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Dev Nation

Data Science Lab-01

Q1. Write a function **get_date(int)** that takes a param **number_of_days** and if the number is odd return (current_date + number_of_days) else return (current_date - number_of_days)

Q2. Write a function **stringify** using **map** that takes a list of strings and a function and converts each string into separate string

Input =['devnation', 'data science', 'requires', 'dedication']

Output =[['d','e','v','n','a','t','i','o','n'],['d','a','t','a','s','i','e','n','c','e'],
['r','e','q','u','i','r','e','s'],['d','e','d','i','c','a','t','i','o','n']]

Q3. Write a function **string_case(list)** using **map** that takes list of characters and return tuples of tuple with containing lower and upper case of that character's list
Final Output must contains unique tuples

Sample = ['f', 'b', 'a','a']

Result = (('F','F'),('B','b'),('A','a'))

Q4. Write a function **str_join(list,str)** that receives two parameters

1. List of strings
2. Single_string value

By using lambda and map create a new list that concatenates the list elements with a string parameter
Example:
Param1 = ["a","b","c"]
Param2 = "@"

Output = ["a@","b@","c@"]

Q5. Write a function **get_city_mpg_avg**, that groups the cars by number of cylinders, and finding the average cty mpg for each group.
Output should be in the list of tuples

Output = [(5,20),(4,18),(3,16)]

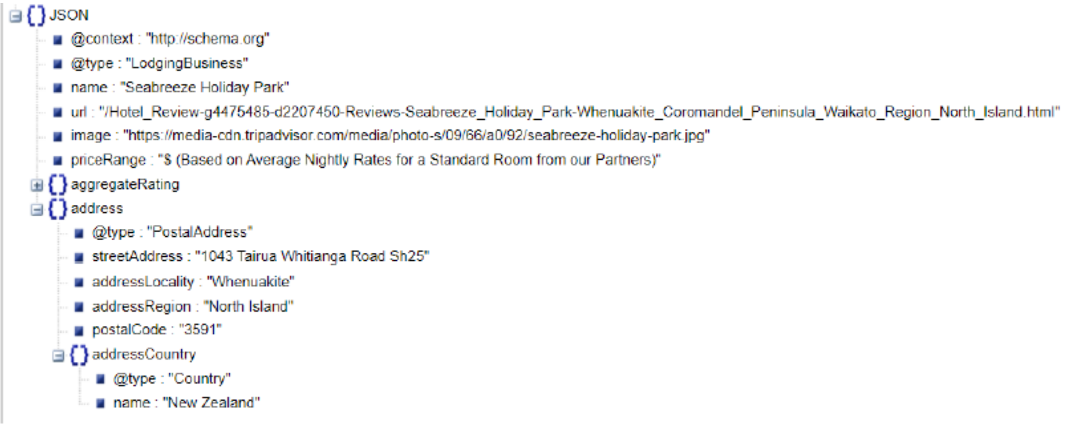
Note:

1. Use MPG.csv file

2. First index of tuple shows the number of cylinders and second index shows the average
3. Result should be sorted by first tuple index by using lambda functions

Q6. Write a function **find_indexes**(**list,int**) takes a list and integer value,
if the value exists in the list return the list containing all the index where that integer exists else return “value don’t exist”

Q7. Write a function to get data from a dictionary.



```
{} JSON
   @context : "http://schema.org"
   @type : "LodgingBusiness"
   name : "Seabreeze Holiday Park"
   url : "/Hotel_Review-g4475485-d2207450-Reviews-Seabreeze_Holiday_Park-Whenuakite_Coromandel_Peninsula_Waikato_Region_North_Island.html"
   image : "https://media-cdn.tripadvisor.com/media/photo-s/09/66/a0/92/seabreeze-holiday-park.jpg"
   priceRange : "$ (Based on Average Nightly Rates for a Standard Room from our Partners)"
 {} aggregateRating
 {} address
     @type : "PostalAddress"
     streetAddress : "1043 Tairua Whitianga Road Sh25"
     addressLocality : "Whenuakite"
     addressRegion : "North Island"
     postalCode : "3591"
   {} addressCountry
       @type : "Country"
       name : "New Zealand"
```

Let’s say this is the dictionary and I want you to get country name so we will pass list of keys like this. [‘address’, ‘addressCountry’, ‘name’], function should return “New Zealand”. Your function should be generaic, we can pass any dictionary and any list of keys according to that and if the data doesn’t exist then return default value we pass when we call the function.

Sample Dictionary:

{"@context":"http:\u002F\u002Fschema.org","@type":"LodgingBusiness","name":"Seabreeze Holiday Park","url":"\u002FHotel_Review-g4475485-d2207450-Reviews-Seabreeze_Holiday_Park-Whenuakite_Coromandel_Peninsula_Waikato_Region_North_Island.html","image":"https:\u002F\u002Fmedia-cdn.tripadvisor.com\u002Fmedia\u002Fphoto-s\u002F09\u002F66\u002Fa0\u002F92\u002Fseabreeze-holiday-park.jpg","priceRange":"$ (Based on Average Nightly Rates for a Standard Room from our Partners)","aggregateRating":{"@type":"AggregateRating","ratingValue":"3.5","reviewCount":"15 2"},"address":{"@type":"PostalAddress","streetAddress":"1043 Tairua Whitianga Road Sh25","addressLocality":"Whenuakite","addressRegion":"North Island","postalCode":"3591","addressCountry":{"@type":"Country","name":"New Zealand"}}}