High Performance Computing (HPC) MCQs [set-12]

276. the BlockPerGrid and ThreadPerBlock parameters are related to the _____ model supported by CUDA.

    A. host

    B. kernel

    C. thread abstraction

    D. none of above

Answer: C

---

277. _____ is Callable from the device only

    A. _host_

    B. __global__

    C. _device_

    D. none of above

Answer: C

---

278. _____ is Callable from the host

    A. _host_

    B. __global__

    C. _device_

    D. none of above

Answer: B

---

279. _____ is Callable from the host

    A. _host_

    B. __global__

    C. _device_

    D. none of above

Answer: A

---

280. Cache memory works on the principle of

    A. locality of data

B. locality of memory

C. locality of reference

D. locality of reference & memory

Answer: C

---

281. SIMD represents an organization that _____.

A.   refers to a computer system capable of processing   several programs at the same time.

B.   represents organization of single computer containing   a control unit, processor unit and a memory unit.

C.   includes many processing units under the supervision   of a common control unit

D.   none of the above.

Answer: C

---

282. Select different aspects of parallelism

A. server applications utilize high aggregate network bandwidth

B. scientific applications typically utilize high processing and memory system performance

C. all of the above

D. data intensive applications utilize high aggregate throughput

Answer: D

---

283. Select correct answer: DRAM access times have only improved at the rate of roughly ____ % per year over this interval.

A. 20

B. 40

C. 50

D. 10

Answer: A

---

284. Analyze, if the second instruction has data dependencies with the first, but the third instruction does not, the first

A. out-of-order

B. both of the above

C. none of the above

D. in-order

Answer: B

---

285. Select the parameters which captures Memory system performance

A. bandwidth

B. both of the above

C. none of the above

D. latency

Answer: C

286. Consider the example of a fire- hose. If the water comes out of the hose five seconds after the hydrant is turned on. Once the water starts flowing, if the hydrant delivers water at the rate of 15 gallons/second. Analyze the bandwidth and latency.

A. bandwidth: 5*15 gallons/second and latency: 15 seconds

B. bandwidth: 15 gallons/second and latency: 5 seconds

C. bandwidth: 3 gallons/second and latency: 5 seconds

D. bandwidth: 5 gallons/second and latency: 15 seconds

Answer: C

287. Select alternate approaches for Hiding Memory Latency

A. multithreading

B. spatial locality

C. all of the above

D. prefeching

Answer: D

288. Select which clause in OpenMP is similar to the private, except values of variables are initialized to corresponding values before the

A. firstprivate

B. shared

C. all of the above

D. private

Answer: B

289. Which of the following projects of Blue Gene is not in development?

A. blue gene / m

B. blue gene / p

C. blue gene / q

D. blue gene / l

290. A decomposition can be illustrated in the form of a directed graph with nodes corresponding to tasks and edges indicating that the result of one task is required for processing the next. Such graph is called as

A. task dependency graph

B. task interaction graph

C. process interaction graph

D. process dependency graph

Answer: B

291. In which case, the owner computes rule implies that the output is computed by the process to which the output data is assigned?

A. output data decomposition

B. both of the above

C. none of the above

D. input data decomposition

Answer: B

292. Select relevant task characteristics from the options given below:

A. task sizes

B. size of data associated with tasks

C. all of the above

D. task generation

Answer: D

293. A classic example of game playing - each 15 puzzle board is the example of

A. dynamic task generation

B. none of the above

C. all of the above

D. static task generation

Answer: B

294. Which model is equally suitable to shared-address- space or message- passing paradigms, since the interaction is naturally two ways.

A. master slave model

B. data parallel model

C. producer consumer or pipeline model

D. work pool model

Answer: B

295. In which type of the model, tasks are dynamically assigned to the processes for balancing the load?

A. master slave model

B. data parallel model

C. producer consumer or pipeline model

D. work pool model

Answer: A

296. Select the appropriate stage of GPU Pipeline which receives commands from CPU and also pulls geometry information from system memory.

A. vertex processing

B. memory interface

C. host interface

D. pixel processing

Answer: D

297. In all-to-one reduction, data items must be combined piece-wise and the result made available at a   processor.

A. last

B. target

C. n-1

D. first

Answer: C

298. Analyze the Cost of Scatter and Gather .

A. t=ts log p + tw m (p-1)

B. t=ts log p - tw m (p-1)

C. t=tw log p - ts m (p-1)

D. t=tw log p + ts m (p-1)

Answer: B

299. All-to-all personalized communication is also known as   .

A. total exchange

B. both of the above

C. none of the above

D. partial exchange

Answer: B

300. All-to-all personalized communication is performed independently in each row with clustered messages of size on a mesh.

A. p

B. m?p

C. p?m

D. m

Answer: C