

Verificando arquivos...

Código-fonte do programa: Blocos\_mesmo\_vetor.c

Arquivo de configuração de CPU: MyO3CPU.py --> MyO3CPU.py

Arquivo de configuração de caches e memória: MyCaches.py --> MyCaches.py

Arquivo de configuração de sistema: MySystem.py --> MySystem.py

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\* Compilando o programa ...

\* g++ -static Blocos\_mesmo\_vetor.c -o Blocos\_mesmo\_vetor

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\* Executando o gem5...

\* gem5 --outdir=m5out MySimulation.py -c Blocos\_mesmo\_vetor

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gem5 Simulator System. <http://gem5.org>

gem5 is copyrighted software; use the --copyright option for details.

gem5 compiled Feb 16 2016 16:35:34

gem5 started Dec 14 2017 15:07:44

gem5 executing on simulacaolse3

command line: gem5 --outdir=m5out MySimulation.py -c Blocos\_mesmo\_vetor

Programa a ser executado: Blocos\_mesmo\_vetor

Global frequency set at 1000000000000 ticks per second

warn: DRAM device capacity (8192 Mbytes) does not match the address range assigned (512 Mbytes)

0: system.remote\_gdb.listener: listening for remote gdb on port 7000

----- Begin Simulation -----

info: Entering event queue @ 0. Starting simulation...

Vetor

info: Increasing stack size by one page.

23, 9, 16, 29, 23, 1, 22, 13, 33, 5, 6, 40, 0, 46, 2, 2, 3, 48, 45, 8, 8, 34, 0, 13, 24, 18, 18, 17,  
39, 27, 28, 13, 38, 44, 44, 13, 47, 18, 26, 32, 23, 32, 22, 24, 31, 27, 28, 36, 25, 24, 45, 33, 10,  
45, 49, 34, 16, 17, 2, 7, 46, 32, 22, 34, 28, 16, 49, 25, 34, 26, 7, 10, 8, 32, 34, 41, 9, 12, 28,  
36, 38, 23, 19, 49, 20, 18, 33, 36, 37, 37, 46, 35, 19, 18, 21, 47, 35, 21, 24, 21, 47, 32, 31, 7,  
16, 17, 49, 27, 30, 27, 13, 20, 2, 34, 19, 22, 3, 5, 11, 42, 42, 7, 28, 12, 25, 1, 11, 12, 22, 38,  
34, 19, 22, 17, 29, 38, 35, 28, 15, 17, 7, 30, 37, 9, 14, 7, 31, 17, 12, 44, 12, 6, 1, 42, 18, 29,  
43, 32, 43, 16, 20, 29, 37, 44, 47, 16, 32, 34, 46, 49, 1, 3, 29, 38, 12, 43, 47, 46, 13, 11, 42,  
27, 18, 46, 21, 38, 27, 14, 22, 20, 32, 44, 2, 22, 38, 1, 38, 22, 35, 37, 21, 36, 40, 2, 26, 5, 48,  
24, 3, 11, 37, 45, 40, 5, 43, 11, 44, 20, 25, 18, 43, 10, 13, 45, 32, 1, 46, 22, 24, 31, 9, 47, 19,  
2, 0, 45, 9, 48, 21, 12, 11, 11, 9, 1, 16, 5, 12, 12, 25, 39, 31, 18, 49, 44, 15, 33, 47, 13, 6, 21,  
46, 17, 19, 15, 21, 21, 13, 30, 19, 36, 44, 30, 47, 6, 31, 14, 11, 45, 28, 38, 34, 11, 9, 34, 7, 24,  
17, 5, 38, 25, 26, 34, 45, 47, 2, 16, 18, 15, 47, 39, 1, 43, 21, 49, 49, 4, 15, 10, 49, 45, 1, 34, 7,  
10, 20, 14, 34, 39, 19, 24, 15, 48, 11, 12, 47, 13, 28, 18, 30, 25, 7, 33, 21, 31, 34, 20, 35, 49,  
33, 37, 47, 34, 21, 4, 44, 43, 18, 30, 32, 40, 5, 49, 40, 16, 11, 37, 31, 42, 7, 11, 19, 17, 44, 40,

48, 29, 11, 33, 30, 44, 20, 27, 30, 43, 33, 24, 36, 4, 4, 21, 44, 11, 22, 36, 29, 36, 25, 10, 28,  
33, 23, 47, 0, 20, 38, 0, 1, 1, 33, 33, 47, 6, 11, 27, 1, 44, 1, 40, 0, 7, 13, 46, 19, 35, 32, 48, 21,  
8, 11, 1, 43, 36, 49, 43, 6, 39, 45, 7, 40, 28, 41, 39, 36, 4, 16, 40, 0, 19, 30, 1, 26, 43, 47, 45,  
28, 32, 46, 2, 40, 9, 3, 35, 45, 4, 30, 4, 43, 25, 11, 35, 5, 4, 24, 42, 10, 42, 32, 13, 11, 14, 14,  
38, 7, 13, 35, 37, 45, 33, 39, 37, 42, 45, 24, 40, 49, 4, 44, 45, 29, 7, 30, 35, 14, 7, 29, 24, 49,  
13, 37, 11, 27, 3, 1, 36, 19, 36, 23, 16, 22, 13, 6, 14, 8, 30, 6, 9, 37, 0, 4, 18, 8, 37, 3, 22, 44,  
34, 48, 45, 49, 38, 8, 26, 43, 9, 12, 12, 48, 36, 31, 20, 1, 39, 36, 11, 21, 43, 20, 8, 43, 27, 27,  
3, 14, 32, 25, 10, 19, 24, 5, 18, 14, 14, 47, 7, 25, 9, 22, 25, 47, 5, 47, 0, 44, 34, 13, 15, 29, 36,  
26, 24, 13, 5, 28, 29, 39, 5, 39, 8, 31, 44, 29, 45, 10, 26, 5, 36, 37, 27, 11, 35, 32, 11, 37, 28,  
45, 1, 43, 26, 39, 21, 2, 2, 26, 30, 31, 16, 38, 20, 26, 21, 16, 5, 19, 27, 31, 24, 15, 19, 1, 28, 6,  
35, 39, 45, 13, 36, 48, 8, 14, 37, 30, 17, 41, 8, 47, 24, 26, 37, 44, 5, 9, 13, 10, 28, 42, 44, 4, 9,  
13, 7, 37, 21, 42, 29, 16, 7, 15, 15, 15, 30, 4, 47, 49, 46, 8, 48, 20, 36, 36, 17, 41, 47, 30, 2,  
27, 24, 46, 31, 33, 11, 38, 20, 34, 32, 1, 2, 39, 19, 19, 6, 1, 24, 6, 0, 20, 14, 48, 40, 0, 34, 9,  
42, 33, 39, 46, 10, 15, 44, 41, 48, 5, 31, 19, 41, 13, 22, 43, 4, 41, 13, 11, 42, 37, 17, 42, 9, 33,  
41, 1, 35, 27, 11, 29, 11, 2, 25, 21, 18, 19, 15, 16, 26, 48, 37, 17, 12, 10, 13, 18, 1, 26, 31, 44,  
15, 0, 38, 26, 33, 29, 27, 21, 9, 40, 0, 20, 45, 26, 43, 13, 47, 10, 31, 24, 9, 21, 43, 23, 31, 6,  
41, 34, 34, 23, 30, 1, 23, 19, 27, 9, 0, 7, 30, 9, 49, 30, 31, 44, 8, 25, 9, 6, 35, 41, 32, 44, 12,  
25, 17, 45, 34, 11, 29, 18, 34, 12, 22, 9, 31, 49, 18, 33, 8, 0, 45, 8, 33, 26, 2, 41, 3, 14, 49, 39,  
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11, 3, 26, 12, 42, 33, 46, 29, 2, 7, 34, 18, 4, 2, 15, 19, 4, 25, 9, 18, 19, 48, 2, 45, 47, 38, 18, 7,  
8, 18, 19, 19, 21, 47, 31, 15, 30, 29, 44, 34, 36, 31, 4, 40, 33, 21, 12, 40, 48, 21, 8, 18, 21, 12,  
13, 20, 2, 34, 27, 10, 2, 48, 31, 25, 45, 13, 40, 25, 42, 34, 9, 31, 17, 15, 23, 1, 37, 35, 41, 35,  
6, 1, 3, 29, 15, 19, 0, 17, 3, 29, 28, 7, 28, 9, 32, 23, 24, 22, 1, 19, 8, 12, 2, 26, 28, 25, 27, 15,  
11, 20, 2, 19, 21, 8, 49, 36, 27, 1, 3, 32, 30, 33, 39, 10, 45, 21, 34, 19, 45, 35, 40,

Vetor

32, 45, 24, 35, 38, 46, 46, 4, 51, 53, 42, 13, 42, 35, 66, 41, 82, 57, 65, 58, 55, 46, 58, 64, 49,  
78, 55, 83, 33, 9, 78, 56, 44, 74, 60, 17, 40, 75, 21, 64, 61, 68, 38, 69, 74, 81, 37, 68, 56, 45,  
79, 38, 33, 76, 57, 33, 36, 41, 8, 53, 49, 40, 26, 23, 60, 53, 39, 67, 63, 32, 37, 46, 21, 48, 56,  
18, 43, 47, 75, 59, 49, 81, 63, 66, 95, 4, 67, 55, 93, 24, 69, 64, 59, 41, 42, 76, 24, 39, 60, 72,  
57, 42, 31, 72, 14, 82, 45, 54, 64, 43, 53, 58, 33, 68, 55, 56, 21, 45, 57, 33, 22, 10, 21, 24, 64,  
49, 93, 48, 60, 27, 63, 34, 42, 43, 55, 74, 53, 45, 56, 66, 45, 43, 31, 22, 63, 60, 92, 18, 33, 86,  
44, 70, 53, 25, 94, 35, 17, 34, 73, 43, 63, 23, 60, 46, 55, 40, 52, 54, 84, 70, 81, 25, 87, 48, 72,  
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53, 38, 45, 41, 7, 59, 54, 80, 29, 12, 79, 92, 45, 52, 68, 80, 40, 56, 19, 31, 69, 92, 60, 48, 49,  
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43, 65, 46, 69, 60, 4, 56, 47, 58, 47, 21, 46, 55, 34, 29, 41, 84, 49, 56, 51, 47, 49, 71, 63, 49,  
22, 38, 86, 13, 20, 58, 71, 23, 30, 45, 51, 95, 56, 56, 53, 88, 32, 51, 77, 44, 58, 66, 3, 58, 25,  
25, 6, 34, 88, 34, 51, 72, 56, 59, 89, 36, 60, 35, 47, 54, 53, 54, 51, 74, 36, 38, 40, 27, 39, 34,  
42, 85, 29, 23, 19, 57, 59, 38, 59, 56, 30, 40, 65, 69, 60, 41, 33, 64, 54, 47, 68, 53, 24, 46, 9,  
37, 58, 61, 52, 34, 41, 73, 56, 42, 79, 40, 52, 34, 40, 67, 41, 45, 41, 28, 44, 63, 44, 68, 30, 21,  
61, 60, 11, 50, 81, 60, 81, 28, 66, 23, 29, 54, 79, 31, 41, 22, 17, 23, 34, 37, 50, 92, 56, 15, 37,  
40, 78, 45, 73, 70, 35, 73, 33, 88, 29, 39, 25, 22, 61, 12, 79, 70, 53, 67, 43, 48, 38, 38, 76, 41,  
4, 44, 19, 20, 57, 35, 41, 47, 23, 27, 14, 54, 52, 26, 22, 40, 57, 63, 4, 62, 72, 55, 55, 64, 75,

