

University of Central Florida
Department of Computer Science
CDA 5106: Fall 2020

Machine Problem 3: Dynamic Instruction Scheduling

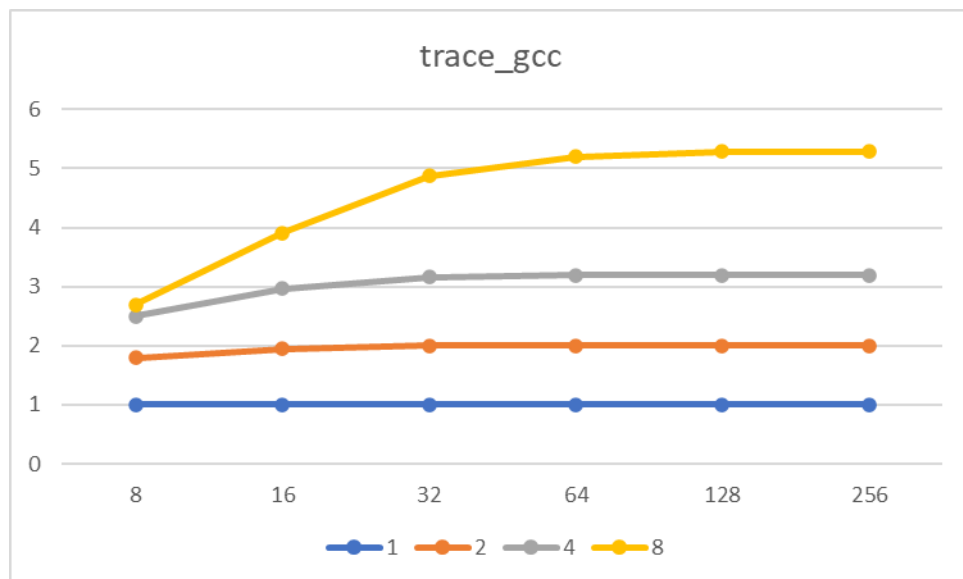
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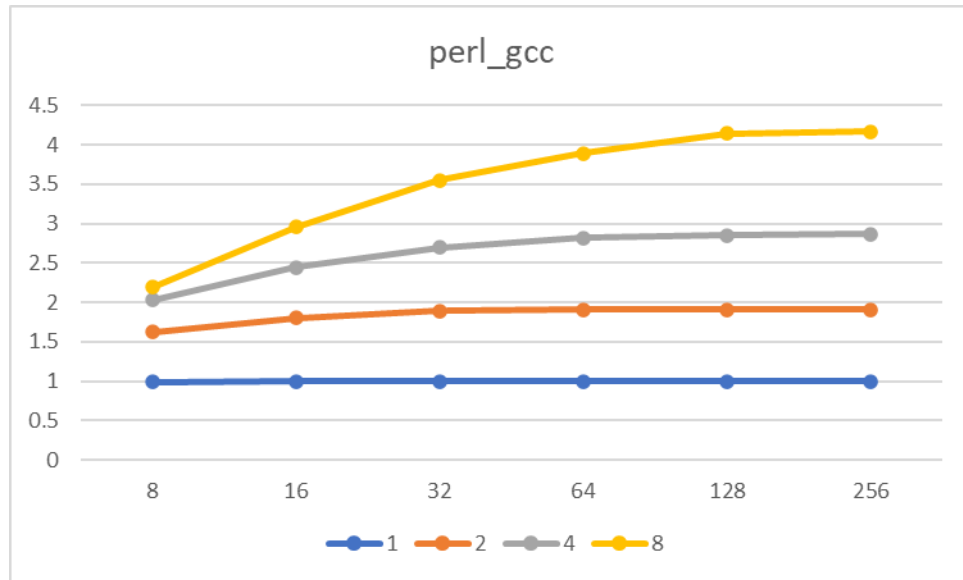
Chakib Cerny

Honor Pledge: "I have neither given nor received unauthorized aid on this test or assignment."

Student's electronic signature: Chakib Cerny
(sign by typing your name)

Question 1:





Question 2:

Optimized Scheduling Queue size per peak Fetch Rate		
	Benchmark = gcc	Benchmark = perl
N=1	8	8
N=2	16	32
N=4	32	64
N=8	128	128

Question 3:

- A) It seems that S and N work dependently from each other, they both have a direct impact on the IPC and the reason is that if one of the two is too small it will not allow the other one to work at its optimal value. For example, if our processor can only process 1 but the queue is constantly full, no matter if it's 64 or 256 it will still have to constantly wait for the processor because of N that is being too low.
- B) The reason could be that in one of the traces we have more constraints such as dependencies to registers being used by other instruction. If the source of the one instruction is the destination of the previous one, it will have to wait for it no matter what S and N are.