---------- Begin Simulation Statistics ----------

sim\_seconds 0.000375 # Number of seconds simulated

sim\_ticks 374593000 # Number of ticks simulated

final\_tick 374593000 # Number of ticks from beginning of simulation (restored from checkpoints and never reset)

sim\_freq 1000000000000 # Frequency of simulated ticks

host\_inst\_rate 168951 # Simulator instruction rate (inst/s)

host\_op\_rate 168886 # Simulator op (including micro ops) rate (op/s)

host\_tick\_rate 12263331450 # Simulator tick rate (ticks/s)

host\_mem\_usage 639580 # Number of bytes of host memory used

host\_seconds 0.03 # Real time elapsed on the host

sim\_insts 5157 # Number of instructions simulated

sim\_ops 5157 # Number of ops (including micro ops) simulated

system.voltage\_domain.voltage 1 # Voltage in Volts

system.clk\_domain.clock 1000 # Clock period in ticks

system.mem\_ctrls.pwrStateResidencyTicks::UNDEFINED 374593000 # Cumulative time (in ticks) in various power states

system.mem\_ctrls.bytes\_read::.cpu.inst 20676 # Number of bytes read from this memory

system.mem\_ctrls.bytes\_read::.cpu.data 6542 # Number of bytes read from this memory

system.mem\_ctrls.bytes\_read::total 27218 # Number of bytes read from this memory

system.mem\_ctrls.bytes\_inst\_read::.cpu.inst 20676 # Number of instructions bytes read from this memory

system.mem\_ctrls.bytes\_inst\_read::total 20676 # Number of instructions bytes read from this memory

system.mem\_ctrls.bytes\_written::.cpu.data 6659 # Number of bytes written to this memory

system.mem\_ctrls.bytes\_written::total 6659 # Number of bytes written to this memory

system.mem\_ctrls.num\_reads::.cpu.inst 5169 # Number of read requests responded to by this memory

system.mem\_ctrls.num\_reads::.cpu.data 930 # Number of read requests responded to by this memory

system.mem\_ctrls.num\_reads::total 6099 # Number of read requests responded to by this memory

system.mem\_ctrls.num\_writes::.cpu.data 873 # Number of write requests responded to by this memory

system.mem\_ctrls.num\_writes::total 873 # Number of write requests responded to by this memory

system.mem\_ctrls.bw\_read::.cpu.inst 55195906 # Total read bandwidth from this memory (bytes/s)

system.mem\_ctrls.bw\_read::.cpu.data 17464288 # Total read bandwidth from this memory (bytes/s)

system.mem\_ctrls.bw\_read::total 72660194 # Total read bandwidth from this memory (bytes/s)

system.mem\_ctrls.bw\_inst\_read::.cpu.inst 55195906 # Instruction read bandwidth from this memory (bytes/s)

system.mem\_ctrls.bw\_inst\_read::total 55195906 # Instruction read bandwidth from this memory (bytes/s)

system.mem\_ctrls.bw\_write::.cpu.data 17776627 # Write bandwidth from this memory (bytes/s)

system.mem\_ctrls.bw\_write::total 17776627 # Write bandwidth from this memory (bytes/s)

system.mem\_ctrls.bw\_total::.cpu.inst 55195906 # Total bandwidth to/from this memory (bytes/s)

system.mem\_ctrls.bw\_total::.cpu.data 35240915 # Total bandwidth to/from this memory (bytes/s)

system.mem\_ctrls.bw\_total::total 90436821 # Total bandwidth to/from this memory (bytes/s)

system.mem\_ctrls.avgPriority\_.cpu.inst::samples 5170.00 # Average QoS priority value for accepted requests

system.mem\_ctrls.avgPriority\_.cpu.data::samples 940.00 # Average QoS priority value for accepted requests

system.mem\_ctrls.priorityMinLatency 0.000000018750 # per QoS priority minimum request to response latency (s)

system.mem\_ctrls.priorityMaxLatency 0.000229857750 # per QoS priority maximum request to response latency (s)