Finishing simulation. Current tick: 633039500. Reason: target called exit()

----- End Simulation -----

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\* Resultados da simulação

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sim\_seconds 0.000633 # Number of seconds simulated  
sim\_ticks 633039500 # Number of ticks simulated  
final\_tick 633039500 # Number of ticks from beginning of simulation (restored from checkpoints and never reset)  
sim\_freq 1000000000000 # Frequency of simulated ticks  
host\_inst\_rate 113251 # Simulator instruction rate (inst/s)  
host\_op\_rate 214182 # Simulator op (including micro ops) rate (op/s)  
host\_tick\_rate 71663361 # Simulator tick rate (ticks/s)  
host\_mem\_usage 654400 # Number of bytes of host memory used  
host\_seconds 8.83 # Real time elapsed on the host  
sim\_insts 1000399 # Number of instructions simulated  
sim\_ops 1891980 # Number of ops (including micro ops) simulated  
system.clk\_domain.voltage\_domain.voltage 1 # Voltage in Volts  
system.clk\_domain.clock 500 # Clock period in ticks  
system.mem\_ctrl.bytes\_read::cpu.inst 27456 # Number of bytes read from this memory  
system.mem\_ctrl.bytes\_read::cpu.data 19392 # Number of bytes read from this memory  
system.mem\_ctrl.bytes\_read::total 46848 # Number of bytes read from this memory  
system.mem\_ctrl.bytes\_inst\_read::cpu.inst 27456 # Number of instructions bytes read from this memory  
system.mem\_ctrl.bytes\_inst\_read::total 27456 # Number of instructions bytes read from this memory  
system.mem\_ctrl.num\_reads::cpu.inst 429 # Number of read requests responded to by this memory  
system.mem\_ctrl.num\_reads::cpu.data 303 # Number of read requests responded to by this memory  
system.mem\_ctrl.num\_reads::total 732 # Number of read requests responded to by this memory  
system.mem\_ctrl.bw\_read::cpu.inst 43371701 # Total read bandwidth from this memory (bytes/s)  
system.mem\_ctrl.bw\_read::cpu.data 30633160 # Total read bandwidth from this memory (bytes/s)  
system.mem\_ctrl.bw\_read::total 74004861 # Total read bandwidth from this memory (bytes/s)  
system.mem\_ctrl.bw\_inst\_read::cpu.inst 43371701 # Instruction read bandwidth from this memory (bytes/s)  
system.mem\_ctrl.bw\_inst\_read::total 43371701 # Instruction read bandwidth from this memory (bytes/s)  
system.mem\_ctrl.bw\_total::cpu.inst 43371701 # Total bandwidth to/from this memory (bytes/s)  
system.mem\_ctrl.bw\_total::cpu.data 30633160 # Total bandwidth to/from this memory (bytes/s)  
system.mem\_ctrl.bw\_total::total 74004861 # Total bandwidth to/from this memory (bytes/s)  
system.mem\_ctrl.readReqs 732 # Number of read requests accepted  
system.mem\_ctrl.writeReqs 0 # Number of write requests accepted  
system.mem\_ctrl.readBursts 732 # Number of DRAM read bursts, including those serviced by the write queue  
system.mem\_ctrl.writeBursts 0 # Number of DRAM write bursts, including those merged in the write queue  
system.mem\_ctrl.bytesReadDRAM 46848 # Total number of bytes read from DRAM

system.mem\_ctrl.bytesReadWrQ 0 # Total number of bytes read from write queue  
system.mem\_ctrl.bytesWritten 0 # Total number of bytes written to DRAM  
system.mem\_ctrl.bytesReadSys 46848 # Total read bytes from the system interface side  
system.mem\_ctrl.bytesWrittenSys 0 # Total written bytes from the system interface side  
system.mem\_ctrl.servicedByWrQ 0 # Number of DRAM read bursts serviced by the write queue  
system.mem\_ctrl.mergedWrBursts 0 # Number of DRAM write bursts merged with an existing one  
system.mem\_ctrl.neitherReadNorWriteReqs 0 # Number of requests that are neither read nor write  
system.mem\_ctrl.perBankRdBursts::0 71 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::1 122 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::2 74 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::3 61 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::4 66 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::5 35 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::6 137 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::7 9 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::8 13 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::9 32 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::10 30 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::11 18 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::12 31 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::13 26 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::14 5 # Per bank write bursts  
system.mem\_ctrl.perBankRdBursts::15 2 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::0 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::1 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::2 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::3 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::4 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::5 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::6 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::7 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::8 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::9 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::10 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::11 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::12 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::13 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::14 0 # Per bank write bursts  
system.mem\_ctrl.perBankWrBursts::15 0 # Per bank write bursts  
system.mem\_ctrl.numRdRetry 0 # Number of times read queue was full causing retry  
system.mem\_ctrl.numWrRetry 0 # Number of times write queue was full causing retry  
system.mem\_ctrl.totGap 632943500 # Total gap between requests  
system.mem\_ctrl.readPktSize::0 0 # Read request sizes (log2)  
system.mem\_ctrl.readPktSize::1 0 # Read request sizes (log2)  
system.mem\_ctrl.readPktSize::2 0 # Read request sizes (log2)  
system.mem\_ctrl.readPktSize::3 0 # Read request sizes (log2)  
system.mem\_ctrl.readPktSize::4 0 # Read request sizes (log2)

[illegible]

[illegible]

system.mem\_ctrl.wrQLenPdf::59 0 # What write queue length does an incoming req see  
system.mem\_ctrl.wrQLenPdf::60 0 # What write queue length does an incoming req see  
system.mem\_ctrl.wrQLenPdf::61 0 # What write queue length does an incoming req see  
system.mem\_ctrl.wrQLenPdf::62 0 # What write queue length does an incoming req see  
system.mem\_ctrl.wrQLenPdf::63 0 # What write queue length does an incoming req see  
system.mem\_ctrl.bytesPerActivate::samples 197 # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::mean 230.984772 # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::gmean 141.385162 # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::stdev 272.945432 # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::0-127 89 45.18% 45.18% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::128-255 57 28.93% 74.11% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::256-383 12 6.09% 80.20% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::384-511 11 5.58% 85.79% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::512-639 5 2.54% 88.32% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::640-767 6 3.05% 91.37% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::896-1023 6 3.05% 94.42% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::1024-1151 11 5.58% 100.00% # Bytes accessed per row activation  
system.mem\_ctrl.bytesPerActivate::total 197 # Bytes accessed per row activation  
system.mem\_ctrl.totQLat 7688000 # Total ticks spent queuing  
system.mem\_ctrl.totMemAccLat 21413000 # Total ticks spent from burst creation until serviced by the DRAM  
system.mem\_ctrl.totBusLat 3660000 # Total ticks spent in databus transfers  
system.mem\_ctrl.avgQLat 10502.73 # Average queueing delay per DRAM burst  
system.mem\_ctrl.avgBusLat 5000.00 # Average bus latency per DRAM burst  
system.mem\_ctrl.avgMemAccLat 29252.73 # Average memory access latency per DRAM burst  
system.mem\_ctrl.avgRdBW 74.00 # Average DRAM read bandwidth in MiByte/s  
system.mem\_ctrl.avgWrBW 0.00 # Average achieved write bandwidth in MiByte/s  
system.mem\_ctrl.avgRdBWSys 74.00 # Average system read bandwidth in MiByte/s  
system.mem\_ctrl.avgWrBWSys 0.00 # Average system write bandwidth in MiByte/s  
system.mem\_ctrl.peakBW 12800.00 # Theoretical peak bandwidth in MiByte/s  
system.mem\_ctrl.busUtil 0.58 # Data bus utilization in percentage  
system.mem\_ctrl.busUtilRead 0.58 # Data bus utilization in percentage for reads  
system.mem\_ctrl.busUtilWrite 0.00 # Data bus utilization in percentage for writes  
system.mem\_ctrl.avgRdQLen 1.03 # Average read queue length when enqueueing  
system.mem\_ctrl.avgWrQLen 0.00 # Average write queue length when enqueueing  
system.mem\_ctrl.readRowHits 530 # Number of row buffer hits during reads  
system.mem\_ctrl.writeRowHits 0 # Number of row buffer hits during writes  
system.mem\_ctrl.readRowHitRate 72.40 # Row buffer hit rate for reads  
system.mem\_ctrl.writeRowHitRate nan # Row buffer hit rate for writes  
system.mem\_ctrl.avgGap 864676.91 # Average gap between requests  
system.mem\_ctrl.pageHitRate 72.40 # Row buffer hit rate, read and write combined

