CSE 102-COMPUTER PROGRAMMING -HOMEWORK 10

This program aims to read numbers(1-1.000.000) from a file called "data.txt" and it writes these numbers in to two data structures. One is a linked list and other one is a dynamically allocated array. Also this program prints and writes prime numbers into output_prime_dynamic_array.txt and output_prime_linked_list.txt files using record_to_array and record_to_linked_list functions. These functions also calculate the time passing between the calculations of 1-500.000, 1-750.000,1-1.000.000 by using gettimeofday function from the library sys/time.h. Found the totally time passing by differentiating ending and starting value of the time, then converted it to milliseconds. These time values are also written in to output_prime_dynamic_array.txt and output_prime_linked_list.txt files.

Here are some screenshots of the files and the program runnings.

```
© © gokce@gokce-VirtualBox: ~/Desktop

999521

999529

999541

999553

999599

999613

999633

999667

999671

†999683

999727

999749

†999773

999779

99983

†99983

†99983

†99983

†99983

†99983

†99983

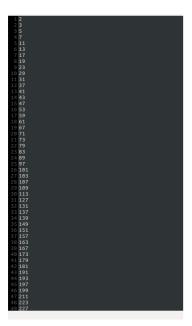
†1me spent for 1-500.000:44861.000000 ms

Time spent for 1-750.000:95822.000000 ms

Time spent for 1-750.000:95822.000000 ms

Time spent for 1-1.000.000:165011.000000 ms
```

Program output for record_to_array(just the ending since numbers are too much to capture).



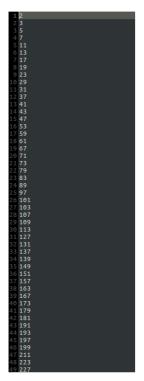
File output for record_to_array (start of the file to show the first values)



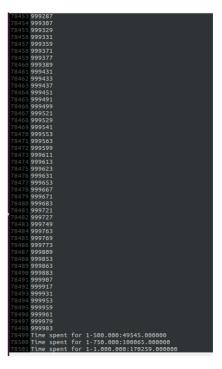
File output for record_to_array (ending of the file to show last values)

```
999563
999611
999613
999623
999667
999671
999727
999727
999749
999773
999883
999883
999883
999883
999883
999883
999883
999883
999885
999987
999977
999917
999917
999917
999917
999918
999979
999979
999979
999979
999979
999985
Time spent for 1-500.000:49545.000000 ms
Time spent for 1-750.000:100065.000000 ms
Time spent for 1-750.000:100065.000000 ms
```

Program output for record_to_linked_list(just the ending since numbers are too much to capture).



File output for record_to_linked_list (start of the file to show the first values)



File output for record_to_linked_list (ending of the file to show last values)