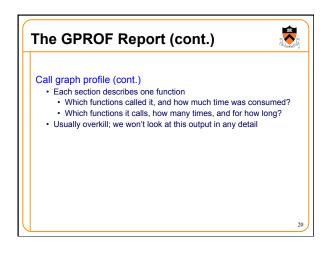


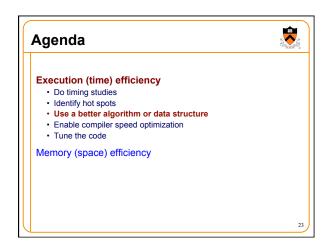
Using GF	PROF	8 <b></b>
Step 1: Instr	ument the program	
	<b>mysort.c</b> -o <b>mysort</b> ng code to mysort, that is ts <sup>°</sup> mysort	
Step 2: Run	the program	
mysort • Creates file	gmon.out containing statistics	
Step 3: Crea	ate a report	
	<pre>prt &gt; myreport rt and gmon.out to create textual report</pre>	
Step 4: Exar	mine the report	

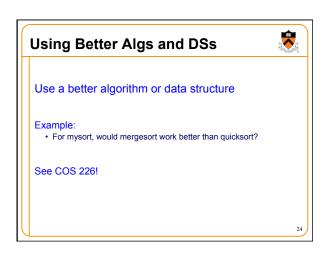
profile						
	cumulative	self	calls	self	total	
time 84.54	seconds 2.27	seconds	calls 6665307	s/call 0.00		
9.33			54328749			partition
2,99						quicksort
2.61	2.68	0.07		0.07		
<ul> <li>nam</li> <li>%tin</li> <li>cum</li> <li>self</li> <li>calls</li> <li>self</li> </ul>	seconds: :: number s/call: ave	of the fun tage of t conds: time spe of times erage tim	iction time spen [skipping ent execu function v ne per exe	t executi as this i ting this f vas calle cution (e	sn't all th function d (exclu	unction nat useful] ding recur g descend g descend

ron	nrofile				
Jiapi	n profile	;			
index	% time	self	children	called	name
					<pre><spontaneous></spontaneous></pre>
[1]	100.0		2.68		main [1]
					quicksort [2]
				1/1	fillArray [5]
					quicksort [2]
		0.08			main [1]
[2]					614 quicksort [2]
		2.27	0.25 66	65307/666530	07 partition [3]
					quicksort [2]
				65307/666530	 07 quicksort [2]
[3]	94.4				partition [3]
	0.25		328749/54328	8749 swap [4]	
					 8749 partition [3]
F 4 1					swap [4]











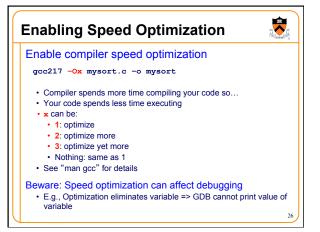
## **Execution (time) efficiency**

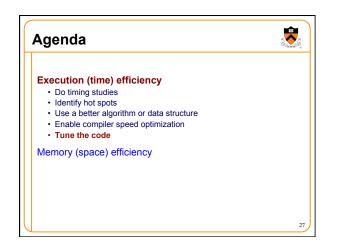
- Do timing studies
- Identify hot spots
- Use a better algorithm or data structure
  Enable compiler speed optimization

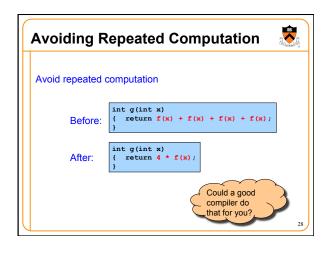
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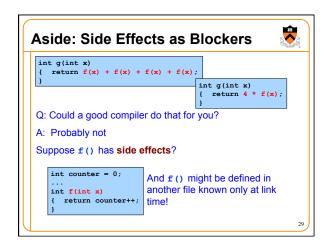
Tune the code

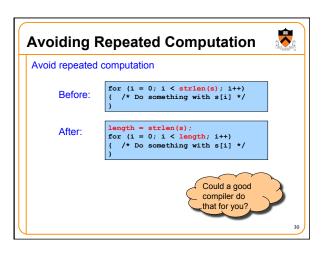
## Memory (space) efficiency

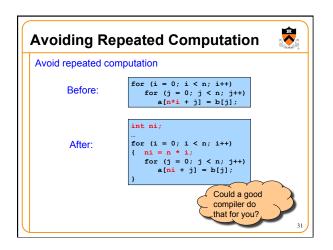


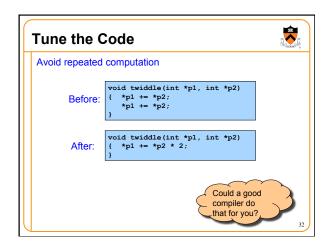


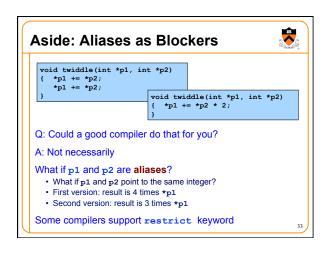


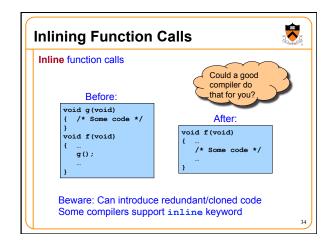


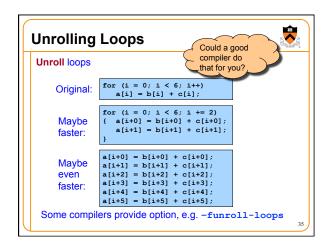


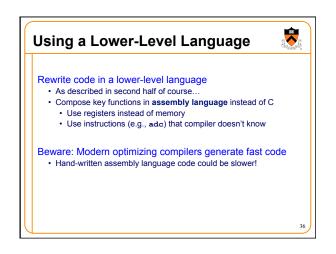












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## Agenda Improving Memory Efficiency Execution (time) efficiency These days memory is cheap, so... Do timing studies Identify hot spots Use a better algorithm or data structure Enable compiler speed optimization Tune the code Memory (space) efficiency Memory (space) efficiency Techniques to improve memory (space) efficiency...