system.mem\_ctrl\_0.actEnergy 1065960 # Energy for activate commands per rank (pJ)  
system.mem\_ctrl\_0.preEnergy 581625 # Energy for precharge commands per rank (pJ)  
system.mem\_ctrl\_0.readEnergy 4251000 # Energy for read commands per rank (pJ)  
system.mem\_ctrl\_0.writeEnergy 0 # Energy for write commands per rank (pJ)  
system.mem\_ctrl\_0.refreshEnergy 41193360 # Energy for refresh commands per rank (pJ)  
system.mem\_ctrl\_0.actBackEnergy 197540055 # Energy for active background per rank (pJ)  
system.mem\_ctrl\_0.preBackEnergy 205287000 # Energy for precharge background per rank (pJ)  
system.mem\_ctrl\_0.totalEnergy 449919000 # Total energy per rank (pJ)  
system.mem\_ctrl\_0.averagePower 713.086099 # Core power per rank (mW)  
system.mem\_ctrl\_0.memoryStateTime::IDLE 340375250 # Time in different power states  
system.mem\_ctrl\_0.memoryStateTime::REF 21060000 # Time in different power states  
system.mem\_ctrl\_0.memoryStateTime::PRE\_PDN 0 # Time in different power states  
system.mem\_ctrl\_0.memoryStateTime::ACT 269635750 # Time in different power states  
system.mem\_ctrl\_0.memoryStateTime::ACT\_PDN 0 # Time in different power states  
system.mem\_ctrl\_1.actEnergy 385560 # Energy for activate commands per rank (pJ)  
system.mem\_ctrl\_1.preEnergy 210375 # Energy for precharge commands per rank (pJ)  
system.mem\_ctrl\_1.readEnergy 1154400 # Energy for read commands per rank (pJ)  
system.mem\_ctrl\_1.writeEnergy 0 # Energy for write commands per rank (pJ)  
system.mem\_ctrl\_1.refreshEnergy 41193360 # Energy for refresh commands per rank (pJ)  
system.mem\_ctrl\_1.actBackEnergy 42396030 # Energy for active background per rank (pJ)  
system.mem\_ctrl\_1.preBackEnergy 341378250 # Energy for precharge background per rank (pJ)  
system.mem\_ctrl\_1.totalEnergy 426717975 # Total energy per rank (pJ)  
system.mem\_ctrl\_1.averagePower 676.314306 # Core power per rank (mW)  
system.mem\_ctrl\_1.memoryStateTime::IDLE 567654000 # Time in different power states  
system.mem\_ctrl\_1.memoryStateTime::REF 21060000 # Time in different power states  
system.mem\_ctrl\_1.memoryStateTime::PRE\_PDN 0 # Time in different power states  
system.mem\_ctrl\_1.memoryStateTime::ACT 42246000 # Time in different power states  
system.mem\_ctrl\_1.memoryStateTime::ACT\_PDN 0 # Time in different power states  
system.cpu.branchPred.lookups 204405 # Number of BP lookups  
system.cpu.branchPred.condPredicted 204405 # Number of conditional branches predicted  
system.cpu.branchPred.condIncorrect 1318 # Number of conditional branches incorrect  
system.cpu.branchPred.BTBLookups 168587 # Number of BTB lookups  
system.cpu.branchPred.BTBHits 111676 # Number of BTB hits  
system.cpu.branchPred.BTBCorrect 0 # Number of correct BTB predictions (this stat may not work properly).  
system.cpu.branchPred.BTBHitPct 66.242356 # BTB Hit Percentage  
system.cpu.branchPred.usedRAS 18317 # Number of times the RAS was used to get a target.  
system.cpu.branchPred.RASInCorrect 107 # Number of incorrect RAS predictions.  
system.cpu.apic\_clk\_domain.clock 8000 # Clock period in ticks  
system.cpu.workload.num\_syscalls 14 # Number of system calls  
system.cpu.numCycles 1266080 # number of cpu cycles simulated  
system.cpu.numWorkItemsStarted 0 # number of work items this cpu started  
system.cpu.numWorkItemsCompleted 0 # number of work items this cpu completed  
system.cpu.fetch.icacheStallCycles 384976 # Number of cycles fetch is stalled on an Icache miss  
system.cpu.fetch.Insts 1013117 # Number of instructions fetch has processed  
system.cpu.fetch.Branches 204405 # Number of branches that fetch encountered  
system.cpu.fetch.predictedBranches 129993 # Number of branches that fetch has predicted



taken

system.cpu.fetch.Cycles 848815 # Number of cycles fetch has run and was not squashing or blocked

system.cpu.fetch.SquashCycles 2737 # Number of cycles fetch has spent squashing

system.cpu.fetch.MiscStallCycles 31 # Number of cycles fetch has spent waiting on interrupts, or bad addresses, or out of MSHRs

system.cpu.fetch.PendingTrapStallCycles 509 # Number of stall cycles due to pending traps

system.cpu.fetch.PendingQuiesceStallCycles 8 # Number of stall cycles due to pending quiesce instructions

system.cpu.fetch.CacheLines 369119 # Number of cache lines fetched

system.cpu.fetch.IcacheSquashes 536 # Number of outstanding Icache misses that were squashed

system.cpu.fetch.rateDist::samples 1235707 # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::mean 1.550335 # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::stdev 1.375557 # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::underflows 0 0.00% 0.00% # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::0 483886 39.16% 39.16% # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::1 120173 9.73% 48.88% # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::2 99357 8.04% 56.92% # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::3 532291 43.08% 100.00% # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::overflows 0 0.00% 100.00% # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::min\_value 0 # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::max\_value 3 # Number of instructions fetched each cycle (Total)

system.cpu.fetch.rateDist::total 1235707 # Number of instructions fetched each cycle (Total)

system.cpu.fetch.branchRate 0.161447 # Number of branch fetches per cycle

system.cpu.fetch.rate 0.800200 # Number of inst fetches per cycle

system.cpu.decode.IdleCycles 421543 # Number of cycles decode is idle

system.cpu.decode.BlockedCycles 71135 # Number of cycles decode is blocked

system.cpu.decode.RunCycles 730374 # Number of cycles decode is running

system.cpu.decode.UnblockCycles 11287 # Number of cycles decode is unblocking

system.cpu.decode.SquashCycles 1368 # Number of cycles decode is squashing

system.cpu.decode.DecodedInsts 1909026 # Number of instructions handled by decode

system.cpu.decode.SquashedInsts 4192 # Number of squashed instructions handled by decode

system.cpu.rename.SquashCycles 1368 # Number of cycles rename is squashing

system.cpu.rename.IdleCycles 432712 # Number of cycles rename is idle

system.cpu.rename.BlockCycles 40073 # Number of cycles rename is blocking

system.cpu.rename.serializeStallCycles 848 # count of cycles rename stalled for serializing inst

system.cpu.rename.RunCycles 727136 # Number of cycles rename is running

system.cpu.rename.UnblockCycles 33570 # Number of cycles rename is unblocking

system.cpu.rename.RenamedInsts 1905493 # Number of instructions processed by rename  
system.cpu.rename.SquashedInsts 1554 # Number of squashed instructions processed by rename  
system.cpu.rename.ROBFullEvents 13570 # Number of times rename has blocked due to ROB full  
system.cpu.rename.IQFullEvents 3654 # Number of times rename has blocked due to IQ full  
system.cpu.rename.SQFullEvents 12320 # Number of times rename has blocked due to SQ full  
system.cpu.rename.RenamedOperands 2208473 # Number of destination operands rename has renamed  
system.cpu.rename.RenameLookups 4948005 # Number of register rename lookups that rename has made  
system.cpu.rename.int\_rename\_lookups 2823082 # Number of integer rename lookups  
system.cpu.rename.fp\_rename\_lookups 117440 # Number of floating rename lookups  
system.cpu.rename.CommittedMaps 2192196 # Number of HB maps that are committed  
system.cpu.rename.UndoneMaps 16277 # Number of HB maps that are undone due to squashing  
system.cpu.rename.serializingInsts 25 # count of serializing insts renamed  
system.cpu.rename.tempSerializingInsts 25 # count of temporary serializing insts renamed  
system.cpu.rename.skidInsts 38856 # count of insts added to the skid buffer  
system.cpu.memDep0.insertedLoads 241367 # Number of loads inserted to the mem dependence unit.  
system.cpu.memDep0.insertedStores 162265 # Number of stores inserted to the mem dependence unit.  
system.cpu.memDep0.conflictingLoads 11535 # Number of conflicting loads.  
system.cpu.memDep0.conflictingStores 6038 # Number of conflicting stores.  
system.cpu.iq.iqInstsAdded 1903688 # Number of instructions added to the IQ (excludes non-spec)  
system.cpu.iq.iqNonSpecInstsAdded 75 # Number of non-speculative instructions added to the IQ  
system.cpu.iq.iqInstsIssued 1898611 # Number of instructions issued  
system.cpu.iq.iqSquashedInstsIssued 1171 # Number of squashed instructions issued  
system.cpu.iq.iqSquashedInstsExamined 11783 # Number of squashed instructions iterated over during squash; mainly for profiling  
system.cpu.iq.iqSquashedOperandsExamined 17690 # Number of squashed operands that are examined and possibly removed from graph  
system.cpu.iq.iqSquashedNonSpecRemoved 60 # Number of squashed non-spec instructions that were removed  
system.cpu.iq.issued\_per\_cycle::samples 1235707 # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::mean 1.536457 # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::stdev 0.962365 # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::underflows 0 0.00% 0.00% # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::0 225557 18.25% 18.25% # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::1 303946 24.60% 42.85% # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::2 534713 43.27% 86.12% # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::3 160725 13.01% 99.13% # Number of insts issued each

cycle  
system.cpu.iq.issued\_per\_cycle::4 10766 0.87% 100.00% # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::overflows 0 0.00% 100.00% # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::min\_value 0 # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::max\_value 4 # Number of insts issued each cycle  
system.cpu.iq.issued\_per\_cycle::total 1235707 # Number of insts issued each cycle  
system.cpu.iq.fu\_full::No\_OpClass 0 0.00% 0.00% # attempts to use FU when none available  
system.cpu.iq.fu\_full::IntAlu 304592 79.78% 79.78% # attempts to use FU when none available  
system.cpu.iq.fu\_full::IntMult 0 0.00% 79.78% # attempts to use FU when none available  
system.cpu.iq.fu\_full::IntDiv 0 0.00% 79.78% # attempts to use FU when none available  
system.cpu.iq.fu\_full::FloatAdd 16 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::FloatCmp 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::FloatCvt 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::FloatMult 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::FloatDiv 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::FloatSqrt 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdAdd 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdAddAcc 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdAlu 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdCmp 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdCvt 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdMisc 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdMult 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdMultAcc 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdShift 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdShiftAcc 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdSqrt 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatAdd 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatAlu 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatCmp 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatCvt 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatDiv 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatMisc 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatMult 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatMultAcc 0 0.00% 79.79% # attempts to use FU when none available  
system.cpu.iq.fu\_full::SimdFloatSqrt 0 0.00% 79.79% # attempts to use FU when none

