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Notes:

- Code examples are not required unless specified in the question, but feel free to include brief code examples for any of the questions.
- You are expected to add a brief explanation of any design patterns you propose in your answers / code, and their pros and cons if applicable

Question 1: (No Code Required)

A website would like to set up sms notifications based on various events on the system (Orders, Shipments, ect)

- We will be connecting to an SMS gateway service over rest APIs, the core implementation should be abstract enough to be easily replaceable between different providers/gateways
- We should be able to configure different sms message templates for different events, for example
 - Order created
 - Order cancelled
 - Shipment Created
 - Shipment tracking created / updated
- The sms message templates should support simple variables that will be parsed and filled on the final message, for example
 - Customer name
 - Order Number
- We should be able to see a list of the sms messages that were sent and their status, and errors in case of failure
- The solution proposed should support a large volume of transactions / messages per hour, Ex: 1k messages per hour

Describe the structure of the solution that will accomplish the requirements with technical details on how you will implement each of the required features.

Question 2: (Code Example)

A website would like to add a feature where they can show different “Eligible For Return” values per product

- The value should be stored on a product attribute, that takes numerical value (days)
- The value will be rendered on the product page, Ex: **Eligible for Returns within 7 days of delivery.**
- There should be a way to turn off the display of the return text on the frontend
- The return eligibility data should be exposed over GraphQL APIs, including any configurations
- No frontend related changes are required

You are expected to

- Provide an explanation of the implementation and any functional improvements that can be proposed
- Provide code implementation for the all the requirements

Question 3: (Code Example)

A website would like to add a new address field to capture the customer's area

- A new field called **area** should be added to the customer address entity
- The values in the field should be available in the customer shipping & billing address
- The values in the field should be persisted in the quote & order addresses
- The field should be exposed over Magento's rest apis for (Customer & Customer Address, Order info)
- The field should be exposed over Magento's graphql mutations for creating & updating the customer address
- The field should be exposed over Magento's graphql queries that return a customer / order address

You are expected to

- Provide an explanation of the feature implementation to cover all the requirements
- Provide code implementation for all the requirements

Question 4: (Brief Code Example)

A website would like to add a feature (Price Drop Notification) for products, where customers can opt-in for notifications whenever the product price changes to a lower value

- We should be able to enable / disable the feature globally
- We should be able to enable / disable the feature for specific products
- Price drop notifications would be sent to the opted in customers via email
- The frontend for the feature is a headless React frontend that consumes GraphQL APIs

Bonus Features

- Customers should be able to opt out of notifications
- We should be able to configure price drop thresholds for triggering a notification, Ex: > 10%

You are expected to

- Provide an explanation of the feature implementation to cover all the requirements
- Provide details on how the data will be stored and processed for customers who opt in
- Provide details on how the notifications will be processed
- Provide details on how the feature might be handled for logged in vs logged out customers
- Provide details as well as Sample Code Implementation for all the related GraphQL (Queries / Mutations)