MPI Programming Tutorial

1.A. Getting Started

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Hello World!

```
#include <mpi.h>
#include <stdio.h>

int main(int argc, char *argv[]) {
        int size, rank, len;
        char name[MPI_MAX_PROCESSOR_NAME];

        int provided;
        MPI_Init_thread(&argc, &argv, MPI_THREAD_MULTIPLE, &provided);

        MPI_Comm_size(MPI_COMM_WORLD, &size);
        MPI_Comm_rank(MPI_COMM_WORLD, &rank);
        MPI_Get_processor_name(name, &len);

        printf("Hello, World! I am process %d of %d on %s.\n", rank, size, name);

        MPI_Finalize();
        return 0;
}
```

https://github.com/erdc/mpi4py/blob/master/demo/helloworld.c

Hello World!

```
#if defined(MPI_VERSION) && (MPI_VERSION >= 2)
      int provided;
      MPI_Init_thread(&argc, &argv, MPI_THREAD_MULTIPLE, &provided);
#else
      MPI_Init(&argc, &argv);
#endif
```

https://github.com/erdc/mpi4py/blob/master/demo/helloworld.c

Message Aggregation

References

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[6] http://www.mpi-forum.org/docs/mpi-11-html