Group number: 4

Group member: Robert Branson, Alex Mckim, Danqi Qu

Q3.

```
[qudanqi@dev-intel18 ica4]$ gcc hello.c
[qudanqi@dev-intel18 ica4]$ ./a.out
Hello, World!
[qudanqi@dev-intel18 ica4]$
```

Q4.

```
[qudanqi@dev-intel18 ica4]$ mpiexec -n 4 ./a..out
Hello, World!
Hello, World!
Hello, World!
Hello, World!
[qudanqi@dev-intel18 ica4]$
```

It outputs four “Hello world”, because we use four cores and each core prints one.

Q5.

In serial,

```
[qudanqi@dev-intel18 ica4]$ ./a.out
Hello, before!
Hello, World!
Hello, after!
[qudanqi@dev-intel18 ica4]$
```

In parallel,

```
[qudanqi@dev-intel18 ica4]$ mpiexec -n 4 ./a.out
Hello, before!
Hello, before!
Hello, before!
Hello, before!
Hello, World!
Hello, World!
Hello, World!
Hello, World!
Hello, after!
Hello, after!
Hello, after!
Hello, after!
```

In serial, the processors just execute every “print” command one time.

With mpi involved, every processor executes the “print” one time and there are four of them.

Q6.

2.3 2.4 2.5

Please see the attached code.