

7 February 2005

RANGE and FREQUENCY Programs for Windows based PCs

Running RANGE

Follow these steps to run RANGE. Roughly the same steps can be followed to run FREQUENCY.

- 1 Save the text or texts that you want to run the program on as ASCII or Text (.txt) files. There are some practice ones accompanying the program called INDO1.TXT, INDO2.TXT etc.
- 2 Double click on the RANGE icon in Windows explorer
- 3 Open the File menu in RANGE and choose the heading Open.
- 4 Select the file or files you want to run the program over. Remember these must all be text files. You will have to go to the appropriate directory to find the files and you may need to change the entry in the box Files of type to Text files or All files.
- 5 After you have selected the files, click on Open, go to the File menu again and choose Save. Type the name of the file that you want to save the results to, and click on Open.
- 6 Look at the list of options at the bottom of the RANGE window. You can change these options or leave the options as they are.
- 7 Click the button Process Files which is below the file list in the RANGE window.
- 8 Look at the results file using a word processor like MS-Word. The results file will be the name you chose plus _range.txt, for example results_range.txt. The table and lists look better if the COURIER 8 or 9 point font is used.

If things go wrong, read the instructions especially the notes on **Trouble shooting** near the end of these instructions.

RANGE, and FREQUENCY are available at http://www.vuw.ac.nz/lals/staff/Paul_Nation.

It is possible to run RANGE without the base word lists. There is some sample output from RANGE at the end of these instructions.

RANGE

RANGE is used to compare the vocabulary of up to 32 different texts at the same time. For each word in the texts, it provides a range or distribution figure (how many texts the word occurs in), a headword frequency figure (the total number of times the actual headword type

appears in all the texts), a family frequency figure (the total number of times the word and its family members occur in all the texts), and a frequency figure for each of the texts the word occurs in. It can be used to find the coverage of a text by certain word lists, create word lists based on frequency and range, and to discover shared and unique vocabulary in several pieces of writing.

The sample input and output at the end of this set of instructions shows a typical result on two short texts.

RANGE can be used to compare a text against vocabulary lists to see what words in the text are and are not in the lists, and to see what percentage of the items in the text are covered by the lists. It can also be used to compare the vocabulary of two texts to see how much of the same vocabulary they use and where their vocabulary differs.

It is useful for example for seeing what low frequency words are in an exam question paper, a technical information note or a text aimed at foreign readers. It may also be used to check the vocabulary of simplified reading texts or language course books to see how many of the words in the texts are among the high frequency words of English. It may also be used to see how much learning the vocabulary of one text helps with dealing with the words in a different text.

In combination with the three base lists that are available with it, it has been used to answer the following questions.

What common vocabulary is found in all these texts?

How large a vocabulary is needed to read this text?

If a learner has a vocabulary of 2,000 words, how much of the vocabulary in the text will be familiar to the learner?

What are the words in the text which the learner is not likely to know?

How well does the course book prepare learners for the vocabulary in newspapers?

How rich a vocabulary do second language learners use in their free writing?

See the applications section of these instructions for research completed using this program.

RANGE provides a table which shows how much coverage of a text each of the three base lists provides.

WORD LIST	TOKENS/%	TYPES/%	FAMILIES
one	54/72.0	34/69.4	33
two	2/ 2.7	2/ 4.1	2
three	14/18.7	9/18.4	9
not in the lists	5/ 6.7	4/ 8.2	?????
Total	75	49	44

This shows that 54 of the running words in the text are in base list one and these 54 words make up 72% of the total running words in the text. In the word list column, one, two, three refer to each of the base lists.

What is needed to run RANGE?

This program is designed for PCs. To run the program you need

- 1 the program *Range.exe*,
- 2 base word lists (BASEWRD1.txt, BASEWRD2.txt, BASEWRD3.txt etc),
- 3 text files in ASCII (DOS) format.

Here is an example of what should be in the directory.

```

range.exe           (the program)
basewrd1.txt       (the base word lists)
basewrd2.txt
basewrd3.txt
indo1.txt          (the files to be processed)
indo2.txt
indo3.txt
indo4.txt
indo5.txt
indo6.txt
range.txt          (if you need to use letters not in English)
function.txt       (if you want RANGE to not count function words)

```

RANGE can run with an unlimited number of base word lists. They must be called basewrd1.txt, basewrd2.txt and so on.

