

## Readme

you can use the `--oversubscribe` option. This option tells Open MPI to allow more processes than available slots:

for mpi:

setup :

```
$ sudo apt-get update
```

```
$ sudo apt-get upgrade
```

```
$ sudo apt-get install libopenmpi-dev
```

```
$ sudo apt-get install openmpi-bin
```

```
mpicc --version
```

```
mpiexec --version
```

Then execute the program for `sort_all.c`

```
mpicc sort_all.c -o sortout
```

```
mpiexec --oversubscribe -np 4 ./sortout
```

Here is how it will execute

```
rakesh@pa2:~/Desktop$ mpiexec -oversubscribe -np 6 ./sortout
Unsorted: 33 36 27 15 43 35 36 42 49 21 12 27 40 9 13 26 40 26 22 36 11 18 17 29 32 30 12 23 17 35 29 2 22 8 19 17 43 6 11 42
29 23 21 19 34 37 48 24 15 20
Subarray 0: 15 27 33 35 36 36 42 43 49
Subarray 1: 9 12 13 21 26 26 27 40 40
Subarray 2: 11 17 18 22 29 30 32 36
Subarray 3: 2 8 12 17 22 23 29 35
Subarray 4: 6 11 17 19 23 29 42 43
Subarray 5: 15 19 20 21 24 34 37 48
Sorted: 2 6 8 9 11 11 12 12 13 15 15 17 17 17 18 19 19 20 21 21 22 22 23 23 24 26 26 27 27 29 29 29 30 32 33 34 35 35 36 36
36 37 40 40 42 42 43 43 48 49
```

Execute the program `stencil.c`

```
mpicc stencil_all.c -o stencilout
```

```
mpiexec --oversubscribe -np 1 stencilout 100 10 50 1 1
```

Here is how it will execute

```
rakesh@pa2:~/Desktop$ mpiexec --oversubscribe -np 1 stencildemo 100 10 50 1 1
[0] last heat: 996.662928 time: 0.030024
```