available  
system.cpu.iq.fu\_full::MemRead 43424 11.37% 91.16% # attempts to use FU when none available  
system.cpu.iq.fu\_full::MemWrite 33745 8.84% 100.00% # attempts to use FU when none available  
system.cpu.iq.fu\_full::IprAccess 0 0.00% 100.00% # attempts to use FU when none available  
system.cpu.iq.fu\_full::InstPrefetch 0 0.00% 100.00% # attempts to use FU when none available  
system.cpu.iq.FU\_type\_0::No\_OpClass 10702 0.56% 0.56% # Type of FU issued  
system.cpu.iq.FU\_type\_0::IntAlu 1425765 75.10% 75.66% # Type of FU issued  
system.cpu.iq.FU\_type\_0::IntMult 4919 0.26% 75.92% # Type of FU issued  
system.cpu.iq.FU\_type\_0::IntDiv 28 0.00% 75.92% # Type of FU issued  
system.cpu.iq.FU\_type\_0::FloatAdd 54186 2.85% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::FloatCmp 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::FloatCvt 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::FloatMult 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::FloatDiv 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::FloatSqrt 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdAdd 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdAddAcc 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdAlu 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdCmp 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdCvt 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdMisc 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdMult 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdMultAcc 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdShift 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdShiftAcc 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdSqrt 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatAdd 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatAlu 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatCmp 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatCvt 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatDiv 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatMisc 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatMult 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatMultAcc 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::SimdFloatSqrt 0 0.00% 78.77% # Type of FU issued  
system.cpu.iq.FU\_type\_0::MemRead 241001 12.69% 91.47% # Type of FU issued  
system.cpu.iq.FU\_type\_0::MemWrite 162010 8.53% 100.00% # Type of FU issued  
system.cpu.iq.FU\_type\_0::IprAccess 0 0.00% 100.00% # Type of FU issued  
system.cpu.iq.FU\_type\_0::InstPrefetch 0 0.00% 100.00% # Type of FU issued  
system.cpu.iq.FU\_type\_0::total 1898611 # Type of FU issued  
system.cpu.iq.rate 1.499598 # Inst issue rate  
system.cpu.iq.fu\_busy\_cnt 381777 # FU busy when requested  
system.cpu.iq.fu\_busy\_rate 0.201082 # FU busy rate (busy events/executed inst)  
system.cpu.iq.int\_inst\_queue\_reads 5274337 # Number of integer instruction queue reads  
system.cpu.iq.int\_inst\_queue\_writes 1846195 # Number of integer instruction queue writes  
system.cpu.iq.int\_inst\_queue\_wakeup\_accesses 1827748 # Number of integer instruction queue wakeup accesses

system.cpu.iq.fp\_inst\_queue\_reads 141540 # Number of floating instruction queue reads  
system.cpu.iq.fp\_inst\_queue\_writes 69373 # Number of floating instruction queue writes  
system.cpu.iq.fp\_inst\_queue\_wakeup\_accesses 69238 # Number of floating instruction queue wakeup accesses  
system.cpu.iq.int\_alu\_accesses 2197397 # Number of integer alu accesses  
system.cpu.iq.fp\_alu\_accesses 72289 # Number of floating point alu accesses  
system.cpu.iew.lsq.thread0.forwLoads 28142 # Number of loads that had data forwarded from stores  
system.cpu.iew.lsq.thread0.invAddrLoads 0 # Number of loads ignored due to an invalid address  
system.cpu.iew.lsq.thread0.squashedLoads 1375 # Number of loads squashed  
system.cpu.iew.lsq.thread0.ignoredResponses 10 # Number of memory responses ignored because the instruction is squashed  
system.cpu.iew.lsq.thread0.memOrderViolation 23 # Number of memory ordering violations  
system.cpu.iew.lsq.thread0.squashedStores 634 # Number of stores squashed  
system.cpu.iew.lsq.thread0.invAddrSwpfs 0 # Number of software prefetches ignored due to an invalid address  
system.cpu.iew.lsq.thread0.blockedLoads 0 # Number of blocked loads due to partial load-store forwarding  
system.cpu.iew.lsq.thread0.rescheduledLoads 33 # Number of loads that were rescheduled  
system.cpu.iew.lsq.thread0.cacheBlocked 8 # Number of times an access to memory failed due to the cache being blocked  
system.cpu.iew.iewIdleCycles 0 # Number of cycles IEW is idle  
system.cpu.iew.iewSquashCycles 1368 # Number of cycles IEW is squashing  
system.cpu.iew.iewBlockCycles 5058 # Number of cycles IEW is blocking  
system.cpu.iew.iewUnblockCycles 4326 # Number of cycles IEW is unblocking  
system.cpu.iew.iewDispatchedInsts 1903763 # Number of instructions dispatched to IQ  
system.cpu.iew.iewDispSquashedInsts 0 # Number of squashed instructions skipped by dispatch  
system.cpu.iew.iewDispLoadInsts 241367 # Number of dispatched load instructions  
system.cpu.iew.iewDispStoreInsts 162265 # Number of dispatched store instructions  
system.cpu.iew.iewDispNonSpecInsts 24 # Number of dispatched non-speculative instructions  
system.cpu.iew.iewIQFullEvents 1 # Number of times the IQ has become full, causing a stall  
system.cpu.iew.iewLSQFullEvents 4318 # Number of times the LSQ has become full, causing a stall  
system.cpu.iew.memOrderViolationEvents 23 # Number of memory order violations  
system.cpu.iew.predictedTakenIncorrect 428 # Number of branches that were predicted taken incorrectly  
system.cpu.iew.predictedNotTakenIncorrect 963 # Number of branches that were predicted not taken incorrectly  
system.cpu.iew.branchMispredicts 1391 # Number of branch mispredicts detected at execute  
system.cpu.iew.iewExecutedInsts 1897471 # Number of executed instructions  
system.cpu.iew.iewExecLoadInsts 240646 # Number of load instructions executed  
system.cpu.iew.iewExecSquashedInsts 1140 # Number of squashed instructions skipped in execute  
system.cpu.iew.exec\_swp 0 # number of swp insts executed  
system.cpu.iew.exec\_nop 0 # number of nop insts executed  
system.cpu.iew.exec\_refs 402527 # number of memory reference insts executed  
system.cpu.iew.exec\_branches 202040 # Number of branches executed

system.cpu.iew.exec\_stores 161881 # Number of stores executed  
system.cpu.iew.exec\_rate 1.498698 # Inst execution rate  
system.cpu.iew.wb\_sent 1897160 # cumulative count of insts sent to commit  
system.cpu.iew.wb\_count 1896986 # cumulative count of insts written-back  
system.cpu.iew.wb\_producers 1280898 # num instructions producing a value  
system.cpu.iew.wb\_consumers 2062389 # num instructions consuming a value  
system.cpu.iew.wb\_penalized 0 # number of instructions required to write to 'other' IQ  
system.cpu.iew.wb\_rate 1.498314 # insts written-back per cycle  
system.cpu.iew.wb\_fanout 0.621075 # average fanout of values written-back  
system.cpu.iew.wb\_penalized\_rate 0 # fraction of instructions written-back that wrote to 'other' IQ  
system.cpu.commit.commitSquashedInsts 9805 # The number of squashed insts skipped by commit  
system.cpu.commit.commitNonSpecStalls 15 # The number of times commit has been forced to stall to communicate backwards  
system.cpu.commit.branchMispredicts 1348 # The number of times a branch was mispredicted  
system.cpu.commit.committed\_per\_cycle::samples 1232605 # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::mean 1.534944 # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::stdev 1.478010 # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::underflows 0 0.00% 0.00% # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::0 424495 34.44% 34.44% # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::1 274701 22.29% 56.73% # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::2 200989 16.31% 73.03% # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::3 114379 9.28% 82.31% # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::4 218041 17.69% 100.00% # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::overflows 0 0.00% 100.00% # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::min\_value 0 # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::max\_value 4 # Number of insts committed each cycle  
system.cpu.commit.committed\_per\_cycle::total 1232605 # Number of insts committed each cycle  
system.cpu.commit.committedInsts 1000399 # Number of instructions committed  
system.cpu.commit.committedOps 1891980 # Number of ops (including micro ops) committed  
system.cpu.commit.swp\_count 0 # Number of s/w prefetches committed  
system.cpu.commit.refs 401623 # Number of memory references committed  
system.cpu.commit.loads 239992 # Number of loads committed  
system.cpu.commit.membars 0 # Number of memory barriers committed

system.cpu.commit.branches 201809 # Number of branches committed  
system.cpu.commit.fp\_insts 69163 # Number of committed floating point instructions.  
system.cpu.commit.int\_insts 1830321 # Number of committed integer instructions.  
system.cpu.commit.function\_calls 18134 # Number of function calls committed.  
system.cpu.commit.op\_class\_0::No\_OpClass 10559 0.56% 0.56% # Class of committed instruction  
system.cpu.commit.op\_class\_0::IntAlu 1420725 75.09% 75.65% # Class of committed instruction  
system.cpu.commit.op\_class\_0::IntMult 4919 0.26% 75.91% # Class of committed instruction  
system.cpu.commit.op\_class\_0::IntDiv 28 0.00% 75.91% # Class of committed instruction  
system.cpu.commit.op\_class\_0::FloatAdd 54126 2.86% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::FloatCmp 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::FloatCvt 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::FloatMult 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::FloatDiv 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::FloatSqrt 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdAdd 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdAddAcc 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdAlu 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdCmp 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdCvt 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdMisc 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdMult 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdMultAcc 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdShift 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdShiftAcc 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdSqrt 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatAdd 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatAlu 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatCmp 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatCvt 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatDiv 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatMisc 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatMult 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatMultAcc 0 0.00% 78.77% # Class of committed instruction  
system.cpu.commit.op\_class\_0::SimdFloatSqrt 0 0.00% 78.77% # Class of committed instruction

system.cpu.commit.op\_class\_0::MemRead 239992 12.68% 91.46% # Class of committed instruction  
system.cpu.commit.op\_class\_0::MemWrite 161631 8.54% 100.00% # Class of committed instruction  
system.cpu.commit.op\_class\_0::IprAccess 0 0.00% 100.00% # Class of committed instruction  
system.cpu.commit.op\_class\_0::InstPrefetch 0 0.00% 100.00% # Class of committed instruction  
system.cpu.commit.op\_class\_0::total 1891980 # Class of committed instruction  
system.cpu.commit.bw\_lim\_events 218041 # number cycles where commit BW limit reached  
system.cpu.rob.rob\_reads 2916349 # The number of ROB reads  
system.cpu.rob.rob\_writes 3806693 # The number of ROB writes  
system.cpu.timesIdled 304 # Number of times that the entire CPU went into an idle state and unscheduled itself  
system.cpu.idleCycles 30373 # Total number of cycles that the CPU has spent unscheduled due to idling  
system.cpu.committedInsts 1000399 # Number of Instructions Simulated  
system.cpu.committedOps 1891980 # Number of Ops (including micro ops) Simulated  
system.cpu.cpi 1.265575 # CPI: Cycles Per Instruction  
system.cpu.cpi\_total 1.265575 # CPI: Total CPI of All Threads  
system.cpu.ipc 0.790155 # IPC: Instructions Per Cycle  
system.cpu.ipc\_total 0.790155 # IPC: Total IPC of All Threads  
system.cpu.int\_regfile\_reads 2810101 # number of integer regfile reads  
system.cpu.int\_regfile\_writes 1470246 # number of integer regfile writes  
system.cpu.fp\_regfile\_reads 117394 # number of floating regfile reads  
system.cpu.fp\_regfile\_writes 57189 # number of floating regfile writes  
system.cpu.cc\_regfile\_reads 1200501 # number of cc regfile reads  
system.cpu.cc\_regfile\_writes 671086 # number of cc regfile writes  
system.cpu.misc\_regfile\_reads 797734 # number of misc regfile reads  
system.cpu.misc\_regfile\_writes 1 # number of misc regfile writes  
system.cpu.dcache.tags.replacements 7 # number of replacements  
system.cpu.dcache.tags.tagsinuse 253.596778 # Cycle average of tags in use  
system.cpu.dcache.tags.total\_refs 373689 # Total number of references to valid blocks.  
system.cpu.dcache.tags.sampled\_refs 305 # Sample count of references to valid blocks.  
system.cpu.dcache.tags.avg\_refs 1225.209836 # Average number of references to valid blocks.  
system.cpu.dcache.tags.warmup\_cycle 0 # Cycle when the warmup percentage was hit.  
system.cpu.dcache.tags.occ\_blocks::cpu.data 253.596778 # Average occupied blocks per requestor  
system.cpu.dcache.tags.occ\_percent::cpu.data 0.495306 # Average percentage of cache occupancy  
system.cpu.dcache.tags.occ\_percent::total 0.495306 # Average percentage of cache occupancy  
system.cpu.dcache.tags.occ\_task\_id\_blocks::1024 298 # Occupied blocks per task id  
system.cpu.dcache.tags.age\_task\_id\_blocks\_1024::0 14 # Occupied blocks per task id  
system.cpu.dcache.tags.age\_task\_id\_blocks\_1024::2 284 # Occupied blocks per task id  
system.cpu.dcache.tags.occ\_task\_id\_percent::1024 0.582031 # Percentage of cache occupancy per task id  
system.cpu.dcache.tags.tag\_accesses 1496509 # Number of tag accesses  
system.cpu.dcache.tags.data\_accesses 1496509 # Number of data accesses



