_id>

Assistant:
<start_header_id>assistant<end_header_id>
Initial Attempt: {The Initial Attempt}
Key Points: {The Key Points}
Script: {The Script}
Script Execution: {The Script Execution}
Final Answer: {The Final Answer}<end_of_text>

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