

LZ78_decompression_v2 (Calls: 1, Time: 0.895 s)

Generated 20-May-2021 13:34:19 using performance time.







Function in file D:\Matlab\ITC_project\LZ78_decompression_v2.m

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Parents (calling functions)

Function Name	Function Type	Calls
Final_with_comp	Script	1

Lines that take the most time

Line Number	Code	Calls	Total Time (s)	% Time	Time Plot
24	S1(1,i) = string(char(bin2dec(x(ptr:ptr+8-1))));	54017	0.289	32.3%	
21	L1(1,i) = bin2dec(x(ptr : ptr + sb(i) - 1));	54017	0.253	28.2%	
30	dict(i) = dict(L1(i)) + S1(i);	53945	0.172	19.2%	
32	output(i) = dict(i);	54017	0.091	10.2%	
7	x = dec2bin(file_content',8)';	1	0.019	2.1%	
All other lines			0.071	7.9%	
Totals			0.895	100%	

Children (called functions)

Function Name	Function Type	Calls	Total Time (s)	% Time	Time Plot
dec2bin	Function	1	0.017	1.9%	
strjoin	Function	1	0.006	0.7%	
Self time (built-ins, overhead, etc.)			0.871	97.4%	
Totals			0.895	100%	

Code Analyzer results

Line Number	Message
21	The variable 'L1' appears to change size on every loop iteration. Consider preallocating fo...
24	The variable 'S1' appears to change size on every loop iteration. Consider preallocating fo...
28	The variable 'dict' appears to change size on every loop iteration. Consider preallocating ...
30	The variable 'dict' appears to change size on every loop iteration. Consider preallocating ...
32	The variable 'output' appears to change size on every loop iteration. Consider preallocatin...

Coverage results

Function listing

Time	Calls	Line	
		1	function txt = LZ78_decompression_v2(compressed_txt_filename, output_txt_filename)
		2	
0.003	1	3	fid = fopen(compressed_txt_filename,'r');
0.002	1	4	file_content = char(fread(fid)');
< 0.001	1	5	fclose(fid);
		6	
0.019	1	7	x = dec2bin (file_content',8)';
0.001	1	8	x = x(:)';
		9	
< 0.001	1	10	sz = bin2dec(x(1:32));

```

0.002      1   11      %//1.22\ = 11.
12
0.002      1   13      sb = floor(log2(0:sz-1))+1; sb(sb<0)=1;
< 0.001    1   14      ptr = 1;
15
< 0.001    1   16      for i = 1:length(sb)
0.003 54018  17          if length(x)-ptr < sb(i) + 8
< 0.001    1   18              break
0.002 54017  19          end
20
0.253 54017  21      L1(1,i) = bin2dec(x( ptr : ptr + sb(i) - 1));
0.003 54017  22      ptr = ptr + sb(i);
23
0.289 54017  24      S1(1,i) = string(char(bin2dec(x(ptr:ptr+8-1))));
0.003 54017  25      ptr = ptr + 8;
26
0.003 54017  27      if L1(i)==0
< 0.001    72  28          dict(i) = S1(i);
0.002 53945  29      else
0.172 53945  30          dict(i) = dict(L1(i)) + S1(i);
0.002 54017  31      end
0.091 54017  32      output(i) = dict(i);
0.003 54017  33      end
34
0.006      1   35      txt = char(strjoin(output, ''));
36
0.018      1   37      fid = fopen(output_txt_filename, 'w');
0.001      1   38      fwrite(fid, txt);
< 0.001    1   39      fclose(fid);
40
0.011      1   41      end

```