Unwanted text

If there is text in the file that you do not want the RANGE program to count, put that text in triangular brackets <>. Within the two triangular brackets, you must not have a hard return (enter), or any other triangular brackets. When you run RANGE, put a tick in the *ignore '<>'* box. This will allow RANGE to run on texts from the British National Corpus where a description of each text is in triangular brackets.

FREQUENCY

FREQUENCY is another program that runs on an ASCII text to make a frequency list of all the words in a single text. It can only run one text at a time. The output is an alphabetical list, or a frequency ordered list. It gives the rank order of the words, their raw frequency and the cumulative percentage frequency. Here is some sample output from FREQUENCY.

Word Type	Rank	Frequency	Cumulative Percent
THE	1	271	7.55
OF	2	134	11.28
A	3	108	14.29
IN	4	101	17.10
TO	5	98	19.83
GROUP	6	88	22.28

In the example, the word type a is the third most frequent word. It occurs 108 times in the text, and along with the and of covers 14.29% of the text. On its own it covers 3.01% (14.29 minus 11.28) of the text. See the beginning of this set of instructions to see how to run FREQUENCY.

Running RANGE

Follow the instructions at the beginning of this document. You can type any name for the output, such as results. The options available include

- 1 choosing to use none, any or all of three base word lists, or up to 10 of your own lists,
- 2 sorting the output by frequency of occurrence, the number of different texts the word occurred in (range), or alphabetically,
- 3 listing others i.e. words that did not occur in any of the base word lists,
- 4 providing the range and frequency numbers (choosing not to show these is useful if you want to use the output to make other base word lists)
- 5 having a list of word types as well as word families by ticking the Forms box
- 6 recording the occurrences of words in the baseword lists themselves by using the Update BaseWords and if necessary the Zero BaseWords options
- 7 having the words in each text marked according to what baseword list they occurred in.

RANGE is a very powerful program and can process several very large texts at once of over a million running words each.

To prepare a text and the lists for RANGE

- 1 Replace hyphens in the text with *space hyphen space*. When doing Find and replace, you may need to search for Ctrl-Hyphen.
- 2 Run the text through RANGE using all the Basewrd lists and then look at the Types not in any list. (1) If the list contains spelling errors, correct them in the text. (2) Put proper nouns in the list in the proper noun Basewrd list. (3) Add family members in the list to the existing Basewrd lists if necessary.
- 3 Run the text through RANGE.

Marking the input texts

If the *Mark texts* option is chosen, each word in the input texts is marked according to what baseword list it occurred in. For each text, this is recorded in a separate file that has the name of the input file and the suffix *.mrk*, for example *Indo1.mrk*

Here is an example of part of a marked text.

Unmarked words are in Basewrd1.txt
 Words marked with <2> are in Basewrd2.txt
 Words marked with <3> are in Basewrd3.txt
 Words marked with <!> are not in any of the lists

Group Work and Language Learning

Like all learning activities, group work is more likely to go well if it is properly planned. Planning <3>requires an understanding of the <3>principle which lies behind successful group work

The <3>principle of group work

Several <3>factors work together to result in group work where everyone <3>involved is interested, active and thoughtful. If these <3>factors agree with each other then group work is likely to be successful. If they are not in agreement, group work is likely to be unsuccessful. The five <3>factors are the learning <3>goals of group work, the <3>task, the way <2> information is <3>distributed, the seating <2>arrangement of the members of the group, and the social relationships between the members of the group.

The words not marked, for example *Like all learning* are in baseword list 1 (the first 1000 words). The words with <2> in front of them, for example *information <2>*, are in baseword list 2 (the second 1000 words). The words marked with <3> are in baseword list 3 (the Academic Word List). The words marked with <!> are not in any of the lists.

Using the base word lists

RANGE can be used with an unlimited number of word lists. These allow it to classify some of the words in the input files into word families. The program will give different figures

depending on whether the base word lists are used or not. If the base word lists are used, the figures will represent a mixture of families and types. All the words in the base word lists are counted as families and the remainder are counted as types. If the base word lists are not used, then all the words are counted as types, because it is the base word lists that are used to make families. You can use any of the base word lists simply by checking in the appropriate box at the bottom of the RANGE dialogue box.