system.mem\_ctrls.numReadWriteTurnArounds 6 # Number of turnarounds from READ to WRITE

system.mem\_ctrls.numWriteReadTurnArounds 6 # Number of turnarounds from WRITE to READ

system.mem\_ctrls.numStayReadState 12922 # Number of times bus staying in READ state

system.mem\_ctrls.numStayWriteState 90 # Number of times bus staying in WRITE state

system.mem\_ctrls.readReqs 6100 # Number of read requests accepted

system.mem\_ctrls.writeReqs 873 # Number of write requests accepted

system.mem\_ctrls.readBursts 6100 # Number of DRAM read bursts, including those serviced by the write queue

system.mem\_ctrls.writeBursts 873 # Number of DRAM write bursts, including those merged in the write queue

system.mem\_ctrls.bytesReadDRAM 382848 # Total number of bytes read from DRAM

system.mem\_ctrls.bytesReadWrQ 7552 # Total number of bytes read from write queue

system.mem\_ctrls.bytesWritten 6144 # Total number of bytes written to DRAM

system.mem\_ctrls.bytesReadSys 27222 # Total read bytes from the system interface side

system.mem\_ctrls.bytesWrittenSys 6659 # Total written bytes from the system interface side

system.mem\_ctrls.servicedByWrQ 118 # Number of DRAM read bursts serviced by the write queue

system.mem\_ctrls.mergedWrBursts 745 # Number of DRAM write bursts merged with an existing one

system.mem\_ctrls.neitherReadNorWriteReqs 0 # Number of requests that are neither read nor write

system.mem\_ctrls.perBankRdBursts::0 838 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::1 1194 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::2 912 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::3 466 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::4 507 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::5 384 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::6 665 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::7 175 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::8 18 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::9 468 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::10 0 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::11 0 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::12 345 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::13 6 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::14 4 # Per bank write bursts

system.mem\_ctrls.perBankRdBursts::15 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::0 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::1 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::2 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::3 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::4 2 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::5 30 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::6 36 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::7 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::8 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::9 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::10 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::11 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::12 18 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::13 10 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::14 0 # Per bank write bursts

system.mem\_ctrls.perBankWrBursts::15 0 # Per bank write bursts

system.mem\_ctrls.numRdRetry 0 # Number of times read queue was full causing retry

system.mem\_ctrls.numWrRetry 0 # Number of times write queue was full causing retry

system.mem\_ctrls.totGap 374516000 # Total gap between requests

system.mem\_ctrls.readPktSize::0 52 # Read request sizes (log2)

system.mem\_ctrls.readPktSize::1 1 # Read request sizes (log2)

system.mem\_ctrls.readPktSize::2 5302 # Read request sizes (log2)

system.mem\_ctrls.readPktSize::3 745 # Read request sizes (log2)

system.mem\_ctrls.readPktSize::4 0 # Read request sizes (log2)

system.mem\_ctrls.readPktSize::5 0 # Read request sizes (log2)

system.mem\_ctrls.readPktSize::6 0 # Read request sizes (log2)

system.mem\_ctrls.writePktSize::0 15 # Write request sizes (log2)

system.mem\_ctrls.writePktSize::1 0 # Write request sizes (log2)

system.mem\_ctrls.writePktSize::2 55 # Write request sizes (log2)

system.mem\_ctrls.writePktSize::3 803 # Write request sizes (log2)

system.mem\_ctrls.writePktSize::4 0 # Write request sizes (log2)

system.mem\_ctrls.writePktSize::5 0 # Write request sizes (log2)

system.mem\_ctrls.writePktSize::6 0 # Write request sizes (log2)

system.mem\_ctrls.rdQLenPdf::0 5982 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::1 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::2 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::3 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::4 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::5 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::6 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::7 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::8 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::9 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::10 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::11 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::12 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::13 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::14 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::15 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::16 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::17 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::18 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::19 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::20 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::21 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::22 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::23 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::24 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::25 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::26 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::27 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::28 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::29 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::30 0 # What read queue length does an incoming req see

