**Application of Hashing in NLP**

**Write Python program for the problem below.**

You are given a set of text documents and your goal is to find the most similar text document with respect to a query text. The similarity is computed between two text documents, and as follows:

Where V is the vocabulary (all the words), is the probability of the word w in d.

Your objective is to represent each document in a hash table and when the query comes in, search for each query word in each of the documents to find the probability. Finally compute the similarity score.