If you want to find out what words in the base word lists did not occur in the input texts the Copy Basewords option in the File menu allows you to do this.

The word lists available for RANGE

Three ready made base lists are available. The first (BASEWRD1.txt) includes the most frequent 1000 words of English. The second (BASEWRD2.txt) includes the 2nd 1000 most frequent words, and the third (BASEWRD3.txt) includes words not in the first 2000 words of English but which are frequent in upper secondary school and university texts from a wide range of subjects. All of these base lists include the base forms of words and derived forms. The first 1000 words thus consists of around 4000 forms or types. The sources of these lists are A General Service List of English Words by Michael West (Longman, London 1953) for the first 2000 words, and The Academic Word List by Coxhead (1998, 2000) containing 570 word families. The first thousand words of A General Service List of English Words are usually those in the list with a frequency higher than 332 occurrences per 5 million words, plus months, days of the week, numbers, titles (Mr, Mrs, Miss, Ms, Mister), and frequent greetings (Hello, Hi etc).

The lists include both American and British spellings. Apostrophes are treated as spaces, so I've is counted as two items, as is Jane's.

The word forms in the base lists are grouped into word families under a headword. For example, the headword AID has the following family members AIDED, AIDING, AIDS, and UNAIDED. In the base lists the family members have a Tab in front of them. The headword occurs just before the family members and has no Tab. For information on word families see Bauer, L. and Nation, I.S.P. "Word families" International Journal of Lexicography 6, 3 (1993) 1-27.

Stop list

If you want RANGE not to count some words and to exclude them from all totals you just need to make a list of these words, like the one below, and save it as a text file. You then need to click the Use stop list box and then choose the file you want as your stop list. The file called function.txt is a list of all the function words of English which can be used as a stop file.

a
about
above
across
after

against
albeit
all
along
although
am

Running several files one after the other

If you want to process several files one after the other and get separate data for each file, you need to click the BatchFiles box. Then you choose the files by going to the File menu and choosing Open. You do not have to choose the results files. The program will create results files by adding _range.txt to the name of the input file, for example, if one of the input files is Dracula.txt the results will be put in a file called Dracula_range.txt. The batch file option is very useful for example if you want to measure the vocabulary profiles of a large number of student compositions.

Preparing your own base lists

You do not need to use the base lists that are provided with the program. If, for example, you wish to examine the vocabulary of graded readers or to look at the overlap between two texts, you can turn one of the texts into a word list by running the program FREQUENCY, or RANGE, edit it to make word families, and give it the name BASEWRD1.txt, so that it becomes a base list that RANGE will use. You can make two other base lists named BASEWRD2.txt and BASEWRD3.txt and so on. The same word should not occur more than once in the same list or in different lists. The program will give you an error message when you run it if you put the same word in more than once.

In order to prepare the three base lists, you can either create new word lists or adapt existing base lists. Type the words in to the file in the following way. The indented family members must have a Tab or five spaces in front of them. Note that the headword is considered as a family member and does not have to be typed again.

```
A
  AN
ABLE
  ABLER
  ABLEST
  ABLY
ABOUT
ABOVE
```

After you have typed a list, save it as an ASCII file. In MS-Word, use Save as MS-DOS Text with Layout (*.asc) if you have used Tabs or save it as a text only file. In both cases rename the file afterwards so that it only ends with .txt and is called Basewrd1.txt or Basewrd2.txt or Basewrd3.txt with no additional file extension such as .txt or .asc. The program will prompt you if you try to run a file with the wrong file extension, and will offer to correct it for you. If you are working on your base lists in WordPerfect for Windows, save it as ASCII (DOS)

Generic Word Processor if you are using Tabs. Using the Layout or Generic option will preserve the Tabs which would otherwise be converted to spaces, or save it as ASCII DOS text. The list should look like this.

```
A 0
      AN 0
ABLE 0
      ABLER 0
```

There must be one space between the headword and the zero, and one space between the family member and the zero. Comments can be put in the base lists to remind you of their content by typing # in front of each line of comment. For example,

```
#This is the first 1000 words of the GSL.
```

If you want to make base word lists from the existing lists, put a tick in the options Update BaseWords and Zero BaseWords and run the RANGE program over the list of headwords that you want in your list. Then choose the option Copy Basewords from the File menu which will then allow you copy whole families which have a number next to them to a new list. You can keep adding families to the new base word list by using the Copy Basewords option with several existing base word files. If you ask to copy families greater than 0 then the default is to copy a family that has either a headword or any member that has a count of greater than zero. If you ask to copy families equal to 0 then the default is to copy a family that has either a headword or any member that has a count of equal to zero.