system.mem\_ctrls.rdQLenPdf::31 0 # What read queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::0 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::1 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::2 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::3 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::4 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::5 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::6 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::7 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::8 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::9 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::10 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::11 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::12 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::13 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::14 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::15 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::16 1 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::17 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::18 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::19 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::20 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::21 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::22 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::23 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::24 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::25 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::26 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::27 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::28 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::29 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::30 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::31 7 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::32 6 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::33 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::34 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::35 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::36 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::37 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::38 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::39 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::40 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::41 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::42 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::43 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::44 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::45 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::46 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::47 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::48 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::49 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::50 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::51 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::52 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::53 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::54 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::55 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::56 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::57 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::58 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::59 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::60 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::61 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::62 0 # What write queue length does an incoming req see

system.mem\_ctrls.wrQLenPdf::63 0 # What write queue length does an incoming req see

system.mem\_ctrls.bytesPerActivate::samples 595 # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::mean 651.939496 # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::gmean 463.175500 # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::stdev 388.021967 # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::0-127 77 12.94% 12.94% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::128-255 63 10.59% 23.53% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::256-383 43 7.23% 30.76% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::384-511 44 7.39% 38.15% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::512-639 36 6.05% 44.20% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::640-767 20 3.36% 47.56% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::768-895 27 4.54% 52.10% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::896-1023 34 5.71% 57.82% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::1024-1151 251 42.18% 100.00% # Bytes accessed per row activation

system.mem\_ctrls.bytesPerActivate::total 595 # Bytes accessed per row activation

system.mem\_ctrls.rdPerTurnAround::samples 6 # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::mean 633.500000 # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::gmean 576.792738 # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::stdev 303.535006 # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::320-383 2 33.33% 33.33% # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::576-639 2 33.33% 66.67% # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::704-767 1 16.67% 83.33% # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::1152-1215 1 16.67% 100.00% # Reads before turning the bus around for writes

system.mem\_ctrls.rdPerTurnAround::total 6 # Reads before turning the bus around for writes

system.mem\_ctrls.wrPerTurnAround::samples 6 # Writes before turning the bus around for reads

system.mem\_ctrls.wrPerTurnAround::mean 16 # Writes before turning the bus around for reads

system.mem\_ctrls.wrPerTurnAround::gmean 16.000000 # Writes before turning the bus around for reads

system.mem\_ctrls.wrPerTurnAround::16 6 100.00% 100.00% # Writes before turning the bus around for reads

system.mem\_ctrls.wrPerTurnAround::total 6 # Writes before turning the bus around for reads

system.mem\_ctrls.masterReadBytes::.cpu.inst 20680 # Per-master bytes read from memory

system.mem\_ctrls.masterReadBytes::.cpu.data 5802 # Per-master bytes read from memory

system.mem\_ctrls.masterWriteBytes::.cpu.data 720 # Per-master bytes write to memory

system.mem\_ctrls.masterReadRate::.cpu.inst 55206584.212732218206 # Per-master bytes read from memory rate (Bytes/sec)

system.mem\_ctrls.masterReadRate::.cpu.data 15488810.522353595123 # Per-master bytes read from memory rate (Bytes/sec)

system.mem\_ctrls.masterWriteRate::.cpu.data 1922086.104118336458 # Per-master bytes write to memory rate (Bytes/sec)

system.mem\_ctrls.masterReadAccesses::.cpu.inst 5170 # Per-master read serviced memory accesses

system.mem\_ctrls.masterReadAccesses::.cpu.data 930 # Per-master read serviced memory accesses

system.mem\_ctrls.masterWriteAccesses::.cpu.data 873 # Per-master write serviced memory accesses

system.mem\_ctrls.masterReadTotalLat::.cpu.inst 145678750 # Per-master read total memory access latency

system.mem\_ctrls.masterReadTotalLat::.cpu.data 27156000 # Per-master read total memory access latency

system.mem\_ctrls.masterWriteTotalLat::.cpu.data 4930258000 # Per-master write total memory access latency

