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Python dictionary multiple keys

I want to build a dictionary that allows multiple keys to one value: this is a very basic relational database. So the first part of the feedback is that new programmers often start coding with unspecified test cases or abnormal test situations where they are lost in developing their test portfolio. If you have begun to clarify your case, I am sure you have solved this problem. Let's start selecting our processes from examples sometimes we will have the database keep links: from 1 key to 1 key to 1 key for N keys to 1 value from N keys to N values the dictionary can hold 1 key to N values, but not n keys to value 1. Fortunately the reverse process of N keys to value 1 is the opposite of the dictionary, so we can cheat about this by creating a class: a database class (object): A dictionary that allows multiple keys for a single def value __init__(self): self ={:_self} This is similar to SQL listing statement, where we keep both our keys and values in individual transactions: def __setitem__ (self,key, value): first allows the inclusion of a new key, bearing in mind that the value may already exist: if the key is not in self.values: #it's a new value self.keys[key] = a new set self.keys[key] The number of people who have been reunited with the united states is estimated to be between 10 and 10 000. After that we are concerned about whether it is a new relationship with a new value: elif key in self.keys: #self.keys[key].add (value) if the value is not in self.values The government's decision to re-establish a new government in 2008 was a very important one. Now it's time to worry about how to delete records and relationships. For this we hack the __delitem__ function both take the key and value. Didn't? Otherwise we won't know if the user wants to delete only one relationship, or all the entries associated with the key you choose therefore: if the value is nothing I delete each relationship associated with the key. If the value is a valid relationship between the key and the value, then I delete only this specific relationship. This is how it works: def __delitem__ (breath, key, value = none): If the value is nothing: # All key relationships must be deleted. Try: value_set = self.keys[key] value in value_set: self.values[value][key]&if it is not self.values[value]: del self.values[value] del self.keys[key] #we delete the key. With the exception of KeyError: KeyError lift (key not found) post: # And only one relationships are removed. Try: If value in self.keys [key]: # This is a set. Self.values[value] remove (key) if not self.keys[key]: #If the group is empty, we remove the key del.self.keys[key] if it is not self.values[value]: # # If the group is empty, we remove the value del self.values[value] except KeyError: KeyError lift (key not found) now we can add and delete. But what about bulk updates? It is a special case because __setitem__ can't see that you want to publish your update on multiple values. So we need to say that what to update. Here is a suggestion that uses the relationship between the key and the old value and the new value that should be accessible to all other keys that will have to do with the old value: Dave update (self, key, old_value, new_value): if old_value in self.keys[key]: affected_keys = self.values[old_value] For the key in affected_keys: self.__setitem__ (key, new_value) self.keys[key]old_value remove (old_value) del self.values[old_value] another: KeyError lift (key: {} has no value: {}format (key, old_value)) so far very good. A little annoying thing is that we can't really read what's in the database even though we can get things in and delete them. This calls for select statement - or a python __getitem__ method. But (!) we need to be careful, as our database stores data internally as accessible sets of keys. So we need to unscrew it on something useful. As I like to work with menus, I have chosen to make lists, unless it is one value, where I only return the same value: Dave __getitem__ (self, item): Values = self.keys[item] if len (values) > 1: return sorting (list)) elif len (values) = = 1= 1: List (values) =1: List (values) return (0] Now we just miss one thing to pass all your test: bulk download method where you can set n to the m-values. This is a cartesian product, a fancy word for all n maps for all M's. In Python this is a walk in the garden and we can repeat more than both and reuse our method __setitem__: the most important iterload (breath, key_list, value_list): for the key in key_list: for value in value_list: self.__setitem__ (key, value) at this point we have implemented: class of our database A select method compatible with python [key] insert method that corresponds to python d[key] = the value of the modernization method maintains the relationship with multiple keys. A delete method can delete both a relationship and all the entries associated with a key. Test now I need to test this. First we load one key: the value pair, where the key is the hash structure. I chose a set with 3 correct numbers: a def test01 () # retail key - group D = database () K, v = (1, 2, 3), 'Magic' d [c] = v print (d) print (d][k] that works as well as we can see our database object and value #print (d) <__main__. Database object = at = 0x7fd9c3d17048=> #print (d[k] Magic we can test our combined download method: download with many keys - shared value which is the format in your problem: def </__main__. Database=># Non-hash key - list - many common value key becomes D = database () keys, value = [1, 2, 3], ['magic'] d.iterload (keys, value) d [1] ==d[2] = d [3] and this also works as our assertion in the last line does not complain: d value [1]... D[3] is the same: the magic of the text series added two more tests, which should look very familiar to you, albeit with minor exceptions: def test03: d = Database,k, v = ['d,v) confirm d ['what'] = =d ['test'] d.] Iterload (k,v) confirm d ['what'] ==d['ia' ['test'] d. I can make it a lot harder for my code to read accounting for many different situations, but I think the programmer should build a function for one thing, and make it clear to call the future what the function is supposed to do. In test04 - below - I've added the update function. test def04: d = Database () v = keys 'test', values = what d =*new test)) a, b = d [whatever', d [what]] confirmation =everything together here you go __author__ = 'Root-11' database class (object): Dictionary allows multiple keys for one def __init__ (self): self.keys = self.values = {{__getitem__ (self,item): #<---SQL SELECT values = .keys[item] if len (values) > len == 1: List (values) return,[1] def __setitem__ (self, key, value): If the key is not in the self. Values: #It's a new value self.keys[key] = #new set self.keys[key].add] (value# new key#self.values values.add)) but just an update of the values In self.keys: #It's new relationships selfs.key[key]add (value) if the value is not in self.values[] set.values = set.values =self.values[value].add (key __setitem__ new_value old_value)'s value son:10000 If old_value in self.keys[key]: affected_keys = self.values[old_value] for key in affected_keys: self.__setitem__ (key, new_value) self.keys[key].remove (old_value) del self.values[old_value] another: KeyError lift:{} =format=key(key,old_value) def __delitem__ (self, key, value=): #--- DELETE a phrase if the value is nothing# Try: value_set = self.keys [key] for value in value_set: If self.values[value] del self.values[value] del self.keys[key] #, then we delete the key. With the exception of KeyError: KeyError lift (key not found) post: # And only one relationships are removed. Try: If value in self.keys [key]: # This is a set. Self.values[value] Remove (value) self.values [key] if not self.keys[key]: #If the group is empty, we remove the key del self.keys[key] if not self.values[value]: #If the group is empty, we remove the value del self.values[value] excluding KeyError: KeyError lift (key not found) defer itload self, self key_list, value_list): For key in key_list: value in value_list self.__setitem__ (key, value) def test01): # Retail key - a tuple d = Database)k, The united states of The United States, the United States of The United States, the do_all do_all __main__ __name__ The government's policy of supporting the government's policy of de-listing is a matter of serious consideration. The refore, need to provide a clear and clear answer to this question is that the united nations must be able to make a real and do_all a and a better future for the peopleof the world.