If you want to copy families that have zero in both the headwords and the members, click the option, Use Family Total, which uses the total frequency of the family. Thus if you select this option and ask for families that are equal to zero, you will only get families in which both the headwords and the members are all zero. If you ask for families equal to one, you'll only get families where the member and headword counts add up to one and so on.

Making a list of headwords

If you want to make a list of only headwords from a Baseword list, choose the Make Head Word List option from the File menu.

Using RANGE or FREQUENCY with languages other than English

The file *range.txt* allows you to specify what letters of the alphabet you want RANGE to recognise. FREQUENCY has a similar file called *frequency.txt*.

Trouble shooting

The following description lists error messages, causes, ways of checking and remedies.

ERROR Save file not set, cannot run.

Cause: You have not provided a name for the output file which will contain the results from running the program.

Remedy: Go to the File menu, select Save, and in the File name box type a name for the output file.

ERROR BASEWRD1.txt not found, cannot run.

Cause: One or more of the base lists is not present, or is not in the same directory as the RANGE program and the input text, or are incorrectly named. The error message will tell you which of the three lists is missing.

Check: List the files in the directory to see if BASEWRD1.txt, BASEWRD2.txt, and BASEWRD3.txt are present. RANGE will only use base lists named BASEWRD1.txt, BASEWRD2.txt, BASEWRD3.txt and so on.

Remedy: Rename the base list files, create base list files, or move the base list files to the same directory. You may need to make sure that there is not an additional suffix like .asc after .txt.

ERROR line too long

Cause: The input file is not in DOS (ASCII) format with line breaks. It has not been converted from a WORD file to a Text file with line breaks (*.txt).

Check: Use a text editor like Notepad to look at the input file to see if it contains unusual characters.

Solution: Convert the file to a text file by choosing Save as from the File menu and choosing Text Only with Line Breaks (*.txt) from the Save as Type box.

SKIP

ERROR Line in the base word file has no entry! Skipping line: 3

Cause: There is a blank line in the base word file. The program gives the line number to help you find this.

Solution: Delete the unwanted hard return.

Reading: basewrd1.txt

ERROR Entry: Widi has no count value, using zero

Cause: There is an error in the base word lists in that one or more of the words (Widi in the example) does not have a space and a 0 after it.

Check: Look at the list to see if the word is followed by spaces and a number, for example 0. The *Reading: basewrd1.txt* message helps you find what base word list the error is in.

Solution: Edit the word in the base word list by adding the space plus zero.

ERROR Wrd: JONI entered in base word list 2! line: 5

Cause: A word occurs more than once in a base word list or in more than one base word list. For example, a word family or type occurs in both BASEWRD1.txt and BASEWRD2.txt.

Solution: Make a note of the words mentioned in the error message (JONI in the example) and edit the lists so that these words only occur in one list or only once in a list.

Applications

The following pieces of published research and theses used data obtained by using versions of RANGE and FREQUENCY. RANGE has previously been called Fvords and VocabProfile. FREQUENCY was previously called WORDS.

Articles

Chung, T. (2003) A corpus-comparison approach for term extraction. Terminology 9, 2: 221-246

Chung, T. and Nation, P. (2003) Technical vocabulary in specialised texts. Reading in a Foreign Language 15, 2: 103-116

Chung, T. and Nation, P. (2004) Identifying technical vocabulary. System 32, 2: 251-263

Coxhead, A. (2000) A new academic word list. TESOL Quarterly 34, 2: 213-238.

Hirsh, D. and Nation, P. (1992) What vocabulary size is needed to read unsimplified texts for pleasure? Reading in a Foreign Language 8, 2: 689-696.