system.mem\_ctrls.masterReadAvgLat::.cpu.inst 28177.71 # Per-master read average memory access latency

system.mem\_ctrls.masterReadAvgLat::.cpu.data 29200.00 # Per-master read average memory access latency

system.mem\_ctrls.masterWriteAvgLat::.cpu.data 5647489.12 # Per-master write average memory access latency

system.mem\_ctrls.totQLat 60672250 # Total ticks spent queuing

system.mem\_ctrls.totMemAccLat 172834750 # Total ticks spent from burst creation until serviced by the DRAM

system.mem\_ctrls.totBusLat 29910000 # Total ticks spent in databus transfers

system.mem\_ctrls.avgQLat 10142.47 # Average queueing delay per DRAM burst

system.mem\_ctrls.avgBusLat 5000.00 # Average bus latency per DRAM burst

system.mem\_ctrls.avgMemAccLat 28892.47 # Average memory access latency per DRAM burst

system.mem\_ctrls.avgRdBW 1022.04 # Average DRAM read bandwidth in MiByte/s

system.mem\_ctrls.avgWrBW 16.40 # Average achieved write bandwidth in MiByte/s

system.mem\_ctrls.avgRdBWSys 72.67 # Average system read bandwidth in MiByte/s

system.mem\_ctrls.avgWrBWSys 17.78 # Average system write bandwidth in MiByte/s

system.mem\_ctrls.peakBW 12800.00 # Theoretical peak bandwidth in MiByte/s

system.mem\_ctrls.busUtil 8.11 # Data bus utilization in percentage

system.mem\_ctrls.busUtilRead 7.98 # Data bus utilization in percentage for reads

system.mem\_ctrls.busUtilWrite 0.13 # Data bus utilization in percentage for writes

system.mem\_ctrls.avgRdQLen 1.00 # Average read queue length when enqueuing

system.mem\_ctrls.avgWrQLen 24.57 # Average write queue length when enqueuing

system.mem\_ctrls.readRowHits 5395 # Number of row buffer hits during reads

system.mem\_ctrls.writeRowHits 86 # Number of row buffer hits during writes

system.mem\_ctrls.readRowHitRate 90.19 # Row buffer hit rate for reads

system.mem\_ctrls.writeRowHitRate 67.19 # Row buffer hit rate for writes

system.mem\_ctrls.avgGap 53709.45 # Average gap between requests

system.mem\_ctrls.pageHitRate 89.71 # Row buffer hit rate, read and write combined

system.mem\_ctrls\_0.actEnergy 3591420 # Energy for activate commands per rank (pJ)

system.mem\_ctrls\_0.preEnergy 1905090 # Energy for precharge commands per rank (pJ)

system.mem\_ctrls\_0.readEnergy 36699600 # Energy for read commands per rank (pJ)

system.mem\_ctrls\_0.writeEnergy 354960 # Energy for write commands per rank (pJ)

system.mem\_ctrls\_0.refreshEnergy 29502720.000000 # Energy for refresh commands per rank (pJ)

system.mem\_ctrls\_0.actBackEnergy 70023930 # Energy for active background per rank (pJ)

system.mem\_ctrls\_0.preBackEnergy 900480 # Energy for precharge background per rank (pJ)

system.mem\_ctrls\_0.actPowerDownEnergy 99030660 # Energy for active power-down per rank (pJ)

system.mem\_ctrls\_0.prePowerDownEnergy 581760 # Energy for precharge power-down per rank (pJ)

system.mem\_ctrls\_0.selfRefreshEnergy 0 # Energy for self refresh per rank (pJ)

system.mem\_ctrls\_0.totalEnergy 242590620 # Total energy per rank (pJ)

system.mem\_ctrls\_0.averagePower 647.611194 # Core power per rank (mW)

system.mem\_ctrls\_0.totalIdleTime 218596250 # Total Idle time Per DRAM Rank

system.mem\_ctrls\_0.memoryStateTime::IDLE 390000 # Time in different power states

system.mem\_ctrls\_0.memoryStateTime::REF 12480000 # Time in different power states

