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#include "mpi.h"

#include <ga.h>

#include <macdecls.h>

#include "gridpack/math/math.hpp"

#include "gridpack/applications/contingency_analysis/ca_driver.hpp"

// Calling program for the contingency_analysis applications

int
main(int argc, char **argv)
{
    // Initialize MPI libraries
    int ierr = MPI_Init(&argc, &argv);

    GA_Initialize();
    int stack = 200000, heap = 200000;
    MA_init(C_DBL, stack, heap);

    // Intialize Math libraries
    gridpack::math::Initialize();

    gridpack::contingency_analysis::CADriver driver;
    driver.execute(argc, argv);

    GA_Terminate();

    // Terminate Math libraries
    gridpack::math::Finalize();
    // Clean up MPI libraries
    ierr = MPI_Finalize();
    //return ierr;
}
```