

Lab 6.04 - Dictionaries Looping In this lab we will use our word-counting code from Lab 6.02 to create a program that determines the top 5 most commonly used words in a passage of text. After processing the passage, it prints the top 5 words and the number of times each occurs. Here's one strategy for completing this lab: 1. Repackage some of your code from Lab 6.02 to make two functions: `text_to_word_list()`, that takes a single passage of text and splits into a list of words; and `count_frequencies()`, that takes in a list of words and returns a dictionary of word frequencies 2. Write a new function, `find_max_valued_key()`, that takes a dictionary as an argument, and returns the **key** that is associated with the largest value in that dictionary. Internally, this function loops through the dictionary while keeping track of the largest value it's seen so far and the key that goes along with that value. 3. Run `find_max_valued_key()` once on the dictionary of word counts, print out the key/value of word it returns. 4. Remove that key from the dictionary. 5. Repeat steps 3-4 four more times: Call `find_max_valued_key()`, print out the key/value pair, and remove the key. If there is a tie within `find_max_valued_key()`, choose among the tied items however you like and return just one of them.

Example Here's an example of the program output with the text passage set to the opening lines of Dr. Seuss's poem **Green Eggs and Ham**: `python I am Sam. I am Sam. Sam-I-am. That Sam-I-am! That Sam-I-am! I do not like that Sam-I-am! Would you like green eggs and ham? I do not like them, Sam-I-am. I do not like green eggs and ham. Would you like them here or there? I would not like them here or there. I would not like them anywhere. I do not like green eggs and ham. I do not like them, Sam-I-am. Would you like them in a house? Would you like them with a mouse? I do not like them in a house. I do not like them with a mouse. I do not like them here or there. I do not like them anywhere. I do not like green eggs and ham. I do not like them, Sam-I-am.`

`python>>> python3 most_frequent_words.py i, 22 like, 17 not, 13 do, 11 them, 12` ## Bonus The process of finding the largest element, printing it, and removing it from the dictionary is a way to sort items. Write a function that will return a sorted list of all the words from most frequent to least frequent. Change the code to find the least frequent words.