system.mem\_ctrls\_0.memoryStateTime::SREF 0 # Time in different power states

system.mem\_ctrls\_0.memoryStateTime::PRE\_PDN 1511250 # Time in different power states

system.mem\_ctrls\_0.memoryStateTime::ACT 143126750 # Time in different power states

system.mem\_ctrls\_0.memoryStateTime::ACT\_PDN 217085000 # Time in different power states

system.mem\_ctrls\_1.actEnergy 671160 # Energy for activate commands per rank (pJ)

system.mem\_ctrls\_1.preEnergy 352935 # Energy for precharge commands per rank (pJ)

system.mem\_ctrls\_1.readEnergy 6004740 # Energy for read commands per rank (pJ)

system.mem\_ctrls\_1.writeEnergy 146160 # Energy for write commands per rank (pJ)

system.mem\_ctrls\_1.refreshEnergy 26429520.000000 # Energy for refresh commands per rank (pJ)

system.mem\_ctrls\_1.actBackEnergy 18122580 # Energy for active background per rank (pJ)

system.mem\_ctrls\_1.preBackEnergy 2078880 # Energy for precharge background per rank (pJ)

system.mem\_ctrls\_1.actPowerDownEnergy 96417210 # Energy for active power-down per rank (pJ)

system.mem\_ctrls\_1.prePowerDownEnergy 31610880 # Energy for precharge power-down per rank (pJ)

system.mem\_ctrls\_1.selfRefreshEnergy 11323500 # Energy for self refresh per rank (pJ)

system.mem\_ctrls\_1.totalEnergy 193157565 # Total energy per rank (pJ)

system.mem\_ctrls\_1.averagePower 515.646488 # Core power per rank (mW)

system.mem\_ctrls\_1.totalIdleTime 327659250 # Total Idle time Per DRAM Rank

system.mem\_ctrls\_1.memoryStateTime::IDLE 4123000 # Time in different power states

system.mem\_ctrls\_1.memoryStateTime::REF 11180000 # Time in different power states

system.mem\_ctrls\_1.memoryStateTime::SREF 35676750 # Time in different power states

system.mem\_ctrls\_1.memoryStateTime::PRE\_PDN 82330000 # Time in different power states

system.mem\_ctrls\_1.memoryStateTime::ACT 29855500 # Time in different power states

system.mem\_ctrls\_1.memoryStateTime::ACT\_PDN 211427750 # Time in different power states

system.pwrStateResidencyTicks::UNDEFINED 374593000 # Cumulative time (in ticks) in various power states

