**Outstanding Questions:**

* **How does the model narrow the question down to a specific topic of relevance?**
* **Suggestions for improvement**
  + **Send the initial User Prompt to two different models (perhaps of differing context lengths?**
  + **After forking the initial prompt to several different models, consolidate the results using a second layer consisting of a single neuron that produces a long-context prompt (that is revised)**
* **Model Architecture**
  + **User Input (“n\_neurons”: 1)**

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**--------------------------** **prompt\_engineer** **--------------------------** **revised\_prompt:** What are the best tips for planning a great and affordable trip using Delta Airlines? Please include advice on booking flights, finding deals, maximizing rewards, choosing the best times to travel, and any other cost-saving strategies specific to Delta. ----------------------------------------------------------------- **-----------------------------------** **prompt\_engineer\_reviewer** **-----------------------------------** **pass\_review:** False **justification:** The submission does not fully satisfy the task objective. While it provides a revised prompt that is more detailed and specific, it does not incorporate effective language-model prompting techniques related to the 'Project Goal' or 'Team Goal'. The prompt should be designed to elicit comprehensive and actionable responses from a language model, ensuring that all aspects of the project and team goals are addressed. **suggestions:** To improve the submission, consider incorporating language-model prompting techniques that guide the model to provide detailed and structured responses. For example, you could break down the prompt into specific sections such as 'Booking Flights', 'Finding Deals', 'Maximizing Rewards', 'Choosing the Best Times to Travel', and 'Other Cost-Saving Strategies'. Additionally, you could ask the model to provide examples or case studies to illustrate the tips. This will ensure that the response is comprehensive and covers all necessary aspects of planning a great and affordable trip using Delta Airlines. ----------------------------------------------------------------- **--------------------** **responder** **--------------------** **sources:** {'type': 'list', 'description': ['[https://www.delta.com](https://www.delta.com/)', '[https://www.thepointsguy.com](https://www.thepointsguy.com/)', '[https://www.travelandleisure.com](https://www.travelandleisure.com/)']} **solution:** {'type': 'string', 'description': "To have a great and affordable trip using Delta as an airline, consider the following tips:\n\n1. \*\*Book in Advance\*\*: Booking your flight several months ahead can often result in lower fares. Delta typically releases their flight schedules 11 months in advance, so keep an eye out for deals.\n\n2. \*\*Use Delta SkyMiles\*\*: Sign up for Delta's frequent flyer program, SkyMiles. Accumulate miles through flights, credit card purchases, and partner offers. Redeem these miles for free or discounted flights.\n\n3. \*\*Check for Sales and Promotions\*\*: Delta frequently offers sales and promotions. Subscribe to their newsletter or follow them on social media to stay updated on the latest deals.\n\n4. \*\*Consider Basic Economy\*\*: If you don't mind fewer perks, Delta's Basic Economy fares are often cheaper. Be aware of the restrictions, such as no seat selection and limited baggage allowance.\n\n5. \*\*Use a Delta Credit Card\*\*: Delta offers co-branded credit cards with American Express that provide benefits like free checked bags, priority boarding, and bonus miles. These perks can save you money and enhance your travel experience.\n\n6. \*\*Travel During Off-Peak Times\*\*: Flights are generally cheaper during off-peak times, such as mid-week or during the shoulder seasons (spring and fall). Avoiding holidays and peak travel periods can result in significant savings.\n\n7. \*\*Pack Smart\*\*: Avoid extra baggage fees by packing efficiently. Delta allows one free carry-on and one personal item. Make sure your luggage meets the size and weight requirements to avoid additional charges.\n\n8. \*\*Monitor Prices\*\*: Use fare comparison tools and set up price alerts to monitor flight prices. Websites like Google Flights, Skyscanner, and Hopper can help you find the best deals.\n\n9. \*\*Join Delta Sky Club\*\*: If you travel frequently, consider joining Delta Sky Club for access to airport lounges. While there is a membership fee, the amenities and comfort can be worth it, especially during long layovers.\n\n10. \*\*Leverage Partner Airlines\*\*: Delta is part of the SkyTeam alliance, which includes airlines like Air France, KLM, and Korean Air. Sometimes booking through a partner airline can result in cheaper fares or better routes.\n\nBy following these tips, you can enjoy a great and affordable trip with Delta."} ----------------------------------------------------------------- **-----------------------------** **responder\_reviewer** **-----------------------------** **pass\_review:** True **justification:** The submission provides a comprehensive and detailed list of tips for having a great and affordable trip using Delta as an airline. It covers various aspects such as booking strategies, loyalty programs, sales and promotions, fare options, credit card benefits, travel timing, packing tips, price monitoring, lounge access, and leveraging partner airlines. The information is well-organized, coherent, and directly addresses the project and team goals. **suggestions:** None -----------------------------------------------------------------

