

EEE5502 Foundations of Digital Signal Processing Code 1

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Question #3:

- (a) The MATLAB code is attached. The file “scriptFindTextFragment.m” is a MATLAB script which is able to call the function and get the desired results, for part (b), (c) and (d).

The scripts “scriptFindTextFragmentPartbc.m” and “scriptFindTextFragmentPartd.m” are MATLAB scripts which can be run, with “2018_eee5502_code01_q2.mat” in the work space. Both of the scripts fulfill the desired tasks by calling the “searchEngine” function.

- (b) • The matched document for the search term **“welcome to zork”** is:

Treasury of Zork

It is the **1257th** content in the document, and the corresponding correlation coefficient is **0.5000**.

- The matched document for the search term **“we found the crown of lord dimwit flathead in the canyon”** is:

This is the large entrance hall of the Bank of Zork, the largest banking institution of the Great Underground Empire. A partial account of its history is in “The Lives of the Twelve Flatheads,” in the chapter on J. Pierpont Flathead. A more detailed history (albeit less objective) may be found in Flathead’s outrageous autobiography “I’m Rich and You Aren’t - So There!”. Most of the furniture has been ravaged by passing scavengers. All that remains are two signs at the northwest and northeast corners of the room, which say

It is the **1146th** content in the document, and the corresponding correlation coefficient is **0.5530**.

- The matched document for the search term **“the wizard of frobozz cast a spell”** is:

[WIZARD] (The Wizard of Frobozz is here, eyeing you warily.)

It is the **1683rd** content in the document, and the corresponding correlation coefficient is **0.4961**.

- (c) My UFID is 21959681 and the search terms I got are: “memory”, “gilt”, “refoliating”, “halfway”, “passageways”, “outward”, “forks”, “decaying”, “wondrous”, “unguessable”. So the search terms for me is “memory gilt defoliating halfway passageways outward forks decaying wondrous unguessable”.

The matched document for this search term is “[The pine panel has been opened outward.]”, which is the **1655th** content in the document, and the corresponding correlation coefficient is **0.1**.

(d) The MATLAB code is attached. The two matched documents are “There is a ladder here, firmly attached to the west wall” and “There is a ladder here, firmly attached to the east wall”, which are the **906th** and the **907th** content in the document. The corresponding correlation coefficient is 0.94737.