system.cpu.dcache.ReadReq\_hits::cpu.data 212266 # number of ReadReq hits  
system.cpu.dcache.ReadReq\_hits::total 212266 # number of ReadReq hits  
system.cpu.dcache.WriteReq\_hits::cpu.data 161423 # number of WriteReq hits  
system.cpu.dcache.WriteReq\_hits::total 161423 # number of WriteReq hits  
system.cpu.dcache.demand\_hits::cpu.data 373689 # number of demand (read+write) hits  
system.cpu.dcache.demand\_hits::total 373689 # number of demand (read+write) hits  
system.cpu.dcache.overall\_hits::cpu.data 373689 # number of overall hits  
system.cpu.dcache.overall\_hits::total 373689 # number of overall hits  
system.cpu.dcache.ReadReq\_misses::cpu.data 154 # number of ReadReq misses  
system.cpu.dcache.ReadReq\_misses::total 154 # number of ReadReq misses  
system.cpu.dcache.WriteReq\_misses::cpu.data 208 # number of WriteReq misses  
system.cpu.dcache.WriteReq\_misses::total 208 # number of WriteReq misses  
system.cpu.dcache.demand\_misses::cpu.data 362 # number of demand (read+write) misses  
system.cpu.dcache.demand\_misses::total 362 # number of demand (read+write) misses  
system.cpu.dcache.overall\_misses::cpu.data 362 # number of overall misses  
system.cpu.dcache.overall\_misses::total 362 # number of overall misses  
system.cpu.dcache.ReadReq\_miss\_latency::cpu.data 11885250 # number of ReadReq miss cycles  
system.cpu.dcache.ReadReq\_miss\_latency::total 11885250 # number of ReadReq miss cycles  
system.cpu.dcache.WriteReq\_miss\_latency::cpu.data 15123500 # number of WriteReq miss cycles  
system.cpu.dcache.WriteReq\_miss\_latency::total 15123500 # number of WriteReq miss cycles  
system.cpu.dcache.demand\_miss\_latency::cpu.data 27008750 # number of demand (read+write) miss cycles  
system.cpu.dcache.demand\_miss\_latency::total 27008750 # number of demand (read+write) miss cycles  
system.cpu.dcache.overall\_miss\_latency::cpu.data 27008750 # number of overall miss cycles  
system.cpu.dcache.overall\_miss\_latency::total 27008750 # number of overall miss cycles  
system.cpu.dcache.ReadReq\_accesses::cpu.data 212420 # number of ReadReq accesses(hits+misses)  
system.cpu.dcache.ReadReq\_accesses::total 212420 # number of ReadReq accesses(hits+misses)  
system.cpu.dcache.WriteReq\_accesses::cpu.data 161631 # number of WriteReq accesses(hits+misses)  
system.cpu.dcache.WriteReq\_accesses::total 161631 # number of WriteReq accesses(hits+misses)  
system.cpu.dcache.demand\_accesses::cpu.data 374051 # number of demand (read+write) accesses  
system.cpu.dcache.demand\_accesses::total 374051 # number of demand (read+write) accesses  
system.cpu.dcache.overall\_accesses::cpu.data 374051 # number of overall (read+write) accesses  
system.cpu.dcache.overall\_accesses::total 374051 # number of overall (read+write) accesses  
system.cpu.dcache.ReadReq\_miss\_rate::cpu.data 0.000725 # miss rate for ReadReq accesses  
system.cpu.dcache.ReadReq\_miss\_rate::total 0.000725 # miss rate for ReadReq accesses  
system.cpu.dcache.WriteReq\_miss\_rate::cpu.data 0.001287 # miss rate for WriteReq accesses  
system.cpu.dcache.WriteReq\_miss\_rate::total 0.001287 # miss rate for WriteReq accesses

system.cpu.dcache.demand\_miss\_rate::cpu.data 0.000968 # miss rate for demand accesses  
system.cpu.dcache.demand\_miss\_rate::total 0.000968 # miss rate for demand accesses  
system.cpu.dcache.overall\_miss\_rate::cpu.data 0.000968 # miss rate for overall accesses  
system.cpu.dcache.overall\_miss\_rate::total 0.000968 # miss rate for overall accesses  
system.cpu.dcache.ReadReq\_avg\_miss\_latency::cpu.data 77176.948052 # average ReadReq miss latency  
system.cpu.dcache.ReadReq\_avg\_miss\_latency::total 77176.948052 # average ReadReq miss latency  
system.cpu.dcache.WriteReq\_avg\_miss\_latency::cpu.data 72709.134615 # average WriteReq miss latency  
system.cpu.dcache.WriteReq\_avg\_miss\_latency::total 72709.134615 # average WriteReq miss latency  
system.cpu.dcache.demand\_avg\_miss\_latency::cpu.data 74609.806630 # average overall miss latency  
system.cpu.dcache.demand\_avg\_miss\_latency::total 74609.806630 # average overall miss latency  
system.cpu.dcache.overall\_avg\_miss\_latency::cpu.data 74609.806630 # average overall miss latency  
system.cpu.dcache.overall\_avg\_miss\_latency::total 74609.806630 # average overall miss latency  
system.cpu.dcache.blocked\_cycles::no\_mshrs 329 # number of cycles access was blocked  
system.cpu.dcache.blocked\_cycles::no\_targets 0 # number of cycles access was blocked  
system.cpu.dcache.blocked::no\_mshrs 6 # number of cycles access was blocked  
system.cpu.dcache.blocked::no\_targets 0 # number of cycles access was blocked  
system.cpu.dcache.avg\_blocked\_cycles::no\_mshrs 54.833333 # average number of cycles each access was blocked  
system.cpu.dcache.avg\_blocked\_cycles::no\_targets nan # average number of cycles each access was blocked  
system.cpu.dcache.fast\_writes 0 # number of fast writes performed  
system.cpu.dcache.cache\_copies 0 # number of cache copies performed  
system.cpu.dcache.writebacks::writebacks 6 # number of writebacks  
system.cpu.dcache.writebacks::total 6 # number of writebacks  
system.cpu.dcache.ReadReq\_mshr\_hits::cpu.data 57 # number of ReadReq MSHR hits  
system.cpu.dcache.ReadReq\_mshr\_hits::total 57 # number of ReadReq MSHR hits  
system.cpu.dcache.demand\_mshr\_hits::cpu.data 57 # number of demand (read+write) MSHR hits  
system.cpu.dcache.demand\_mshr\_hits::total 57 # number of demand (read+write) MSHR hits  
system.cpu.dcache.overall\_mshr\_hits::cpu.data 57 # number of overall MSHR hits  
system.cpu.dcache.overall\_mshr\_hits::total 57 # number of overall MSHR hits  
system.cpu.dcache.ReadReq\_mshr\_misses::cpu.data 97 # number of ReadReq MSHR misses  
system.cpu.dcache.ReadReq\_mshr\_misses::total 97 # number of ReadReq MSHR misses  
system.cpu.dcache.WriteReq\_mshr\_misses::cpu.data 208 # number of WriteReq MSHR misses  
system.cpu.dcache.WriteReq\_mshr\_misses::total 208 # number of WriteReq MSHR misses  
system.cpu.dcache.demand\_mshr\_misses::cpu.data 305 # number of demand (read+write) MSHR misses  
system.cpu.dcache.demand\_mshr\_misses::total 305 # number of demand (read+write) MSHR misses  
system.cpu.dcache.overall\_mshr\_misses::cpu.data 305 # number of overall MSHR misses  
system.cpu.dcache.overall\_mshr\_misses::total 305 # number of overall MSHR misses

system.cpu.dcache.ReadReq\_mshr\_miss\_latency::cpu.data 7494250 # number of ReadReq MSHR miss cycles  
system.cpu.dcache.ReadReq\_mshr\_miss\_latency::total 7494250 # number of ReadReq MSHR miss cycles  
system.cpu.dcache.WriteReq\_mshr\_miss\_latency::cpu.data 14739500 # number of WriteReq MSHR miss cycles  
system.cpu.dcache.WriteReq\_mshr\_miss\_latency::total 14739500 # number of WriteReq MSHR miss cycles  
system.cpu.dcache.demand\_mshr\_miss\_latency::cpu.data 22233750 # number of demand (read+write) MSHR miss cycles  
system.cpu.dcache.demand\_mshr\_miss\_latency::total 22233750 # number of demand (read+write) MSHR miss cycles  
system.cpu.dcache.overall\_mshr\_miss\_latency::cpu.data 22233750 # number of overall MSHR miss cycles  
system.cpu.dcache.overall\_mshr\_miss\_latency::total 22233750 # number of overall MSHR miss cycles  
system.cpu.dcache.ReadReq\_mshr\_miss\_rate::cpu.data 0.000457 # mshr miss rate for ReadReq accesses  
system.cpu.dcache.ReadReq\_mshr\_miss\_rate::total 0.000457 # mshr miss rate for ReadReq accesses  
system.cpu.dcache.WriteReq\_mshr\_miss\_rate::cpu.data 0.001287 # mshr miss rate for WriteReq accesses  
system.cpu.dcache.WriteReq\_mshr\_miss\_rate::total 0.001287 # mshr miss rate for WriteReq accesses  
system.cpu.dcache.demand\_mshr\_miss\_rate::cpu.data 0.000815 # mshr miss rate for demand accesses  
system.cpu.dcache.demand\_mshr\_miss\_rate::total 0.000815 # mshr miss rate for demand accesses  
system.cpu.dcache.overall\_mshr\_miss\_rate::cpu.data 0.000815 # mshr miss rate for overall accesses  
system.cpu.dcache.overall\_mshr\_miss\_rate::total 0.000815 # mshr miss rate for overall accesses  
system.cpu.dcache.ReadReq\_avg\_mshr\_miss\_latency::cpu.data 77260.309278 # average ReadReq mshr miss latency  
system.cpu.dcache.ReadReq\_avg\_mshr\_miss\_latency::total 77260.309278 # average ReadReq mshr miss latency  
system.cpu.dcache.WriteReq\_avg\_mshr\_miss\_latency::cpu.data 70862.980769 # average WriteReq mshr miss latency  
system.cpu.dcache.WriteReq\_avg\_mshr\_miss\_latency::total 70862.980769 # average WriteReq mshr miss latency  
system.cpu.dcache.demand\_avg\_mshr\_miss\_latency::cpu.data 72897.540984 # average overall mshr miss latency  
system.cpu.dcache.demand\_avg\_mshr\_miss\_latency::total 72897.540984 # average overall mshr miss latency  
system.cpu.dcache.overall\_avg\_mshr\_miss\_latency::cpu.data 72897.540984 # average overall mshr miss latency  
system.cpu.dcache.overall\_avg\_mshr\_miss\_latency::total 72897.540984 # average overall mshr miss latency  
system.cpu.dcache.no\_allocate\_misses 0 # Number of misses that were no-allocate  
system.cpu.icache.tags.replacements 30 # number of replacements

