Create a Python dictionary that returns a **list of values** for each **key**. The **key** can be whatever type you want.

Design the dictionary so that it could be useful for something meaningful to you. Create at least three different items in it. Invent the dictionary yourself. Do not copy the design or items from some other source.

Next consider the invert\_dict function from Section 11.5 of your textbook.

# From Section 11.5 of:   
# Downey, A. (2015). *Think Python: How to think like a computer scientist*. Needham, Massachusetts: Green Tree Press.

def invert\_dict(d):  
     inverse = dict()  
     for key in d:  
          val = d[key]  
          if val not in inverse:  
               inverse[val] = [key]  
          else:  
               inverse[val].append(key)  
     return inverse

Modify this function so that it can invert your dictionary. In particular, the function will need to turn each of the list items into separate keys in the inverted dictionary.

Run your modified invert\_dict function on your dictionary. Print the original dictionary and the inverted one.

Include your Python program and the output in your Learning Journal submission.

Describe what is useful about your dictionary. Then describe whether the inverted dictionary is useful or meaningful, and why.

def modified\_invert\_dict(d):  
 inverse = dict()  
 for key in d:  
 # Go through the list that is saved in the dict:  
 for item in d[key]:  
 # Check if in the inverted dict the key exists  
 if item not in inverse:  
 # If not create a new list  
 inverse[item] = [key]  
 else:  
 inverse[item].append(key)  
 return inverse  
  
  
d={'f1.txt': ['Love', 'Hate', 'Sky', 'Romance'], 'f2.txt': ['Hate', 'Science',  
'Spark', 'Romance'], 'f3.txt':['Love','Romance','Drama']}  
  
print('Original Dictionary:',d)  
print()  
print('Modified Dictionary:',modified\_invert\_dict(d))

**Output:**

Original Dictionary: {'f1.txt': ['Love', 'Hate', 'Sky', 'Romance'], 'f2.txt': ['Hate', 'Science', 'Spark', 'Romance'], 'f3.txt': ['Love', 'Romance', 'Drama']}

Modified Dictionary: {'Love': ['f1.txt', 'f3.txt'], 'Hate': ['f1.txt', 'f2.txt'], 'Sky': ['f1.txt'], 'Romance': ['f1.txt', 'f2.txt', 'f3.txt'], 'Science': ['f2.txt'], 'Spark': ['f2.txt'], 'Drama': ['f3.txt']}