



MARMARA UNIVERSITY

FACULTY OF ENGINEERING

# CSE363/CSE3063

## Object-Oriented Software Design

### Python Project

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1-)

Program	lines of code	Resource Usage					
		English Data		German Data		Turkish Data	
		mem	time	mem	time	mem	time
	(#)	(max MB)	(s)	(max MB)	(s)	(max MB)	(s)
analyze.py	152	22	4	37	9.7	817	358.3
analyzeRefactor1NGram.py	112	22	4.3	36	10.3	823	383.2
analyzeRefactor2Delete.py	114	20	4.3	32	10.4	807	381.7
analyzeRefactor3Iterator.py	109	11	4.5	12	10.9	23	409
analyzeRefactor4More.py	113	15	10.2	25	25.7	131	985

2-)This program reads text from 3 different file, encodes it to utf8 and counts the word blocks. Program has changed step by step. At each step memory usage and programming time has changed. After deleting step, memory usage have been decreased(but not seen because of taking max. memory usage), programming time nearly same. After iterating code, memory usage has decreased dramatically but programming time has increased. At final change, displaying more and different words have increased time and memory usage nearly double time.

3-)Unicoding and encoding could be thought as duplicated. We think it is not necessary because we first unicode the file, after using, encode the result is not necessary.

4-)First step(1NGram) made the program more understandable/readable. It takes length of gram and works correctly as before the change. On the other hand, third step(3Iterator) made the program less understandable because it made the program more complex as many loop made.

5-)This program helps us to learn the logic and usage of python language easily. This language is very easy and also very complicated because of that. Calling functions and passing arguments are nearly same as the other programming languages like C and Java. In contrast passing object to it own function like an “self” is surprised me.

In addition to this, deleting unnecessary information decrease memory usage. Like this, reading the file line by line instead of whole file decreases memory usage. Whereas, programming time increases slightly.