system.cpu.icache.tags.tagsinuse 333.277959 # Cycle average of tags in use  
system.cpu.icache.tags.total\_refs 368595 # Total number of references to valid blocks.  
system.cpu.icache.tags.sampled\_refs 433 # Sample count of references to valid blocks.  
system.cpu.icache.tags.avg\_refs 851.258661 # Average number of references to valid blocks.  
system.cpu.icache.tags.warmup\_cycle 0 # Cycle when the warmup percentage was hit.  
system.cpu.icache.tags.occ\_blocks::cpu.inst 333.277959 # Average occupied blocks per requestor  
system.cpu.icache.tags.occ\_percent::cpu.inst 0.650934 # Average percentage of cache occupancy  
system.cpu.icache.tags.occ\_percent::total 0.650934 # Average percentage of cache occupancy  
system.cpu.icache.tags.occ\_task\_id\_blocks::1024 403 # Occupied blocks per task id  
system.cpu.icache.tags.age\_task\_id\_blocks\_1024::0 66 # Occupied blocks per task id  
system.cpu.icache.tags.age\_task\_id\_blocks\_1024::2 337 # Occupied blocks per task id  
system.cpu.icache.tags.occ\_task\_id\_percent::1024 0.787109 # Percentage of cache occupancy per task id  
system.cpu.icache.tags.tag\_accesses 1476909 # Number of tag accesses  
system.cpu.icache.tags.data\_accesses 1476909 # Number of data accesses  
system.cpu.icache.ReadReq\_hits::cpu.inst 368595 # number of ReadReq hits  
system.cpu.icache.ReadReq\_hits::total 368595 # number of ReadReq hits  
system.cpu.icache.demand\_hits::cpu.inst 368595 # number of demand (read+write) hits  
system.cpu.icache.demand\_hits::total 368595 # number of demand (read+write) hits  
system.cpu.icache.overall\_hits::cpu.inst 368595 # number of overall hits  
system.cpu.icache.overall\_hits::total 368595 # number of overall hits  
system.cpu.icache.ReadReq\_misses::cpu.inst 524 # number of ReadReq misses  
system.cpu.icache.ReadReq\_misses::total 524 # number of ReadReq misses  
system.cpu.icache.demand\_misses::cpu.inst 524 # number of demand (read+write) misses  
system.cpu.icache.demand\_misses::total 524 # number of demand (read+write) misses  
system.cpu.icache.overall\_misses::cpu.inst 524 # number of overall misses  
system.cpu.icache.overall\_misses::total 524 # number of overall misses  
system.cpu.icache.ReadReq\_miss\_latency::cpu.inst 35692000 # number of ReadReq miss cycles  
system.cpu.icache.ReadReq\_miss\_latency::total 35692000 # number of ReadReq miss cycles  
system.cpu.icache.demand\_miss\_latency::cpu.inst 35692000 # number of demand (read+write) miss cycles  
system.cpu.icache.demand\_miss\_latency::total 35692000 # number of demand (read+write) miss cycles  
system.cpu.icache.overall\_miss\_latency::cpu.inst 35692000 # number of overall miss cycles  
system.cpu.icache.overall\_miss\_latency::total 35692000 # number of overall miss cycles  
system.cpu.icache.ReadReq\_accesses::cpu.inst 369119 # number of ReadReq accesses(hits+misses)  
system.cpu.icache.ReadReq\_accesses::total 369119 # number of ReadReq accesses(hits+misses)  
system.cpu.icache.demand\_accesses::cpu.inst 369119 # number of demand (read+write) accesses  
system.cpu.icache.demand\_accesses::total 369119 # number of demand (read+write) accesses  
system.cpu.icache.overall\_accesses::cpu.inst 369119 # number of overall (read+write) accesses  
system.cpu.icache.overall\_accesses::total 369119 # number of overall (read+write) accesses

system.cpu.icache.ReadReq\_miss\_rate::cpu.inst 0.001420 # miss rate for ReadReq accesses  
system.cpu.icache.ReadReq\_miss\_rate::total 0.001420 # miss rate for ReadReq accesses  
system.cpu.icache.demand\_miss\_rate::cpu.inst 0.001420 # miss rate for demand accesses  
system.cpu.icache.demand\_miss\_rate::total 0.001420 # miss rate for demand accesses  
system.cpu.icache.overall\_miss\_rate::cpu.inst 0.001420 # miss rate for overall accesses  
system.cpu.icache.overall\_miss\_rate::total 0.001420 # miss rate for overall accesses  
system.cpu.icache.ReadReq\_avg\_miss\_latency::cpu.inst 68114.503817 # average ReadReq miss latency  
system.cpu.icache.ReadReq\_avg\_miss\_latency::total 68114.503817 # average ReadReq miss latency  
system.cpu.icache.demand\_avg\_miss\_latency::cpu.inst 68114.503817 # average overall miss latency  
system.cpu.icache.demand\_avg\_miss\_latency::total 68114.503817 # average overall miss latency  
system.cpu.icache.overall\_avg\_miss\_latency::cpu.inst 68114.503817 # average overall miss latency  
system.cpu.icache.overall\_avg\_miss\_latency::total 68114.503817 # average overall miss latency  
system.cpu.icache.blocked\_cycles::no\_mshrs 55 # number of cycles access was blocked  
system.cpu.icache.blocked\_cycles::no\_targets 0 # number of cycles access was blocked  
system.cpu.icache.blocked::no\_mshrs 1 # number of cycles access was blocked  
system.cpu.icache.blocked::no\_targets 0 # number of cycles access was blocked  
system.cpu.icache.avg\_blocked\_cycles::no\_mshrs 55 # average number of cycles each access was blocked  
system.cpu.icache.avg\_blocked\_cycles::no\_targets nan # average number of cycles each access was blocked  
system.cpu.icache.fast\_writes 0 # number of fast writes performed  
system.cpu.icache.cache\_copies 0 # number of cache copies performed  
system.cpu.icache.ReadReq\_mshr\_hits::cpu.inst 91 # number of ReadReq MSHR hits  
system.cpu.icache.ReadReq\_mshr\_hits::total 91 # number of ReadReq MSHR hits  
system.cpu.icache.demand\_mshr\_hits::cpu.inst 91 # number of demand (read+write) MSHR hits  
system.cpu.icache.demand\_mshr\_hits::total 91 # number of demand (read+write) MSHR hits  
system.cpu.icache.overall\_mshr\_hits::cpu.inst 91 # number of overall MSHR hits  
system.cpu.icache.overall\_mshr\_hits::total 91 # number of overall MSHR hits  
system.cpu.icache.ReadReq\_mshr\_misses::cpu.inst 433 # number of ReadReq MSHR misses  
system.cpu.icache.ReadReq\_mshr\_misses::total 433 # number of ReadReq MSHR misses  
system.cpu.icache.demand\_mshr\_misses::cpu.inst 433 # number of demand (read+write) MSHR misses  
system.cpu.icache.demand\_mshr\_misses::total 433 # number of demand (read+write) MSHR misses  
system.cpu.icache.overall\_mshr\_misses::cpu.inst 433 # number of overall MSHR misses  
system.cpu.icache.overall\_mshr\_misses::total 433 # number of overall MSHR misses  
system.cpu.icache.ReadReq\_mshr\_miss\_latency::cpu.inst 29864250 # number of ReadReq MSHR miss cycles  
system.cpu.icache.ReadReq\_mshr\_miss\_latency::total 29864250 # number of ReadReq MSHR miss cycles  
system.cpu.icache.demand\_mshr\_miss\_latency::cpu.inst 29864250 # number of demand (read+write) MSHR miss cycles  
system.cpu.icache.demand\_mshr\_miss\_latency::total 29864250 # number of demand

(read+write) MSHR miss cycles  
system.cpu.icache.overall\_mshr\_miss\_latency::cpu.inst 29864250 # number of overall MSHR miss cycles  
system.cpu.icache.overall\_mshr\_miss\_latency::total 29864250 # number of overall MSHR miss cycles  
system.cpu.icache.ReadReq\_mshr\_miss\_rate::cpu.inst 0.001173 # mshr miss rate for ReadReq accesses  
system.cpu.icache.ReadReq\_mshr\_miss\_rate::total 0.001173 # mshr miss rate for ReadReq accesses  
system.cpu.icache.demand\_mshr\_miss\_rate::cpu.inst 0.001173 # mshr miss rate for demand accesses  
system.cpu.icache.demand\_mshr\_miss\_rate::total 0.001173 # mshr miss rate for demand accesses  
system.cpu.icache.overall\_mshr\_miss\_rate::cpu.inst 0.001173 # mshr miss rate for overall accesses  
system.cpu.icache.overall\_mshr\_miss\_rate::total 0.001173 # mshr miss rate for overall accesses  
system.cpu.icache.ReadReq\_avg\_mshr\_miss\_latency::cpu.inst 68970.554273 # average ReadReq mshr miss latency  
system.cpu.icache.ReadReq\_avg\_mshr\_miss\_latency::total 68970.554273 # average ReadReq mshr miss latency  
system.cpu.icache.demand\_avg\_mshr\_miss\_latency::cpu.inst 68970.554273 # average overall mshr miss latency  
system.cpu.icache.demand\_avg\_mshr\_miss\_latency::total 68970.554273 # average overall mshr miss latency  
system.cpu.icache.overall\_avg\_mshr\_miss\_latency::cpu.inst 68970.554273 # average overall mshr miss latency  
system.cpu.icache.overall\_avg\_mshr\_miss\_latency::total 68970.554273 # average overall mshr miss latency  
system.cpu.icache.no\_allocate\_misses 0 # Number of misses that were no-allocate  
system.cpu.l2cache.tags.replacements 0 # number of replacements  
system.cpu.l2cache.tags.tagsinuse 424.192137 # Cycle average of tags in use  
system.cpu.l2cache.tags.total\_refs 9 # Total number of references to valid blocks.  
system.cpu.l2cache.tags.sampled\_refs 527 # Sample count of references to valid blocks.  
system.cpu.l2cache.tags.avg\_refs 0.017078 # Average number of references to valid blocks.  
system.cpu.l2cache.tags.warmup\_cycle 0 # Cycle when the warmup percentage was hit.  
system.cpu.l2cache.tags.occ\_blocks::writebacks 1.753765 # Average occupied blocks per requestor  
system.cpu.l2cache.tags.occ\_blocks::cpu.inst 344.942830 # Average occupied blocks per requestor  
system.cpu.l2cache.tags.occ\_blocks::cpu.data 77.495542 # Average occupied blocks per requestor  
system.cpu.l2cache.tags.occ\_percent::writebacks 0.000027 # Average percentage of cache occupancy  
system.cpu.l2cache.tags.occ\_percent::cpu.inst 0.005263 # Average percentage of cache occupancy  
system.cpu.l2cache.tags.occ\_percent::cpu.data 0.001182 # Average percentage of cache occupancy  
system.cpu.l2cache.tags.occ\_percent::total 0.006473 # Average percentage of cache occupancy

