**GRAVITY CODE TEST - PYTHON**

**General**: The solutions to the below questions will be discussed on a conference call through a desktop sharing session. The interviewee will display the execution of code on his/her machine during the conference call.

**Interviewee**: You may search online and find solutions to the below. You may use the programming language of your choice. For each of the questions below, create a repository (preferably git) You will have to share your desktop while explaining the solution. You are expected to set up, configure and have the environment (infrastructure, runtime and libraries etc.) ready to solve the below questions on your personal desktop/laptop/cloud.

**Coding Exercise:**

1. Develop a REST API for representing Meta-Data with end points (GET, POST, PUT ,DELETE etc.). For example GET on /api/v1/location returns all location objects
   1. /api/v1/location,
   2. /api/v1/location/{location\_id}/department
   3. /api/v1/location/{location\_id}/department/{department\_id}/category
   4. /api/v1/location/{location\_id}/department/{department\_id}/category/{category\_id}/subcategory
   5. /api/v1/location/{location\_id}/department/{department\_id}/category/{category\_id}/subcategory/{subcategory\_id}
2. Persist the data in your favorite DB - relational or non-relational (You are expected to install, configure, populate the DB). You may feel free to qualify object representations with additional attributes to enhance modeling (For e.g. Location object attributes = locationid, location description)
3. Write a api endpoint that takes input meta-data and returns all the SKU rows in the "Data" that matches with the input meta-data.
   1. For example, for input meta-data (Perimeter, Bakery, Bakery Bread, Bagels) , return the rows with SKUs 1 & 14 (The actual data given to you might contain more rows)

**META DATA:**

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| Location,Department,Category,SubCategory  Perimeter,Bakery,Bakery Bread,Bagels  Perimeter,Bakery,Bakery Bread,Baking or Breading Products  Perimeter,Bakery,Bakery Bread,English Muffins or Biscuits  Perimeter,Bakery,Bakery Bread,Flatbreads  Perimeter,Bakery,In Store Bakery,Breakfast Cake or Sweet Roll  Perimeter,Bakery,In Store Bakery,Cakes  Perimeter,Bakery,In Store Bakery,Pies  Perimeter,Bakery,In Store Bakery,Seasonal  Center,Dairy,Cheese,Cheese Sauce  Center,Dairy,Cheese,Specialty Cheese  Center,Dairy,Cream or Creamer,Dairy Alternative Creamer  Center,Dairy,Cream or Creamer,Whipping Creams  Center,Dairy,Cultured,Cottage Cheese  Center,Dairy,Refrigerated Baking,Refrigerated Breads  Center,Dairy,Refrigerated Baking,Refrigerated English Muffins and Biscuits  Center,Dairy,Refrigerated Baking,Refrigerated Hand Held Sweets  Center,Dairy,Refrigerated Baking,Refrigerated Pie Crust  Center,Dairy,Refrigerated Baking,Refrigerated Sweet Breakfast Baked Goods  Perimeter,Deli and Foodservice,Self Service Deli Cold,Beverages  Perimeter,Deli and Foodservice,Service Deli,Cheese All Other  Perimeter,Deli and Foodservice,Service Deli,Cheese American  Perimeter,Floral,Bouquets and Cut Flowers,Bouquets and Cut Flowers  Perimeter,Floral,Gifts,Gifts  Perimeter,Floral,Plants,Plants  Center,Frozen,Frozen Bake,Bread or Dough Products Frozen  Center,Frozen,Frozen Bake,Breakfast Cake or Sweet Roll Frozen  Center,Frozen,Frozen Breakfast,Frozen Breakfast Entrees  Center,Frozen,Frozen Breakfast,Frozen Breakfast Sandwich  Center,Frozen,Frozen Breakfast,Frozen Egg Substitutes  Center,Frozen,Frozen Breakfast,Frozen Syrup Carriers  Center,Frozen,Frozen Desserts or Fruit and Toppings,Pies Frozen  Center,Frozen,Frozen Juice,Frozen Apple Juice  Center,Frozen,Frozen Juice,Frozen Fruit Drink Mixers  Center,Frozen,Frozen Juice,Frozen Fruit Juice All Other  Center,GM,Audio Video,Audio  Center,GM,Audio Video,Video DVD  Center,GM,Audio Video,Video VHS  Center,GM,Housewares,Bedding  Center,GM,Housewares,Candles  Center,GM,Housewares,Collectibles and Gifts  Center,GM,Housewares,Flashlights  Center,GM,Housewares,Frames  Center,GM,Insect and Rodent,Indoor Repellants or Traps  Center,GM,Insect and Rodent,Outdoor Repellants or Traps  Center,GM,Kitchen Accessories,Kitchen Accessories  Center,GM,Laundry,Bleach Liquid  Center,GM,Laundry,Bleach Powder  Center,GM,Laundry,Fabric Softener Liquid  Center,GM,Laundry,Fabric Softener Sheets  Center,Grocery,Baking Ingredients,Dry or Canned Milk  Center,Grocery,Baking Ingredients,Food Coloring  Center,Grocery,Spices,Salt Cooking or Edible or Seasoned  Center,Grocery,Spices,Salt Substitute  Center,Grocery,Spices,Seasoning Dry  Center,Grocery,Stuffing Products,Stuffing Products  Perimeter,Seafood,Frozen Shellfish,Frozen Shellfish  Perimeter,Seafood,Other Seafood,All Other Seafood  Perimeter,Seafood,Other Seafood,Prepared Seafood Entrees  Perimeter,Seafood,Other Seafood,Seafood Salads  Perimeter,Seafood,Other Seafood,Smoked Fish  Perimeter,Seafood,Other Seafood,Seafood Breading Sauces Dips |

1. SKU Data

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| SKU,NAME,LOCATION,DEPARTMENT,CATEGORY,SUBCATEGORY  1,SKUDESC1,Permiter,Bakery,Bakery Bread,Bagels  2,SKUDESC2,Permiter,Deli and Foodservice,Self Service Deli Cold,Beverages  3,SKUDESC3,Permiter,Floral,Bouquets and Cut Flowers,Bouquets and Cut Flowers  4,SKUDESC4,Permiter,Deli and Foodservice,Service Deli,All Other  5,SKUDESC5,Center,Frozen,Frozen Bake,Bread or Dough Products Frozen  6,SKUDESC6,Center,Grocery,Crackers,Rice Cakes  7,SKUDESC7,Center,GM,Audio Video,Audio  8,SKUDESC8,Center,GM,Audio Video,Video DVD  9,SKUDESC9,Permiter,GM,Housewares,Beeding  10,SKUDESC10,Permiter,Seafood,Frozen Shellfish,Frozen Shellfish  11,SKUDESC11,Permiter,Seafood,Other Seafood,All Other Seafood  12,SKUDESC12,Permiter,Seafood,Other Seafood,Prepared Seafood Entrees  13,SKUDESC13,Permiter,Seafood,Other Seafood,Salads  14,SKUDESC14,Permiter,Bakery,Bakery Bread,Bagels  15,SKUDESC15,Permiter,Deli and Foodservice,Self Service Deli Cold,Beverages  16,SKUDESC16,Permiter,Floral,Bouquets and Cut Flowers,Bouquets and Cut Flowers  17,SKUDESC17,Permiter,Deli and Foodservice,Service Deli,All Other  18, SKUDESC18, Center, Frozen, Frozen Bake, Bread or Dough Products Frozen |