Exercise Instructions for students:

1. Follow the instructor directions
    a. Download: Slides, Video, and code
    b. Before continuing on the next exercises make sure you understand the provided code and you are able to compile and run it
2. Do answer Sample Assessment question to evaluate your basic understanding of learning objectives

Sample Exercise:

1. Rewrite provided code provided so instead of using only the neighbor to the North, South, East, and West uses also the neighbor

NW	North	NE
West	Center	East
SW	South	SE

2. Use the function MPI_Wtime() to measure execution times of different loops and/or functions on the code. Example

```
double start;
double end;
start = omp_get_wtime();
... work to be timed ...
end = omp_get_wtime();
printf(~Work took %f seconds\n~, end - start);
```

3. Change the number of OpenMP threads used and obtain runtimes of sequential code (also provided) vs. distributed code using those different process
   Create a table and graphs to study execution.

Sequential	Execution time
OpenMP 1 Thread	
OpenMP 2 Threads	
….	

Do the difference execution times for different threads match your expectation? What happens if you use too many threads (“too many threads” can be 32, 64, …)?