system.cpu.l2cache.tags.occ\_task\_id\_blocks::1024 527 # Occupied blocks per task id  
system.cpu.l2cache.tags.age\_task\_id\_blocks\_1024::0 79 # Occupied blocks per task id  
system.cpu.l2cache.tags.age\_task\_id\_blocks\_1024::2 448 # Occupied blocks per task id  
system.cpu.l2cache.tags.occ\_task\_id\_percent::1024 0.008041 # Percentage of cache  
occupancy per task id  
system.cpu.l2cache.tags.tag\_accesses 6687 # Number of tag accesses  
system.cpu.l2cache.tags.data\_accesses 6687 # Number of data accesses  
system.cpu.l2cache.ReadReq\_hits::cpu.inst 4 # number of ReadReq hits  
system.cpu.l2cache.ReadReq\_hits::cpu.data 2 # number of ReadReq hits  
system.cpu.l2cache.ReadReq\_hits::total 6 # number of ReadReq hits  
system.cpu.l2cache.Writeback\_hits::writebacks 6 # number of Writeback hits  
system.cpu.l2cache.Writeback\_hits::total 6 # number of Writeback hits  
system.cpu.l2cache.demand\_hits::cpu.inst 4 # number of demand (read+write) hits  
system.cpu.l2cache.demand\_hits::cpu.data 2 # number of demand (read+write) hits  
system.cpu.l2cache.demand\_hits::total 6 # number of demand (read+write) hits  
system.cpu.l2cache.overall\_hits::cpu.inst 4 # number of overall hits  
system.cpu.l2cache.overall\_hits::cpu.data 2 # number of overall hits  
system.cpu.l2cache.overall\_hits::total 6 # number of overall hits  
system.cpu.l2cache.ReadReq\_misses::cpu.inst 429 # number of ReadReq misses  
system.cpu.l2cache.ReadReq\_misses::cpu.data 95 # number of ReadReq misses  
system.cpu.l2cache.ReadReq\_misses::total 524 # number of ReadReq misses  
system.cpu.l2cache.ReadExReq\_misses::cpu.data 208 # number of ReadExReq misses  
system.cpu.l2cache.ReadExReq\_misses::total 208 # number of ReadExReq misses  
system.cpu.l2cache.demand\_misses::cpu.inst 429 # number of demand (read+write) misses  
system.cpu.l2cache.demand\_misses::cpu.data 303 # number of demand (read+write) misses  
system.cpu.l2cache.demand\_misses::total 732 # number of demand (read+write) misses  
system.cpu.l2cache.overall\_misses::cpu.inst 429 # number of overall misses  
system.cpu.l2cache.overall\_misses::cpu.data 303 # number of overall misses  
system.cpu.l2cache.overall\_misses::total 732 # number of overall misses  
system.cpu.l2cache.ReadReq\_miss\_latency::cpu.inst 29385250 # number of ReadReq miss  
cycles  
system.cpu.l2cache.ReadReq\_miss\_latency::cpu.data 7275250 # number of ReadReq miss  
cycles  
system.cpu.l2cache.ReadReq\_miss\_latency::total 36660500 # number of ReadReq miss  
cycles  
system.cpu.l2cache.ReadExReq\_miss\_latency::cpu.data 14323500 # number of ReadExReq  
miss cycles  
system.cpu.l2cache.ReadExReq\_miss\_latency::total 14323500 # number of ReadExReq miss  
cycles  
system.cpu.l2cache.demand\_miss\_latency::cpu.inst 29385250 # number of demand  
(read+write) miss cycles  
system.cpu.l2cache.demand\_miss\_latency::cpu.data 21598750 # number of demand  
(read+write) miss cycles  
system.cpu.l2cache.demand\_miss\_latency::total 50984000 # number of demand (read+write)  
miss cycles  
system.cpu.l2cache.overall\_miss\_latency::cpu.inst 29385250 # number of overall miss cycles  
system.cpu.l2cache.overall\_miss\_latency::cpu.data 21598750 # number of overall miss  
cycles  
system.cpu.l2cache.overall\_miss\_latency::total 50984000 # number of overall miss cycles  
system.cpu.l2cache.ReadReq\_accesses::cpu.inst 433 # number of ReadReq

accesses(hits+misses)  
system.cpu.l2cache.ReadReq\_accesses::cpu.data 97 # number of ReadReq  
accesses(hits+misses)  
system.cpu.l2cache.ReadReq\_accesses::total 530 # number of ReadReq  
accesses(hits+misses)  
system.cpu.l2cache.Writeback\_accesses::writebacks 6 # number of Writeback  
accesses(hits+misses)  
system.cpu.l2cache.Writeback\_accesses::total 6 # number of Writeback  
accesses(hits+misses)  
system.cpu.l2cache.ReadExReq\_accesses::cpu.data 208 # number of ReadExReq  
accesses(hits+misses)  
system.cpu.l2cache.ReadExReq\_accesses::total 208 # number of ReadExReq  
accesses(hits+misses)  
system.cpu.l2cache.demand\_accesses::cpu.inst 433 # number of demand (read+write)  
accesses  
system.cpu.l2cache.demand\_accesses::cpu.data 305 # number of demand (read+write)  
accesses  
system.cpu.l2cache.demand\_accesses::total 738 # number of demand (read+write) accesses  
system.cpu.l2cache.overall\_accesses::cpu.inst 433 # number of overall (read+write) accesses  
system.cpu.l2cache.overall\_accesses::cpu.data 305 # number of overall (read+write) accesses  
system.cpu.l2cache.overall\_accesses::total 738 # number of overall (read+write) accesses  
system.cpu.l2cache.ReadReq\_miss\_rate::cpu.inst 0.990762 # miss rate for ReadReq accesses  
system.cpu.l2cache.ReadReq\_miss\_rate::cpu.data 0.979381 # miss rate for ReadReq accesses  
system.cpu.l2cache.ReadReq\_miss\_rate::total 0.988679 # miss rate for ReadReq accesses  
system.cpu.l2cache.ReadExReq\_miss\_rate::cpu.data 1 # miss rate for ReadExReq accesses  
system.cpu.l2cache.ReadExReq\_miss\_rate::total 1 # miss rate for ReadExReq accesses  
system.cpu.l2cache.demand\_miss\_rate::cpu.inst 0.990762 # miss rate for demand accesses  
system.cpu.l2cache.demand\_miss\_rate::cpu.data 0.993443 # miss rate for demand accesses  
system.cpu.l2cache.demand\_miss\_rate::total 0.991870 # miss rate for demand accesses  
system.cpu.l2cache.overall\_miss\_rate::cpu.inst 0.990762 # miss rate for overall accesses  
system.cpu.l2cache.overall\_miss\_rate::cpu.data 0.993443 # miss rate for overall accesses  
system.cpu.l2cache.overall\_miss\_rate::total 0.991870 # miss rate for overall accesses  
system.cpu.l2cache.ReadReq\_avg\_miss\_latency::cpu.inst 68497.086247 # average ReadReq  
miss latency  
system.cpu.l2cache.ReadReq\_avg\_miss\_latency::cpu.data 76581.578947 # average ReadReq  
miss latency  
system.cpu.l2cache.ReadReq\_avg\_miss\_latency::total 69962.786260 # average ReadReq  
miss latency  
system.cpu.l2cache.ReadExReq\_avg\_miss\_latency::cpu.data 68862.980769 # average  
ReadExReq miss latency  
system.cpu.l2cache.ReadExReq\_avg\_miss\_latency::total 68862.980769 # average  
ReadExReq miss latency  
system.cpu.l2cache.demand\_avg\_miss\_latency::cpu.inst 68497.086247 # average overall  
miss latency  
system.cpu.l2cache.demand\_avg\_miss\_latency::cpu.data 71283.003300 # average overall  
miss latency  
system.cpu.l2cache.demand\_avg\_miss\_latency::total 69650.273224 # average overall miss  
latency  
system.cpu.l2cache.overall\_avg\_miss\_latency::cpu.inst 68497.086247 # average overall miss  
latency



