Hacettepe University
Department of Computer Science and Engineering

BIL236 Programming Laboratory
Experiment III

Subject:	Algorithm Efficiency
Advisors:	Ast. Prof. Mustafa Ege
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Submission Date:	19/07/2002
Design Report Deadline:	23/07/2002
Deadline:	29/07/2002
Programming Language:	ANSI C

AIM

The aim of this experiment is to teach the effects of good and bad desinged algorithms to a writen software. The expriment also aims students to write platform indipendent software.

BACKGROUND

In an simple word processing software the most important part of the software is the "find" function. Simply "find" function is the base for most of the operations (like find&replace action).

OBJECT

In this expriment you are asked to write a simple C program which will work from command line and takes two parameters. The first parameter will be the filename which the second parameter will searched in it.

But; there are three string search algorithms you have to use. First one ise "Native String Search Algorithm", second "Knuth-Morris-Pratt Algorithm" and the last is "Boyer-Moore Algorithm". Your program will run the search for three algorithms and at the result it will print the comparison counts (how many comparison made for searching) for each algorithm.

In your report you are asked to draw two graphs –comparison count/search string lenght and comparison count/searched string lenght- which each algorithm will appear as a curve in "Performance Consideration" (4.3) section. So you have to make some random tests to get results.

NOTES

1. Your program must be platform indipendent. So do not use Windows tools like developer etc...
2. Using functions which starts with str (like strlen,strcpy) is not allowed.
3. Your program will be run on heavy tests. Watch-out for memory usage.

4. Be carefull about "`segmantaion fault`"s. Each segmantation fault will cause for you 10 points.

5. In case of R.A.'s modifiying of source code to make the program work you will be punished with 15 points.

6. You are asked to follow announcements made to "bil236 discussion list". If you are not subscribed yet, please subscribe to it by sending an e-mail to:

   `majordomo@cs.hacettepe.edu.tr`

   with a message body of

   "`subscribe bil236`".

7. Your report and program must be submitted at the same time.

8. Your report,source code and source floppy will be submitted within a transparent file.

9. Late submissions will not be accepted.

10. Do not disturb R.A or Prof. about deadline postponage.

11. Office hours will be held on mornings. You can also send e-mails to `kerem@linux.org.tr` for your additional questions

Good Luck