Hwang Kyongho and Nation, P. (1989) Reducing the vocabulary load and encouraging vocabulary learning through reading newspapers. Reading in a Foreign Language 6, 1: 323-335.

Klinmanee, N. and Sopprasong, L. (1997) Bridging the vocabulary gap between secondary school and university: a Thai case study. Guidelines 19, 1: 1-10.

Laufer, B. and Nation, P. (1995) Lexical richness in L2 written production: Can it be measured? Applied Linguistics 16,3: 307-322.

Laufer, B. (1994) The lexical profile of second language writing. Does it change over time? RELC Journal 25, 2: 21-33.

Laufer, B. and Paribakht, T.S. (1998) The relationship between passive and active vocabularies: effects of language learning context. Language Learning 48, 3: 365-391.

Morrow, P.R. (1997) Patterns of lexis in the writing of Japanese EFL students: a comparative study. Pasaa 27: 87-99.

Nation, P and DeWeerd, (2002) A defence of simplification. Prospect .

Nation, P. and Hwang, K. (1995) Where should general service vocabulary stop and special purposes vocabulary begin? System 23, 1: 35-41.

- Nation, P. and Wang, K. (1999) Graded readers and vocabulary. Reading in a Foreign Language 12, 2: 355-380.
- Sutarsyah, C., Nation, P. and Kennedy, G. (1994) How useful is EAP vocabulary for ESP? A corpus based case study. RELC Journal 25, 2: 34-50.
- Wodinsky, M. and Nation, P. (1988) Learning from graded readers. Reading in a Foreign Language. 5, 1: 155-161.
- Worthington, D. and Nation, P. (1996) Using texts to sequence the introduction of new vocabulary in an EAP course. RELC Journal 27, 2: 1-11.

Theses

- Chung, T. (2003) Identifying technical vocabulary PhD thesis, Victoria University of Wellington, New Zealand.
- Coxhead, A. (1998) The development and evaluation of an academic word list MA Thesis, Victoria University of Wellington, New Zealand.
- Hirsh, D. (1993) The vocabulary demands and vocabulary learning opportunities in short novels MA Thesis, Victoria University of Wellington, New Zealand.
- Hwang Kyongho (1989) Reading newspapers for the improvement of vocabulary and reading skills. MA Thesis, Victoria University of Wellington, New Zealand.
- Jenkins, S. (1993) The vocabulary burden of controlled and uncontrolled reading materials used with beginning ESL readers. MA Thesis, Victoria University of Wellington, New Zealand.
- Muhammad, R. (1990) The vocabulary demands of reading information pamphlets. MA Thesis, Victoria University of Wellington, New Zealand.
- Sutarsyah, C. (1993) The vocabulary of economics and academic English. MA Thesis, Victoria University of Wellington, New Zealand.

Development and distribution of RANGE and FREQUENCY

RANGE and FREQUENCY were programmed by Alex Heatley. They were designed by Paul Nation and Averil Coxhead of the School of Linguistics and Applied Language Studies, Victoria University, P.O. Box 600, Wellington, New Zealand. The program is written in Delphi 5. The uncompiled version is available if you wish to adapt the program. Please keep Paul Nation informed of problems with the program and base lists, and any improvements and applications you have made. You can distribute the program, base lists and instructions to other users. It must not be sold for profit. There is no need to seek permission for its use or for its free distribution to others.

E-mail: Paul.Nation@vuw.ac.nz
 Fax: 64 4 463 5604 Attention: Paul Nation

To refer to it in a list of references, you can do so using the following information.

Heatley, A., Nation, I.S.P. and Coxhead, A. 2002. RANGE and FREQUENCY programs.
http://www.vuw.ac.nz/lals/staff/Paul_Nation

Sample output from RANGE

This sample uses the two following short texts as input. RANGE was run with the three base lists chosen and with the Forms box ticked.

Text 1

Everybody laughed. Joni's face became red and hot. Joni, that is not the correct answer. Please listen to the lesson, said Miss Suhardi. Then the bell rang. It was the end of the English lesson and it was the end of school for that day. Miss Suhardi gave the class some homework and left the room. The students began to talk and laugh. Joni's face was still hot, but the others had already forgotten his mistake.

