Data Collections : Dictionary (advanced)

Let's learn some more manipulations on Dictionaries on python.

Create a dictionary with nested entities

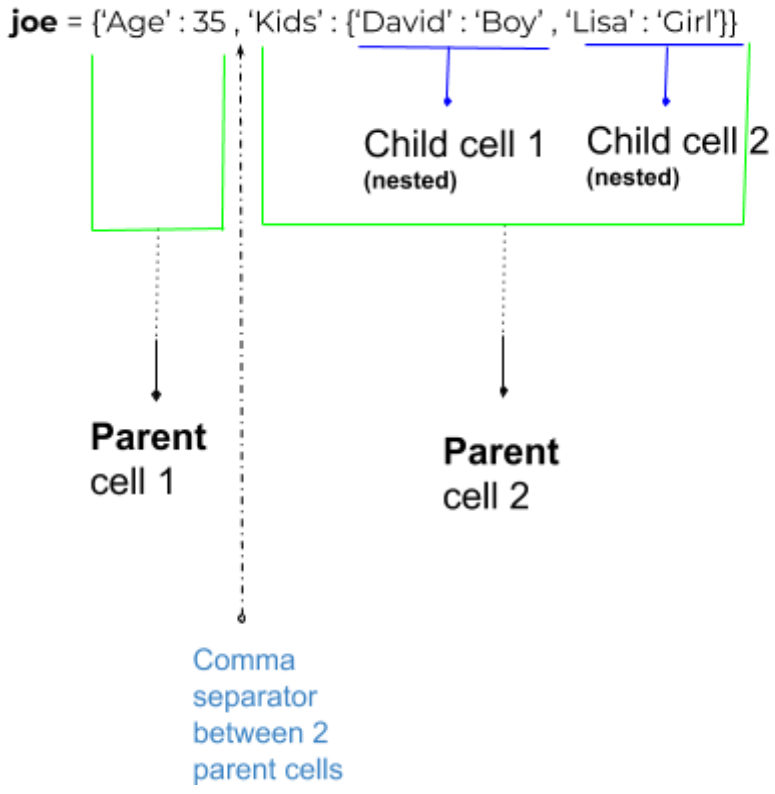
In the previous lectures we studied how to create a 'Key' - 'Value' dictionary,
For example : corporation = {'company_name' : 'Google' ,
'number_of_employees' : 1000}

Now, lets learn how to create a nested dictionary, the dictionary will contain 2 or more layers on each 'Key' -

nested_dictionary = { dictA: {'key_1': 'value_1'}, 'dictB': {'key_2': 'value_2'}}

We see that 'dictA', and 'dictB' are 'keys' of parent cells,
While 'David' and 'Lisa' are 'keys' of an inner layer, which is the child cells.

Meet Joe. Joe is a Web Automation Developer, and this dictionary is about him:



How to extract a value by 'key' out of a nested dictionary

Quick reminder - here is how we extract value by a 'key' on a Non-nested dictionary

alex = {'Age' : 32 , 'Married' : 'Yes' , 'Kids' : 3}

To extract the 'Age' (=key) value, we will do:

alex['Age']

print(alex['Age'])

output -> 32

Example for nested dictionary (joe)

Once we need to extract value out of a nested dictionary, we do it in the same way !

For us to extract out of 'joe' dictionary nested cells 'value' - we should use their 'key', which is 'Kids'

joe = {'Age' : 35 , "Kids" : {'David' : 'Boy' , 'Lisa' : 'Girl'}}

Example:

joe['Kids']

print(joe['Kids'])

Output -> {'David', 'Boy' ', 'Lisa' ", 'Girl'}

Advanced example:

Extract the gender of 'David, how can we do it?

joe['Kids']['David']

Output -> 'Boy'

How to create a new dictionary, which is a copy of an existing dictionary

Sometimes we want to make a duplicate of our existing dictionary, we can achieve it by using the .copy() action key.

Example:

joe_new = joy.copy()

Now - joe_new dictionary will have all joe's elements, an exact copy

How to delete a cell (‘key’ + ‘value’) out of a dictionary
We use the ‘pop()’ action key, same as we did on ‘Lists’.
This will delete both the key and the value of the cell.

We should pass the ‘key’ into the ‘pop()’ action

Example:
alex = {‘Age’ : 32 , ‘Married’ : ‘Yes’ , ‘Kids’ : 3}
alex.pop(‘Age’)

print(alex)
output-> {‘Married’ : ‘Yes’ , ‘Kids’ : 3}

How to add a new cell into a dictionary
To add a new cell into the dictionary we need to state the key and the value of it in the following syntax: dictionary_name[key] = value

Example:
alex = {‘Age’ : 32 , ‘Married’ : ‘Yes’ , ‘Kids’ : 3}
alex[apartment_number] = 5

print(alex)
output -> {‘Age’ : 32 , ‘Married’ : ‘Yes’ , ‘Kids’ : 3 , ‘apartment_number’ : 5}

How to clear (remove all elements) a dictionary
For us to delete all keys and values of a list, we can use the ‘clear()’ action key

Example:
alex = {‘Age’ : 32 , ‘Married’ : ‘Yes’ , ‘Kids’ : 3}
alex.clear()

print(alex)
output -> {}