

C:\Users\sezer\Desktop\CSE102\_HW10\prime\_number.c - [Executing] - Dev-C++ 5.11

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Project Classes Debug prime\_number.c

```
39 fprintf(file_write_array, "%f milliseconds for array in 250.000 bound\n", (float)time_a
40 fprintf(file_write_array, "%f milliseconds for array in 500.000 bound\n", (float)time_a
41 fprintf(file_write_array, "%f milliseconds for array in 1.000.000 bound\n", (float)time_a
42 fprintf(file_write_array, "%f milliseconds to write file of array\n", (float)writing_ti
43 printf("%f milliseconds for linked list in 250.000 bound\n", (float)time_linked_li
44 printf("%f milliseconds for linked list in 500.000 bound\n", (float)time_linked_li
45 printf("%f milliseconds for linked list in 1.000.000 bound\n", (float)time_linked_li
46 printf("%f milliseconds to write file of linked list\n", (float)writing_time_linked_li
47 printf("%f milliseconds for array in 250.000 bound\n", (float)time_array);
48 printf("%f milliseconds for array in 500.000 bound\n", (float)time_array);
49 printf("%f milliseconds for array in 1.000.000 bound\n", (float)time_array);
50 printf("%f milliseconds to write file of array\n", (float)writing_time_array);
51 fclose(file_write_linked_list);
52 fclose(file_write_array);
53 return 0;
54 }
55 /**this function reads each line of file */
56 int read_file(FILE *file){
57 int data;
58 if(fscanf(file, "%d\n", &data) != EOF){
59 return data;
60 }
61 else{
62 return -1;
63 }
64 }
65 /**adds all numbers into linked list from file */
66 void init_linked_list(prime_number_list *head){
67 FILE *file=fopen("data.txt", "r");
68 int data=1, counter=1;
69 while(data != -1){
70 data=read_file(file);
71 prime_number_list *new_node=(prime_number_list *)malloc(sizeof(prime_number_list)
72 head->number=data;
73 head->next=new_node;
74 head=new_node;
75 }
```

When program finishes the running

Prime numbers in array and linked list.

Running Times

Process exited after 141.8 seconds with return value 0  
Press any key to continue . . .

output\_prime\_linkedlist - Not Defini

Dosya Düzen Biçim Görünüm Yardım

999433  
999437  
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999763  
999769  
999773  
999809  
999853  
999863  
999883  
999907  
999917  
999931  
999953  
999959  
999961  
999979  
999983  
7000.000000 milliseconds for linked list in 250.000 bound  
23000.000000 milliseconds for linked list in 500.000 bound  
72000.000000 milliseconds for linked list in 1.000.000 bound  
98.000000 milliseconds to write file of linked list  
6800.000000 milliseconds for array in 250.000 bound  
69000.000000 milliseconds for array in 500.000 bound  
99.000000 milliseconds to write file of array

Array is slower than linked list for small amount processes, but faster for big amount processes

output\_prime\_dynamic\_array - Not Defini

Dosya Düzen Biçim Görünüm Yardım

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999653  
999667  
999671  
999683  
999721  
999727  
999749  
999763  
999769  
999773  
999809  
999853  
999863  
999883  
999907  
999917  
999931  
999953  
999959  
999961  
999979  
999983  
6800.000000 milliseconds for array in 250.000 bound  
20000.000000 milliseconds for array in 500.000 bound  
69000.000000 milliseconds for array in 1.000.000 bound  
99.000000 milliseconds to write file of array