

Program Description:

Program scans all files that start with name cranfield in the path given from command line arguments if it encounters any file which does not start with name "cranfield" and prints the file names on console. From each file a line is scanned at once blank spaces are trimmed, converted to lower case. Then SGMLTags are removed then Possessives ('s) are chopped off using replaceAll function of String. Then commas are replaced by ".". Then each line is split into tokens by space and fullstop at the end of tokens are removed if any and then added into Hashmap with frequency 1 (key is token and value is frequency). If the map already has the frequency then frequency is incremented by 1. The program has been tested on UTD Apache machine

1. Total time taken to scan all tokens from database in ms : 1395

Total time taken for Scanning Token map for unique words and words with top 30 frequency in ms : 8

2.a) All the tokens in database are converted to lower case before counting frequencies. Words "People" and "people" are counted as people

b) Words with dashes are counted as single words like "1996-97", "middle-class", "30-year", "teen-ager" considered as one word

c) Possessives ('s) are chopped off like "sheriff's", "university's" are counted as sheriff, university.

d) Acronyms like U.S, U.N are stored as they are

3. Hash maps are used to store the frequencies of tokens, modified binary search algorithm is used to sort the 30 most frequent words

The program can be executed by following the three steps given below:

1. javac CreateDictionary.java

2. javac TokenFrequency.java

3. java CreateDictionary "/people/cs/s/sanda/cs6322/Cranfield" 30

The Program expects two command line arguments and they are explained below:

a. First argument is path of location of Cranfield collection if argument not provided program will assume the

Cranfield Collection to be located in the current directory

b. Second argument is topcount if we want to find the frequencies of the 50 most frequent words in the database

we have to give 50 if no number is provided the program assumes it to be 30

Other ways to execute the program:

1. If the location of Cranfield collection is current directory and want to find top the frequencies of the 40 most frequent

words in the database
use the command "java CreateDictionary . 40" instead of
step 3.

Assumptions made:
a. It is assumed that all files in Cranfield collection Starts
with name "cranfield". Program skips the files
which does not start with name "cranfield" and prints the file
names on console.