**API Documentation**

**Schema Overview**

This API provides GraphQL-based functionality for managing products and calculator results, enabling CRUD operations for products, saving calculator results, and retrieving data. The schema includes the following main types: Product, CalculatorResult, and their associated mutations and queries.

**Types**

**CalculatorResult**

Represents a saved calculator result associated with dimensions and a product.

* **Fields**:
  + createdAt *(ISO8601DateTime!)*: Timestamp of when the result was created.
  + height *(Int!)*: The height of the result in inches.
  + id *(ID!)*: Unique identifier of the result.
  + length *(Int!)*: The length of the result in inches.
  + product *(Product)*: The associated product (optional).
  + updatedAt *(ISO8601DateTime!)*: Timestamp of when the result was last updated.
  + weight *(Int!)*: The weight of the result in pounds.
  + width *(Int!)*: The width of the result in inches.

**Product**

Represents a product in the catalog.

* **Fields**:
  + calculatorResults *([CalculatorResult!]!)*: A list of calculator results associated with the product.
  + height *(Int!)*: The height of the product in inches.
  + id *(ID!)*: Unique identifier of the product.
  + length *(Int!)*: The length of the product in inches.
  + name *(String!)*: Name of the product.
  + type *(String!)*: The category/type of the product (e.g., Golf, Luggage).
  + weight *(Int!)*: The weight of the product in pounds.
  + width *(Int!)*: The width of the product in inches.

**Mutations**

**calculatorResultSave(input: CalculatorResultSaveInput!): CalculatorResultSavePayload**

Saves a calculator result with associated dimensions and product.

* **Input**:
  + CalculatorResultSaveInput:
    - clientMutationId *(String)*: Unique identifier for the client performing the mutation.
    - height *(Int!)*: Height of the result in inches.
    - length *(Int!)*: Length of the result in inches.
    - productId *(ID!)*: ID of the associated product.
    - weight *(Int!)*: Weight of the result in pounds.
    - width *(Int!)*: Width of the result in inches.
* **Response**:
  + CalculatorResultSavePayload:
    - calculatorResult *(CalculatorResult!)*: The saved calculator result.
    - clientMutationId *(String)*: Unique identifier for the client.

**productCreate(input: ProductCreateInput!): ProductCreatePayload**

Creates a new product in the catalog.

* **Input**:
  + ProductCreateInput:
    - clientMutationId *(String)*: Unique identifier for the client performing the mutation.
    - height *(Int!)*: Height of the product in inches.
    - length *(Int!)*: Length of the product in inches.
    - name *(String!)*: Name of the product.
    - type *(String!)*: Type/category of the product.
    - weight *(Int!)*: Weight of the product in pounds.
    - width *(Int!)*: Width of the product in inches.
* **Response**:
  + ProductCreatePayload:
    - product *(Product!)*: The created product.
    - clientMutationId *(String)*: Unique identifier for the client.

**productDelete(input: ProductDeleteInput!): ProductDeletePayload**

Deletes a product by its ID.

* **Input**:
  + ProductDeleteInput:
    - clientMutationId *(String)*: Unique identifier for the client performing the mutation.
    - id *(ID!)*: ID of the product to delete.
* **Response**:
  + ProductDeletePayload:
    - product *(Product!)*: The deleted product.
    - clientMutationId *(String)*: Unique identifier for the client.

**productUpdate(input: ProductUpdateInput!): ProductUpdatePayload**

Updates an existing product.

* **Input**:
  + ProductUpdateInput:
    - clientMutationId *(String)*: Unique identifier for the client performing the mutation.
    - id *(ID!)*: ID of the product to update.
    - Optional fields for updates:
      * height *(Int)*
      * length *(Int)*
      * name *(String)*
      * type *(String)*
      * weight *(Int)*
      * width *(Int)*
* **Response**:
  + ProductUpdatePayload:
    - product *(Product!)*: The updated product.
    - clientMutationId *(String)*: Unique identifier for the client.

**Queries**

**calculatorResults: [CalculatorResult!]!**

Retrieves all saved calculator results.

**closestProduct(height: Int!, length: Int!, weight: Int!, width: Int!): Product**

Finds the closest matching product based on the provided dimensions and weight.

* **Arguments**:
  + height *(Int!)*: Height of the product in inches.
  + length *(Int!)*: Length of the product in inches.
  + weight *(Int!)*: Weight of the product in pounds.
  + width *(Int!)*: Width of the product in inches.

**product(id: ID!): Product**

Retrieves a product by its unique ID.

* **Arguments**:
  + id *(ID!)*: The unique ID of the product.

**products(limit: Int = 10, offset: Int = 0, type: String): [Product!]!**

Retrieves a list of products.

* **Arguments**:
  + limit *(Int)*: Maximum number of products to return (default: 10).
  + offset *(Int)*: Number of products to skip (default: 0).
  + type *(String)*: Filter by product type.