

Quiz Questions for Module 21

1. OpenACC can be used to parallelize

- a. C and C++ only
- b. C, C++, and C#
- c. C, C++, and Java
- d. C, C++, and FORTRAN

Answer: D.

Explanation: See Lecture slides.

2. In comparing OpenACC and CUDA, which of the following is not a valid comparison?

- a. copyin(...) in OpenACC is like cudaMemcpy(...) in CUDA
- b. #barrier in OpenACC is like __syncthreads() in CUDA
- c. Gangs in OpenACC are like thread blocks in CUDA
- d. Workers in OpenACC are like threads in CUDA

Answer: B.

Explanation: There is no #barrier in OpenACC

3. In the following snippet of code, how many times will foo() and bar() be executed?

```
#pragma acc parallel num_gangs(64)
{
    foo();
    #pragma acc loop gang
    for (int i=0; i<n; i++) {
        bar(i);
    }
}
```

- a. foo() once, bar() n times
- b. foo() 64 times, bar() n times
- c. foo() once, bar() 64*n times
- d. foo() 64 times, bar() 64*n times

Answer: B.

Explanation: foo() is in the parallel construct so will be redundantly executed by all 64 gang leads. bar() is in gang loop constructs, which will be collaboratively executed by all the workers in all gangs but not redundantly so only up to the number of iterations.