IHPCSS18-MPI-Quiz Total Questions: 11

Most Correct Answers: #5 Least Correct Answers: #6

1. What is MPI?

42/53 (A) the Message-Passing Interface

0/53 (B) the Miami Police Investigators

0/53 (C) the Minimal Polynomial Instantiation

0/53 (D) the Millipede Podiatry Institution

7/53 (E) a library for distributed-memory parallel programming

2. To run an MPI program requires

8/53 (A) special compilers

31/53 (B) special libraries

1/53 (C) a special parallel computer

0/53 (D) a special operating system

3. After initiating an MPI program with "mpirun -n 4 ./mympiprogram", what does the call to MPI_Init do?

18/53 (A) create the 4 parallel processes

3/53 (B) start program execution

17/53 (C) enable the 4 independent programs subsequently to communicate with each other

3/53 (D) create the 4 parallel threads

4. If you call MPI receive and there is no incoming message, what happens?

2/53 (A) the Recv fails with an error

4/53 (B) the Recv reports that there is no incoming message

25/53 (C) the Recv waits until a message arrives (potentially waiting forever)

11/53 (D) the Recv times out after some system-specified delay (e.g. a few minutes)

5. If you call MPI synchronous send (MPI_Ssend) and there is no receive posted

1/53 A the message disappears

5/53 B the send fails

31/53 C the send waits until a receive is posted (potentially waiting forever)

3/53 D the message is stored and delivered later on (if possible)

2/53 E the send times out after some system-specified delay (e.g. a few minutes)

6. If you call MPI asynchronous send (MPI_Bsend) and there is no receive posted

3/53 A the message disappears

3/53 B the send fails

2/53 C the send waits until a receive is posted (potentially waiting forever)

16/53 D the message is stored and delivered later on (if possible)

1/53 E the send times out after some system-specified delay (e.g. a few minutes)

28/53 F the program continues execution regardless of whether the message is received

7. The MPI receive routine has a parameter "count" - what does this mean?

3/53 A the size of the incoming message (in bytes)

22/53 B the size of the incoming message (in items, e.g. integers)

4/53 C the size available for storing the message (in bytes)

14/53 D the size available for storing the message (in items, e.g. integers)

8. What happens if the incoming message is larger than "count"

21/53 A the receive fails with an error

0/53 B the receive reports zero data received

3/53 C the message writes beyond the end of the available storage

19/53 D only the first "count" items are received

9. What happens if the incoming message (of size "n") is smaller than "count"

14/53 A the receive fails with an error

1/53 B the receive reports zero data received

14/53 C the first "n" items are received

14/53 D the first "n" items are received and the rest of the storage is zeroed

10. How is the actual size of the incoming message reported?

8/53 A the value of "count" in the receive is updated

4/53 B MPI cannot tell you

25/53 C it is stored in the Status parameter

6/53 D via the associated tag

11. What would you most like to learn about MPI and/or OpenMP today and tomorrow? Please type your (anonymous!) comments here and I will look at them after the coffee break.

Anon anon00eacdd2c6694de0

Nonblocking, Topology and derived data type

Anon anon06f9c090a98c44d9

* Antipatterns/What to avoid/typical pitfalls?
* How is MPI set up under the hood/how is the network communication created/how do MPI-hosts find each other?

Anon anon0adf6f5435554950

Actually, for a non-professional programmer, I don't know so well about the MPI/OpenMP library. May I ask you to give a short practical programming tutorial?

Anon anon0d6437d2c2dc49de

how to use OpenMP
effective use of MPI

Anon anon155035a612234513

Hybrid MPI + OpenMP. Working with graph topologies.

Anon anon1560bc76317c4f0b

different uses for synchronous versus asynchronous send

Anon anon16af691f77a24579

Basic use cases. Best practices. Common pitfalls/how to shoot yourself in the feet/etc.

Anon anon2af47d851cc443b1

how to implement master slave paradigms using the built in functions of openmp and common communication pitfalls in mpi and how to spot/fix them.

Anon anon2e0d85474040431b

how to write MPI

Anon anon3838953a2ac0477c

Graph search algorithm parallization

Anon anon462540db3be44cf4

Open MPI: remote memory access, using user-defined types and topologies.

OpenMP: optimizing cache access performance.

Anon anon480266cff147429f

I want to learn how to use MPI/OpenMP hybrid effectively.

Anon anon55de40a134a24140

The foundations, with simple examples of main "commands".

Anon anon6ace8811ad6341e1

I would like to learn MPI and OpenMP A to Z.

Anon anon6f8fdb4036924642

About OpenMP with specific examples

Anon anon71e8e1c5e04b4ed7

What is MPI/OpenMP, how to write MPI/OpenMP, write examples with MPI/OpenMP,

Anon anon89f0e01ba0e9440c

When to use MPI when to use OpenMP

Anon anon8c4ba8f6cb2f4b57

Give a real world problem that we can solve with MPI

Anon anon8c9ac7f694f04a92

I want to be good enough to create projects from scratch.

Anon anon9256e247bc4d4515

Load balancing strategies for MPI

Anon anon92d54ef5f6df44a9

Parallel IO

Anon anon9539a0bba7b6480d

going through examples of MPI and/or OpenMPI to learn how to develop my own examples

Anon anon97140f632af5424c

Basic MPI and OpenMP (and what can we do with MPI 3.0)

Anon anon9a47e12459fc44d9

how to tweak an existing open source code to incorporate MPI capability

Anon anon9e6e3636d9c04358

I would like to learn the basis about MPI.

Anon anona328d31fb96d42af

How difficult is to take a serial code and with some (or a lot) of OpenMP/MPI commands can be converted into a parallel code.

Anon anona6ae1ff6e9c64095

Efficiently combine MPI with OpenMP to prevent OpenMP threads from accessing 'far away' memory

Anon anonaa7f9e2f8bcc437e

point-to-point communication

Anon anonb64e4242bcdb4360

How to handle complex data structures using MPI, not just simple arrays.

Anon anonb6747f844a5f40a3

Refresh my knowledge from 2 years ago and learn new stuff from MPI 3.0.

I don't know much about OpenMP, so I want to learn all I can.

Anon anonb8d46fdcabcc4cc3

I want to learn how to implement the parallelized program with coding the actual C language code.

Anon anoncfb5fd0a4a984e1b

Hybrid programming. When MPI is best versus when OpenMP is best for a code.

Anon anonda8c304ea59f43dd

MPI and/or OpenMP from scratch (i.e. for beginners)

Anon anondb2af6b6331240e2

How to combine MPI and OpenMP to make efficient parallel codes

Anon anone3ad752c77094b74

Task farm, load distribution, decomposition

Anon anone3c725d2bbf84848

Hybrid/combination of implementation MPI and OpenMP at the program

Anon anonf042179814fd4308

MPI get and put; parallel MPI IO