Text 2

Widi picked up her books and went too. Joni walked near her. He was happy. He wanted to sit near her. Priyadi stood up and spoke to all the students. "Next Thursday," he said, "we are going to visit the students of a school in Jakarta. We are going to stay with them for three days. We will visit some places in Jakarta too. It will cost 2,500 rupiahs. Please pay the money soon. Tell me your names and pay the money to me.

The output

Processing file: C:\WINNT\Profiles\nationp\Personal\range\widi.txt

Number of lines: 6
Number of words: 78

Processing file: C:\WINNT\Profiles\nationp\Personal\range\joni.txt

Number of lines: 6
Number of words: 83

Reading: basewrd1.txt
Reading: basewrd2.txt
Reading: basewrd3.txt

WORD LIST	TOKENS/%	TYPES/%	FAMILIES
one	143/88.8	81/87.1	74
two	6/ 3.7	5/ 5.4	5
three	0/ 0.0	0/ 0.0	0
not in the lists	12/ 7.5	7/ 7.5	?????
Total	161	93	79

Number of BASEWRD1.txt types: 3126 Number of BASEWRD1.txt families: 999
Number of BASEWRD2.txt types: 2721 Number of BASEWRD2.txt families: 986
Number of BASEWRD3.txt types: 2540 Number of BASEWRD3.txt families: 570

Table of Ranges: Types

160 Words appear in 1 input files
26 Words appear in 2 input files

Table of Ranges: Families

71 Words appear in 1 input files
15 Words appear in 2 input files

Types Found In Base List One

TYPE	RANGE	FREQ	F1	F2
AND	2	7	4	3
FOR	2	2	1	1
IT	2	3	2	1
OF	2	3	2	1
PLEASE	2	2	1	1
SAID	2	2	1	1
SCHOOL	2	2	1	1
SOME	2	2	1	1
STUDENTS	2	3	1	2
THE	2	14	10	4
TO	2	7	2	5
WAS	2	4	3	1
A	1	1	0	1
ALL	1	1	0	1
ALREADY	1	1	1	0
ANSWER	1	1	1	0
ARE	1	2	0	2
BECAME	1	1	1	0
BEGAN	1	1	1	0
BOOKS	1	1	0	1
BUT	1	1	1	0
CLASS	1	1	1	0
COST	1	1	0	1
DAY	1	1	1	0
DAYS	1	1	0	1
END	1	2	2	0
ENGLISH	1	1	1	0
EVERYBODY	1	1	1	0
FACE	1	2	2	0
FORGOTTEN	1	1	1	0
GAVE	1	1	1	0
GOING	1	2	0	2
HAD	1	1	1	0
HAPPY	1	1	0	1
HE	1	3	0	3
HER	1	3	0	3
HIS	1	1	1	0
HOT	1	2	2	0
IN	1	2	0	2
IS	1	1	1	0
LAUGH	1	1	1	0
LAUGHED	1	1	1	0
LEFT	1	1	1	0
LISTEN	1	1	1	0
ME	1	2	0	2
MISS	1	2	2	0
MONEY	1	2	0	2
NAMES	1	1	0	1
NEAR	1	2	0	2
NEXT	1	1	0	1
NOT	1	1	1	0
OTHERS	1	1	1	0
PAY	1	2	0	2
PLACES	1	1	0	1
RANG	1	1	1	0
RED	1	1	1	0
ROOM	1	1	1	0
S	1	2	2	0
SIT	1	1	0	1
SOON	1	1	0	1
SPOKE	1	1	0	1
STAY	1	1	0	1
STILL	1	1	1	0
STOOD	1	1	0	1
TALK	1	1	1	0
TELL	1	1	0	1
THAT	1	2	2	0
THEM	1	1	0	1

THEN	1	1	1	0
THREE	1	1	0	1
THURSDAY	1	1	0	1
TOO	1	2	0	2
UP	1	2	0	2
VISIT	1	2	0	2
WALKED	1	1	0	1
WANTED	1	1	0	1
WE	1	3	0	3
WENT	1	1	0	1
WILL	1	2	0	2
WITH	1	1	0	1
YOUR	1	1	0	1