system.cpu\_voltage\_domain.voltage 1 # Voltage in Volts

system.cpu\_clk\_domain.clock 500 # Clock period in ticks

system.cpu.dtb.fetch\_hits 0 # ITB hits

system.cpu.dtb.fetch\_misses 0 # ITB misses

system.cpu.dtb.fetch\_acv 0 # ITB acv

system.cpu.dtb.fetch\_accesses 0 # ITB accesses

system.cpu.dtb.read\_hits 930 # DTB read hits

system.cpu.dtb.read\_misses 7 # DTB read misses

system.cpu.dtb.read\_acv 0 # DTB read access violations

system.cpu.dtb.read\_accesses 937 # DTB read accesses

system.cpu.dtb.write\_hits 873 # DTB write hits

system.cpu.dtb.write\_misses 5 # DTB write misses

system.cpu.dtb.write\_acv 0 # DTB write access violations

system.cpu.dtb.write\_accesses 878 # DTB write accesses

system.cpu.dtb.data\_hits 1803 # DTB hits

system.cpu.dtb.data\_misses 12 # DTB misses

system.cpu.dtb.data\_acv 0 # DTB access violations

system.cpu.dtb.data\_accesses 1815 # DTB accesses

system.cpu.itb.fetch\_hits 5170 # ITB hits

system.cpu.itb.fetch\_misses 18 # ITB misses

system.cpu.itb.fetch\_acv 0 # ITB acv

system.cpu.itb.fetch\_accesses 5188 # ITB accesses

system.cpu.itb.read\_hits 0 # DTB read hits

system.cpu.itb.read\_misses 0 # DTB read misses

system.cpu.itb.read\_acv 0 # DTB read access violations

system.cpu.itb.read\_accesses 0 # DTB read accesses

system.cpu.itb.write\_hits 0 # DTB write hits

system.cpu.itb.write\_misses 0 # DTB write misses

system.cpu.itb.write\_acv 0 # DTB write access violations

system.cpu.itb.write\_accesses 0 # DTB write accesses

system.cpu.itb.data\_hits 0 # DTB hits

system.cpu.itb.data\_misses 0 # DTB misses

system.cpu.itb.data\_acv 0 # DTB access violations

system.cpu.itb.data\_accesses 0 # DTB accesses

system.cpu.workload.numSyscalls 11 # Number of system calls

system.cpu.pwrStateResidencyTicks::ON 374593000 # Cumulative time (in ticks) in various power states

system.cpu.numCycles 749186 # 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.committedInsts 5157 # Number of instructions committed

system.cpu.committedOps 5157 # Number of ops (including micro ops) committed

system.cpu.num\_int\_alu\_accesses 4848 # Number of integer alu accesses

system.cpu.num\_fp\_alu\_accesses 45 # Number of float alu accesses

system.cpu.num\_vec\_alu\_accesses 0 # Number of vector alu accesses

system.cpu.num\_func\_calls 207 # number of times a function call or return occured

system.cpu.num\_conditional\_control\_insts 662 # number of instructions that are conditional controls

system.cpu.num\_int\_insts 4848 # number of integer instructions

system.cpu.num\_fp\_insts 45 # number of float instructions

system.cpu.num\_vec\_insts 0 # number of vector instructions

system.cpu.num\_int\_register\_reads 6520 # number of times the integer registers were read

system.cpu.num\_int\_register\_writes 3202 # number of times the integer registers were written

system.cpu.num\_fp\_register\_reads 33 # number of times the floating registers were read

system.cpu.num\_fp\_register\_writes 22 # number of times the floating registers were written

system.cpu.num\_vec\_register\_reads 0 # number of times the vector registers were read

system.cpu.num\_vec\_register\_writes 0 # number of times the vector registers were written

system.cpu.num\_mem\_refs 1815 # number of memory refs

system.cpu.num\_load\_insts 937 # Number of load instructions

system.cpu.num\_store\_insts 878 # Number of store instructions

system.cpu.num\_idle\_cycles 0 # Number of idle cycles

system.cpu.num\_busy\_cycles 749186 # Number of busy cycles

system.cpu.not\_idle\_fraction 1 # Percentage of non-idle cycles

system.cpu.idle\_fraction 0 # Percentage of idle cycles

system.cpu.Branches 951 # Number of branches fetched

system.cpu.op\_class::No\_OpClass 206 3.99% 3.99% # Class of executed instruction

system.cpu.op\_class::IntAlu 3110 60.17% 64.15% # Class of executed instruction

system.cpu.op\_class::IntMult 3 0.06% 64.21% # Class of executed instruction

system.cpu.op\_class::IntDiv 0 0.00% 64.21% # Class of executed instruction

system.cpu.op\_class::FloatAdd 12 0.23% 64.44% # Class of executed instruction

system.cpu.op\_class::FloatCmp 0 0.00% 64.44% # Class of executed instruction

system.cpu.op\_class::FloatCvt 8 0.15% 64.60% # Class of executed instruction

system.cpu.op\_class::FloatMult 0 0.00% 64.60% # Class of executed instruction

system.cpu.op\_class::FloatMultAcc 0 0.00% 64.60% # Class of executed instruction