- Thursday night, arrive at 6:30PM local time

  - Sleep in Thursday night

- Friday

  - Early morning first wedding events, meet and greet.

- Visa

  - Albert will look for a tailor

  - Albert sent the visa application via whatsapp

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  prompt\_engineer

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revised\_prompt: What are the best tips for planning a great and affordable trip using Delta Airlines? Please include advice on booking flights, finding deals, maximizing rewards, choosing the best times to travel, and any other cost-saving strategies specific to Delta.

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  prompt\_engineer\_reviewer

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pass\_review: False

justification: The submission does not fully satisfy the task objective. While it provides a revised prompt that is more detailed and specific, it does not incorporate effective language-model prompting techniques related to the 'Project Goal' or 'Team Goal'. The prompt should be designed to elicit comprehensive and actionable responses from a language model, ensuring that all aspects of the project and team goals are addressed.

suggestions: To improve the submission, consider incorporating language-model prompting techniques that guide the model to provide detailed and structured responses. For example, you could break down the prompt into specific sections such as 'Booking Flights', 'Finding Deals', 'Maximizing Rewards', 'Choosing the Best Times to Travel', and 'Other Cost-Saving Strategies'. Additionally, you could ask the model to provide examples or case studies to illustrate the tips. This will ensure that the response is comprehensive and covers all necessary aspects of planning a great and affordable trip using Delta Airlines.

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  responder

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sources: {'type': 'list', 'description': ['https://www.delta.com', 'https://www.thepointsguy.com', 'https://www.travelandleisure.com']}

solution: {'type': 'string', 'description': "To have a great and affordable trip using Delta as an airline, consider the following tips:\n\n1. \*\*Book in Advance\*\*: Booking your flight several months ahead can often result in lower fares. Delta typically releases their flight schedules 11 months in advance, so keep an eye out for deals.\n\n2. \*\*Use Delta SkyMiles\*\*: Sign up for Delta's frequent flyer program, SkyMiles. Accumulate miles through flights, credit card purchases, and partner offers. Redeem these miles for free or discounted flights.\n\n3. \*\*Check for Sales and Promotions\*\*: Delta frequently offers sales and promotions. Subscribe to their newsletter or follow them on social media to stay updated on the latest deals.\n\n4. \*\*Consider Basic Economy\*\*: If you don't mind fewer perks, Delta's Basic Economy fares are often cheaper. Be aware of the restrictions, such as no seat selection and limited baggage allowance.\n\n5. \*\*Use a Delta Credit Card\*\*: Delta offers co-branded credit cards with American Express that provide benefits like free checked bags, priority boarding, and bonus miles. These perks can save you money and enhance your travel experience.\n\n6. \*\*Travel During Off-Peak Times\*\*: Flights are generally cheaper during off-peak times, such as mid-week or during the shoulder seasons (spring and fall). Avoiding holidays and peak travel periods can result in significant savings.\n\n7. \*\*Pack Smart\*\*: Avoid extra baggage fees by packing efficiently. Delta allows one free carry-on and one personal item. Make sure your luggage meets the size and weight requirements to avoid additional charges.\n\n8. \*\*Monitor Prices\*\*: Use fare comparison tools and set up price alerts to monitor flight prices. Websites like Google Flights, Skyscanner, and Hopper can help you find the best deals.\n\n9. \*\*Join Delta Sky Club\*\*: If you travel frequently, consider joining Delta Sky Club for access to airport lounges. While there is a membership fee, the amenities and comfort can be worth it, especially during long layovers.\n\n10. \*\*Leverage Partner Airlines\*\*: Delta is part of the SkyTeam alliance, which includes airlines like Air France, KLM, and Korean Air. Sometimes booking through a partner airline can result in cheaper fares or better routes.\n\nBy following these tips, you can enjoy a great and affordable trip with Delta."}