Types Found In Base List Two

TYPE	RANGE	FREQ	F1	F2
BELL	1	1	1	0
CORRECT	1	1	1	0
LESSON	1	2	2	0
MISTAKE	1	1	1	0
PICKED	1	1	0	1

Types Found In Base List Three

TYPE	RANGE	FREQ	F1	F2
------	-------	------	----	----

LIST OF FAMILY GROUPS

BASE ONE FAMILIES	RANGE	TYFREQ	FAFREQ	F1	F2
AND	2	7	7	4	3
BE	2	0	9	6	3
DAY	2	1	2	1	1
FOR	2	2	2	1	1
HE	2	3	4	1	3
IT	2	3	3	2	1
OF	2	3	3	2	1
PLEASE	2	2	2	1	1
SAY	2	0	2	1	1
SCHOOL	2	2	2	1	1
SOME	2	2	2	1	1
STUDENT	2	0	3	1	2
THE	2	14	14	10	4
TO	2	7	7	2	5
A	1	1	1	0	1
ALL	1	1	1	0	1
ALREADY	1	1	1	1	0
ANSWER	1	1	1	1	0
BECOME	1	0	1	1	0
BEGIN	1	0	1	1	0
BOOK	1	0	1	0	1
BUT	1	1	1	1	0
CLASS	1	1	1	1	0
COST	1	1	1	0	1
END	1	2	2	2	0
ENGLISH	1	1	1	1	0
EVERY	1	0	1	1	0
FACE	1	2	2	2	0
FORGET	1	0	1	1	0
GIVE	1	0	1	1	0
GO	1	0	3	0	3
HAPPY	1	1	1	0	1
HAVE	1	0	1	1	0
HOT	1	2	2	2	0
I	1	0	2	0	2
IN	1	2	2	0	2
LAUGH	1	1	2	2	0
LEFT	1	1	1	1	0
LISTEN	1	1	1	1	0
MISS	1	2	2	2	0
MONEY	1	2	2	0	2
NAME	1	0	1	0	1

NEAR	1	2	2	0	2
NEXT	1	1	1	0	1
NOT	1	1	1	1	0
OTHER	1	0	1	1	0
PAY	1	2	2	0	2
PLACE	1	0	1	0	1
RED	1	1	1	1	0
RING	1	0	1	1	0
ROOM	1	1	1	1	0
SHE	1	0	3	0	3
SIT	1	1	1	0	1
SOON	1	1	1	0	1
SPEAK	1	0	1	0	1
STAND	1	0	1	0	1
STAY	1	1	1	0	1
STILL	1	1	1	1	0
TALK	1	1	1	1	0
TELL	1	1	1	0	1
THEN	1	1	1	1	0
THEY	1	0	1	0	1
THIS	1	0	2	2	0
THREE	1	1	1	0	1
THURSDAY	1	1	1	0	1
TOO	1	2	2	0	2
UP	1	2	2	0	2
VISIT	1	2	2	0	2
WALK	1	0	1	0	1
WANT	1	0	1	0	1
WE	1	3	3	0	3
WILL	1	2	2	0	2
WITH	1	1	1	0	1
YOU	1	0	1	0	1

BASE TWO FAMILIES	RANGE	TYFREQ	FAFREQ	F1	F2
BELL	1	1	1	1	0
CORRECT	1	1	1	1	0
LESSON	1	2	2	2	0
MISTAKE	1	1	1	1	0
PICK	1	0	1	0	1

BASE THREE FAMILIES	RANGE	TYFREQ	FAFREQ	F1	F2
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Types Not Found In Any List

TYPE	RANGE	FREQ	F1	F2
JONI	2	4	3	1
HOMEWORK	1	1	1	0
JAKARTA	1	2	0	2
PRIYADI	1	1	0	1
RUPIAHS	1	1	0	1
SUHARDI	1	2	2	0
WIDI	1	1	0	1

time taken was : 1 Seconds
Number of Nodes Read: 0
Number of Cache Nodes Read: 31175
Number of Nodes Written: 0
Number of Cache Nodes Written: 2045
Number of nodes per second, 0
Number of words per second, 161
Number of unique words in tree, 93
Number of unique words per second, 93

...Finished

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