Programming Assignment 2 (1/2)

- Write a program to convert a set of documents into tf-idf vectors.
  - Text collection:
    - 1095 news documents

      (https://cool.ntu.edu.tw/files/8158601/download?download_frd=1)

      zip code: IRTM2025
  1. Construct a dictionary based on the terms extracted from the given documents.
     - Record the document frequency of each term.
     - Save your dictionary as a txt file (dictionary.txt).

t_index	term	df
1	Apple	3
2	Basketball	12
…		

ascending order, by term

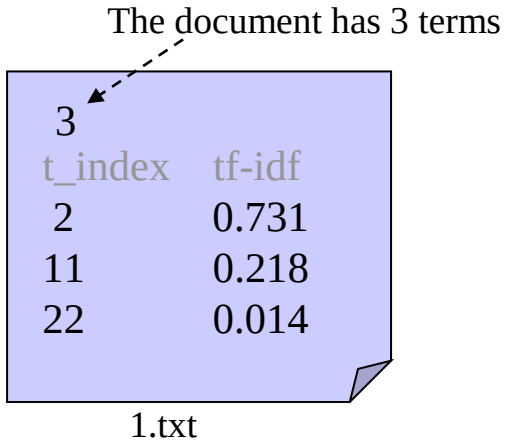
dictionary.txt

Programming Assignment 2 (2/2)

2. Transfer each document into a **tf-idf unit vector**.

$$idf_t = \log_{10} \frac{N}{df_t}$$

- Save it as a txt file (DocID.txt).



3. Write a function `cosine(`Doc_x`,` Doc_y`)` which loads the tf-idf vectors of documents x and y and returns their cosine similarity.

- **Please zip and submit 1.your dictionary, 2.the vector file of document 1, 3.source code, and 4.a report to TA.**
  - **Also mention the cosine similarity between document 1 and 2 in your report.**
  - 2 weeks to complete, that is, **2025/10/6**.