system.cpu.l2cache.overall\_avg\_miss\_latency::cpu.data 71283.003300 # average overall miss latency  
system.cpu.l2cache.overall\_avg\_miss\_latency::total 69650.273224 # average overall miss latency  
system.cpu.l2cache.blocked\_cycles::no\_mshrs 0 # number of cycles access was blocked  
system.cpu.l2cache.blocked\_cycles::no\_targets 0 # number of cycles access was blocked  
system.cpu.l2cache.blocked::no\_mshrs 0 # number of cycles access was blocked  
system.cpu.l2cache.blocked::no\_targets 0 # number of cycles access was blocked  
system.cpu.l2cache.avg\_blocked\_cycles::no\_mshrs nan # average number of cycles each access was blocked  
system.cpu.l2cache.avg\_blocked\_cycles::no\_targets nan # average number of cycles each access was blocked  
system.cpu.l2cache.fast\_writes 0 # number of fast writes performed  
system.cpu.l2cache.cache\_copies 0 # number of cache copies performed  
system.cpu.l2cache.ReadReq\_mshr\_misses::cpu.inst 429 # number of ReadReq MSHR misses  
system.cpu.l2cache.ReadReq\_mshr\_misses::cpu.data 95 # number of ReadReq MSHR misses  
system.cpu.l2cache.ReadReq\_mshr\_misses::total 524 # number of ReadReq MSHR misses  
system.cpu.l2cache.ReadExReq\_mshr\_misses::cpu.data 208 # number of ReadExReq MSHR misses  
system.cpu.l2cache.ReadExReq\_mshr\_misses::total 208 # number of ReadExReq MSHR misses  
system.cpu.l2cache.demand\_mshr\_misses::cpu.inst 429 # number of demand (read+write) MSHR misses  
system.cpu.l2cache.demand\_mshr\_misses::cpu.data 303 # number of demand (read+write) MSHR misses  
system.cpu.l2cache.demand\_mshr\_misses::total 732 # number of demand (read+write) MSHR misses  
system.cpu.l2cache.overall\_mshr\_misses::cpu.inst 429 # number of overall MSHR misses  
system.cpu.l2cache.overall\_mshr\_misses::cpu.data 303 # number of overall MSHR misses  
system.cpu.l2cache.overall\_mshr\_misses::total 732 # number of overall MSHR misses  
system.cpu.l2cache.ReadReq\_mshr\_miss\_latency::cpu.inst 27053750 # number of ReadReq MSHR miss cycles  
system.cpu.l2cache.ReadReq\_mshr\_miss\_latency::cpu.data 6767750 # number of ReadReq MSHR miss cycles  
system.cpu.l2cache.ReadReq\_mshr\_miss\_latency::total 33821500 # number of ReadReq MSHR miss cycles  
system.cpu.l2cache.ReadExReq\_mshr\_miss\_latency::cpu.data 13211500 # number of ReadExReq MSHR miss cycles  
system.cpu.l2cache.ReadExReq\_mshr\_miss\_latency::total 13211500 # number of ReadExReq MSHR miss cycles  
system.cpu.l2cache.demand\_mshr\_miss\_latency::cpu.inst 27053750 # number of demand (read+write) MSHR miss cycles  
system.cpu.l2cache.demand\_mshr\_miss\_latency::cpu.data 19979250 # number of demand (read+write) MSHR miss cycles  
system.cpu.l2cache.demand\_mshr\_miss\_latency::total 47033000 # number of demand (read+write) MSHR miss cycles  
system.cpu.l2cache.overall\_mshr\_miss\_latency::cpu.inst 27053750 # number of overall MSHR miss cycles  
system.cpu.l2cache.overall\_mshr\_miss\_latency::cpu.data 19979250 # number of overall

## MSHR miss cycles

system.cpu.l2cache.overall\_mshr\_miss\_latency::total 47033000 # number of overall MSHR miss cycles

system.cpu.l2cache.ReadReq\_mshr\_miss\_rate::cpu.inst 0.990762 # mshr miss rate for ReadReq accesses

system.cpu.l2cache.ReadReq\_mshr\_miss\_rate::cpu.data 0.979381 # mshr miss rate for ReadReq accesses

system.cpu.l2cache.ReadReq\_mshr\_miss\_rate::total 0.988679 # mshr miss rate for ReadReq accesses

system.cpu.l2cache.ReadExReq\_mshr\_miss\_rate::cpu.data 1 # mshr miss rate for ReadExReq accesses

system.cpu.l2cache.ReadExReq\_mshr\_miss\_rate::total 1 # mshr miss rate for ReadExReq accesses

system.cpu.l2cache.demand\_mshr\_miss\_rate::cpu.inst 0.990762 # mshr miss rate for demand accesses

system.cpu.l2cache.demand\_mshr\_miss\_rate::cpu.data 0.993443 # mshr miss rate for demand accesses

system.cpu.l2cache.demand\_mshr\_miss\_rate::total 0.991870 # mshr miss rate for demand accesses

system.cpu.l2cache.overall\_mshr\_miss\_rate::cpu.inst 0.990762 # mshr miss rate for overall accesses

system.cpu.l2cache.overall\_mshr\_miss\_rate::cpu.data 0.993443 # mshr miss rate for overall accesses

system.cpu.l2cache.overall\_mshr\_miss\_rate::total 0.991870 # mshr miss rate for overall accesses

system.cpu.l2cache.ReadReq\_avg\_mshr\_miss\_latency::cpu.inst 63062.354312 # average ReadReq mshr miss latency

system.cpu.l2cache.ReadReq\_avg\_mshr\_miss\_latency::cpu.data 71239.473684 # average ReadReq mshr miss latency

system.cpu.l2cache.ReadReq\_avg\_mshr\_miss\_latency::total 64544.847328 # average ReadReq mshr miss latency

system.cpu.l2cache.ReadExReq\_avg\_mshr\_miss\_latency::cpu.data 63516.826923 # average ReadExReq mshr miss latency

system.cpu.l2cache.ReadExReq\_avg\_mshr\_miss\_latency::total 63516.826923 # average ReadExReq mshr miss latency

system.cpu.l2cache.demand\_avg\_mshr\_miss\_latency::cpu.inst 63062.354312 # average overall mshr miss latency

system.cpu.l2cache.demand\_avg\_mshr\_miss\_latency::cpu.data 65938.118812 # average overall mshr miss latency

system.cpu.l2cache.demand\_avg\_mshr\_miss\_latency::total 64252.732240 # average overall mshr miss latency

system.cpu.l2cache.overall\_avg\_mshr\_miss\_latency::cpu.inst 63062.354312 # average overall mshr miss latency

system.cpu.l2cache.overall\_avg\_mshr\_miss\_latency::cpu.data 65938.118812 # average overall mshr miss latency

system.cpu.l2cache.overall\_avg\_mshr\_miss\_latency::total 64252.732240 # average overall mshr miss latency

system.cpu.l2cache.no\_allocate\_misses 0 # Number of misses that were no-allocate

system.l2bus.trans\_dist::ReadReq 530 # Transaction distribution

system.l2bus.trans\_dist::ReadResp 530 # Transaction distribution

system.l2bus.trans\_dist::Writeback 6 # Transaction distribution  
system.l2bus.trans\_dist::ReadExReq 208 # Transaction distribution  
system.l2bus.trans\_dist::ReadExResp 208 # Transaction distribution  
system.l2bus.pkt\_count\_system.cpu.icache.mem\_side::system.cpu.l2cache.cpu\_side 866 #  
Packet count per connected master and slave (bytes)  
system.l2bus.pkt\_count\_system.cpu.dcache.mem\_side::system.cpu.l2cache.cpu\_side 616 #  
Packet count per connected master and slave (bytes)  
system.l2bus.pkt\_count::total 1482 # Packet count per connected master and slave (bytes)  
system.l2bus.pkt\_size\_system.cpu.icache.mem\_side::system.cpu.l2cache.cpu\_side 27712 #  
Cumulative packet size per connected master and slave (bytes)  
system.l2bus.pkt\_size\_system.cpu.dcache.mem\_side::system.cpu.l2cache.cpu\_side 19904 #  
Cumulative packet size per connected master and slave (bytes)  
system.l2bus.pkt\_size::total 47616 # Cumulative packet size per connected master and slave  
(bytes)  
system.l2bus.snoops 0 # Total snoops (count)  
system.l2bus.snoop\_fanout::samples 744 # Request fanout histogram  
system.l2bus.snoop\_fanout::mean 1 # Request fanout histogram  
system.l2bus.snoop\_fanout::stdev 0 # Request fanout histogram  
system.l2bus.snoop\_fanout::underflows 0 0.00% 0.00% # Request fanout histogram  
system.l2bus.snoop\_fanout::0 0 0.00% 0.00% # Request fanout histogram  
system.l2bus.snoop\_fanout::1 744 100.00% 100.00% # Request fanout histogram  
system.l2bus.snoop\_fanout::2 0 0.00% 100.00% # Request fanout histogram  
system.l2bus.snoop\_fanout::overflows 0 0.00% 100.00% # Request fanout histogram  
system.l2bus.snoop\_fanout::min\_value 1 # Request fanout histogram  
system.l2bus.snoop\_fanout::max\_value 1 # Request fanout histogram  
system.l2bus.snoop\_fanout::total 744 # Request fanout histogram  
system.l2bus.reqLayer0.occupancy 384000 # Layer occupancy (ticks)  
system.l2bus.reqLayer0.utilization 0.1 # Layer utilization (%)  
system.l2bus.respLayer0.occupancy 1175750 # Layer occupancy (ticks)  
system.l2bus.respLayer0.utilization 0.2 # Layer utilization (%)  
system.l2bus.respLayer1.occupancy 814750 # Layer occupancy (ticks)  
system.l2bus.respLayer1.utilization 0.1 # Layer utilization (%)  
system.membus.trans\_dist::ReadReq 524 # Transaction distribution  
system.membus.trans\_dist::ReadResp 524 # Transaction distribution  
system.membus.trans\_dist::ReadExReq 208 # Transaction distribution  
system.membus.trans\_dist::ReadExResp 208 # Transaction distribution  
system.membus.pkt\_count\_system.cpu.l2cache.mem\_side::system.mem\_ctrl.port 1464 #  
Packet count per connected master and slave (bytes)  
system.membus.pkt\_count\_system.cpu.l2cache.mem\_side::total 1464 # Packet count per  
connected master and slave (bytes)  
system.membus.pkt\_count::total 1464 # Packet count per connected master and slave (bytes)  
system.membus.pkt\_size\_system.cpu.l2cache.mem\_side::system.mem\_ctrl.port 46848 #  
Cumulative packet size per connected master and slave (bytes)  
system.membus.pkt\_size\_system.cpu.l2cache.mem\_side::total 46848 # Cumulative packet  
size per connected master and slave (bytes)  
system.membus.pkt\_size::total 46848 # Cumulative packet size per connected master and  
slave (bytes)  
system.membus.snoops 0 # Total snoops (count)  
system.membus.snoop\_fanout::samples 732 # Request fanout histogram  
system.membus.snoop\_fanout::mean 0 # Request fanout histogram

system.membus.snoop\_fanout::stdev 0 # Request fanout histogram  
system.membus.snoop\_fanout::underflows 0 0.00% 0.00% # Request fanout histogram  
system.membus.snoop\_fanout::0 732 100.00% 100.00% # Request fanout histogram  
system.membus.snoop\_fanout::1 0 0.00% 100.00% # Request fanout histogram  
system.membus.snoop\_fanout::overflows 0 0.00% 100.00% # Request fanout histogram  
system.membus.snoop\_fanout::min\_value 0 # Request fanout histogram  
system.membus.snoop\_fanout::max\_value 0 # Request fanout histogram  
system.membus.snoop\_fanout::total 732 # Request fanout histogram  
system.membus.reqLayer2.occupancy 366000 # Layer occupancy (ticks)  
system.membus.reqLayer2.utilization 0.1 # Layer utilization (%)  
system.membus.respLayer0.occupancy 1975500 # Layer occupancy (ticks)  
system.membus.respLayer0.utilization 0.3 # Layer utilization (%)