system.cpu.op\_class::FloatDiv 2 0.04% 64.64% # Class of executed instruction

system.cpu.op\_class::FloatMisc 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::FloatSqrt 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdAdd 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdAddAcc 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdAlu 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdCmp 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdCvt 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdMisc 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdMult 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdMultAcc 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdShift 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdShiftAcc 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdSqrt 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatAdd 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatAlu 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatCmp 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatCvt 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatDiv 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatMisc 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatMult 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatMultAcc 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdFloatSqrt 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdAes 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdAesMix 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdSha1Hash 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdSha1Hash2 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdSha256Hash 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdSha256Hash2 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdShaSigma2 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::SimdShaSigma3 0 0.00% 64.64% # Class of executed instruction

system.cpu.op\_class::MemRead 943 18.24% 82.88% # Class of executed instruction

system.cpu.op\_class::MemWrite 862 16.68% 99.56% # Class of executed instruction

system.cpu.op\_class::FloatMemRead 6 0.12% 99.67% # Class of executed instruction

system.cpu.op\_class::FloatMemWrite 17 0.33% 100.00% # Class of executed instruction

system.cpu.op\_class::IprAccess 0 0.00% 100.00% # Class of executed instruction

system.cpu.op\_class::InstPrefetch 0 0.00% 100.00% # Class of executed instruction

system.cpu.op\_class::total 5169 # Class of executed instruction

system.membus.snoop\_filter.tot\_requests 0 # Total number of requests made to the snoop filter.

system.membus.snoop\_filter.hit\_single\_requests 0 # Number of requests hitting in the snoop filter with a single holder of the requested data.

system.membus.snoop\_filter.hit\_multi\_requests 0 # Number of requests hitting in the snoop filter with multiple (>1) holders of the requested data.

system.membus.snoop\_filter.tot\_snoops 0 # Total number of snoops made to the snoop filter.

system.membus.snoop\_filter.hit\_single\_snoops 0 # Number of snoops hitting in the snoop filter with a single holder of the requested data.

system.membus.snoop\_filter.hit\_multi\_snoops 0 # Number of snoops hitting in the snoop filter with multiple (>1) holders of the requested data.

system.membus.pwrStateResidencyTicks::UNDEFINED 374593000 # Cumulative time (in ticks) in various power states

system.membus.trans\_dist::ReadReq 6088 # Transaction distribution

system.membus.trans\_dist::ReadResp 6099 # Transaction distribution

system.membus.trans\_dist::WriteReq 861 # Transaction distribution

system.membus.trans\_dist::WriteResp 861 # Transaction distribution

system.membus.trans\_dist::LoadLockedReq 12 # Transaction distribution

system.membus.trans\_dist::StoreCondReq 12 # Transaction distribution

system.membus.trans\_dist::StoreCondResp 12 # Transaction distribution

system.membus.pkt\_count\_system.cpu.icache\_port::system.mem\_ctrls.port 10339 # Packet count per connected master and slave (bytes)

system.membus.pkt\_count\_system.cpu.dcache\_port::system.mem\_ctrls.port 3606 # Packet count per connected master and slave (bytes)

system.membus.pkt\_count::total 13945 # Packet count per connected master and slave (bytes)

system.membus.pkt\_size\_system.cpu.icache\_port::system.mem\_ctrls.port 20676 # Cumulative packet size per connected master and slave (bytes)

system.membus.pkt\_size\_system.cpu.dcache\_port::system.mem\_ctrls.port 13201 # Cumulative packet size per connected master and slave (bytes)

system.membus.pkt\_size::total 33877 # Cumulative packet size per connected master and slave (bytes)

system.membus.snoops 0 # Total snoops (count)

system.membus.snoopTraffic 0 # Total snoop traffic (bytes)

system.membus.snoop\_fanout::samples 6973 # 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 6973 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 6973 # Request fanout histogram

system.membus.reqLayer0.occupancy 7846000 # Layer occupancy (ticks)

system.membus.reqLayer0.utilization 2.1 # Layer utilization (%)

system.membus.respLayer1.occupancy 11738000 # Layer occupancy (ticks)

system.membus.respLayer1.utilization 3.1 # Layer utilization (%)

system.membus.respLayer2.occupancy 2993000 # Layer occupancy (ticks)

system.membus.respLayer2.utilization 0.8 # Layer utilization (%)

---------- End Simulation Statistics ----------