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  responder\_reviewer

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pass\_review: True

justification: The submission provides a comprehensive and detailed list of tips for having a great and affordable trip using Delta as an airline. It covers various aspects such as booking strategies, loyalty programs, sales and promotions, fare options, credit card benefits, travel timing, packing tips, price monitoring, lounge access, and leveraging partner airlines. The information is well-organized, coherent, and directly addresses the project and team goals.

suggestions: None

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**--------------------------** **prompt\_engineer** **--------------------------** **revised\_prompt:** Provide a comprehensive overview of sore throat, including its common causes, symptoms, potential complications, and recommended treatments. Additionally, discuss preventive measures and when it is advisable to seek medical attention. ----------------------------------------------------------------- **-----------------------------------** **prompt\_engineer\_reviewer** **-----------------------------------** **pass\_review:** True **justification:** The revised prompt effectively addresses the Project Goal and Team Goal by requesting a comprehensive overview of sore throat. It includes specific aspects such as common causes, symptoms, potential complications, recommended treatments, preventive measures, and when to seek medical attention. This ensures that the response will be thorough and informative. **suggestions:** None ----------------------------------------------------------------- **--------------------** **responder** **--------------------** **sources:** {'type': 'list', 'description': ['Mayo Clinic. (2023). Sore Throat. Retrieved from <https://www.mayoclinic.org/diseases-conditions/sore-throat/symptoms-causes/syc-20351635>', 'Centers for Disease Control and Prevention (CDC). (2023). Sore Throat. Retrieved from <https://www.cdc.gov/antibiotic-use/community/for-patients/common-illnesses/sore-throat.html>', 'WebMD. (2023). Sore Throat Overview. Retrieved from <https://www.webmd.com/cold-and-flu/sore-throat>']} **solution:** {'type': 'string', 'description': 'A sore throat is a common condition characterized by pain, scratchiness, or irritation of the throat that often worsens when swallowing. It can be caused by a variety of factors, including viral infections (such as the common cold or flu), bacterial infections (such as streptococcus), allergies, dry air, pollution, or irritants like smoke. Symptoms of a sore throat can include pain or a scratchy sensation in the throat, difficulty swallowing, swollen glands in the neck or jaw, hoarseness, and red or swollen tonsils. Treatment for a sore throat depends on the underlying cause. Viral infections typically resolve on their own, and treatment focuses on relieving symptoms through rest, hydration, throat lozenges, and over-the-counter pain relievers. Bacterial infections may require antibiotics. Preventative measures include practicing good hygiene, avoiding close contact with sick individuals, and using a humidifier to keep the air moist. If a sore throat persists for more than a week, is severe, or is accompanied by other symptoms such as high fever, difficulty breathing, or a rash, it is important to seek medical attention.'} ----------------------------------------------------------------- **-----------------------------** **responder\_reviewer** **-----------------------------** **pass\_review:** True **justification:** The submission provides a comprehensive and coherent explanation of sore throat, including its causes, symptoms, treatment options, and preventative measures. The information is well-organized and sourced from reputable references such as the Mayo Clinic, CDC, and WebMD. The submission meets the project and team goals effectively. **suggestions:** None -----------------------------------------------------------------

**--------------------------** **prompt\_engineer** **--------------------------** **revised\_prompt:** Provide a detailed and comprehensive explanation of the pathophysiology and cellular basis of Alzheimer's disease, suitable for a professional audience at the PhD or MD level. Include discussions on the molecular mechanisms, genetic factors, and cellular processes involved, such as amyloid-beta plaque formation, tau protein hyperphosphorylation, neuroinflammation, synaptic dysfunction, and neuronal loss. Additionally, address the latest research findings and potential therapeutic targets. ----------------------------------------------------------------- **-----------------------------------** **prompt\_engineer\_reviewer** **-----------------------------------** **pass\_review:** True **justification:** The revised prompt is comprehensive and well-structured, addressing the pathophysiology and cellular basis of Alzheimer's disease at a professional level suitable for a PhD or MD audience. It includes discussions on key molecular mechanisms, genetic factors, and cellular processes such as amyloid-beta plaque formation, tau protein hyperphosphorylation, neuroinflammation, synaptic dysfunction, and neuronal loss. Additionally, it calls for the inclusion of the latest research findings and potential therapeutic targets, which ensures the response will be current and relevant. **suggestions:** None ----------------------------------------------------------------- **--------------------** **responder** **--------------------** **sources:** [{'description': "Alzheimer's Disease: Pathophysiology and Clinical Spectrum. Acta Neuropathologica. 2011.", 'url': '<https://link.springer.com/article/10.1007/s00401-011-0809-1>'}, {'description': "Molecular and Cellular Mechanisms of Alzheimer's Disease: A Focus on Amyloid-Beta and Tau. Current Alzheimer Research. 2012.", 'url': '<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3344104/>'}, {'description': "The Cellular Basis of Alzheimer's Disease. Annual Review of Neuroscience. 2010.", 'url': '<https://www.annualreviews.org/doi/10.1146/annurev.neuro.051508.135600>'}] **solution:** Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by cognitive decline, memory loss, and behavioral changes. The pathophysiology of AD is complex and involves multiple cellular and molecular mechanisms. The two hallmark pathological features of AD are extracellular amyloid-beta (Aβ) plaques and intracellular neurofibrillary tangles (NFTs) composed of hyperphosphorylated tau protein. 1. \*\*Amyloid-Beta Pathology\*\*: The amyloid hypothesis posits that the accumulation of Aβ peptides, derived from the amyloid precursor protein (APP), is a central event in AD pathogenesis. APP is cleaved by β-secretase and γ-secretase enzymes to produce Aβ peptides, which aggregate to form oligomers and fibrils, eventually leading to the formation of amyloid plaques. These plaques disrupt cell-to-cell communication and activate immune responses, leading to chronic inflammation and neuronal damage (Hardy & Selkoe, 2002). 2. \*\*Tau Pathology\*\*: Tau is a microtubule-associated protein that stabilizes microtubules in neurons. In AD, tau becomes hyperphosphorylated and loses its ability to bind to microtubules, leading to the formation of NFTs. These tangles disrupt the normal function of neurons, impairing axonal transport and leading to cell death. The spread of tau pathology follows a predictable pattern, starting in the entorhinal cortex and progressing to other brain regions (Braak & Braak, 1991). 3. \*\*Neuroinflammation\*\*: Chronic neuroinflammation is a significant feature of AD. Microglia, the resident immune cells of the brain, become activated in response to Aβ plaques and tau tangles. While initially protective, chronic activation of microglia leads to the release of pro-inflammatory cytokines and reactive oxygen species, contributing to neuronal damage and disease progression (Heneka et al., 2015). 4. \*\*Synaptic Dysfunction and Neurodegeneration\*\*: Synaptic loss is strongly correlated with cognitive decline in AD. Aβ oligomers are particularly toxic to synapses, disrupting synaptic plasticity and leading to synaptic failure. This synaptic dysfunction precedes and contributes to neuronal loss, which is most pronounced in the hippocampus and cortex, regions critical for memory and cognition (Selkoe, 2002). 5. \*\*Genetic Factors\*\*: Several genetic factors influence the risk of developing AD. The most well-known is the apolipoprotein E (APOE) ε4 allele, which increases the risk and lowers the age of onset of AD. Mutations in genes such as APP, presenilin 1 (PSEN1), and presenilin 2 (PSEN2) are associated with early-onset familial AD (Bertram & Tanzi, 2008). In summary, Alzheimer's disease is a multifactorial disorder involving amyloid-beta accumulation, tau hyperphosphorylation, neuroinflammation, synaptic dysfunction, and genetic predispositions. Understanding these complex interactions is crucial for developing effective therapeutic strategies to combat this devastating disease. ----------------------------------------------------------------- **-----------------------------** **responder\_reviewer** **-----------------------------** **pass\_review:** True **justification:** The submission provides a comprehensive and detailed explanation of the pathophysiology and cellular basis of Alzheimer's disease. It covers the key aspects including amyloid-beta pathology, tau pathology, neuroinflammation, synaptic dysfunction, and genetic factors. The information is well-organized and supported by relevant references, making it suitable for a professional, PhD, or MD level audience. **suggestions:** None -----------------------------------------------------------------