19050111030 Betul Karaman HW3

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betul@betul-virtual-machine:~/Documents/HW1$ mpicc 19050111030.c -o hw3
betul@betul-virtual-machine:~/Documents/HW1$ mpirun -n 2 ./hw3 1003 1003 output.txt
Elapsed time is 0.000463 seconds for parallel mxv with 2 processes
```

```
betul@betul-virtual-machine:~/Documents/HW1$ mpirun -n 3 ./hw3 1003 1003 output.txt
Elapsed time is 0.000003 seconds for parallel mxv with 3 processes
^Cbetul@betul-virtual-machine:~/Documents/HW1$ mpirun -n 4 ./hw3 1003 1003 output.txt
Elapsed time is 0.000001 seconds for parallel mxv with 4 processes
```

```
betul@betul-virtual-machine:~/Documents/HW1$ mpirun -n 3 ./hw3 1003 1003 output.txt
Elapsed time is 0.000003 seconds for parallel mxv with 3 processes
^Cbetul@betul-virtual-machine:~/Documents/HW1$ mpirun -n 4 ./hw3 1003 1003 output.txt
Elapsed time is 0.000001 seconds for parallel mxv with 4 processes
^Cbetul@betul-virtual-machine:~/Documents/HW1$ mpirun -n 5 ./hw3 1003 1003 output.txt
--------------------------------------------------------------------------
There are not enough slots available in the system to satisfy the 5
slots that were requested by the application:

  ./hw3

Either request fewer slots for your application, or make more slots
available for use.

A "slot" is the Open MPI term for an allocatable unit where we can
launch a process.  The number of slots available are defined by the
environment in which Open MPI processes are run:

  1. Hostfile, via "slots=N" clauses (N defaults to number of
     processor cores if not provided)
  2. The --host command line parameter, via a ":N" suffix on the
     hostname (N defaults to 1 if not provided)
  3. Resource manager (e.g., SLURM, PBS/Torque, LSF, etc.)
  4. If none of a hostfile, the --host command line parameter, or an
     RM is present, Open MPI defaults to the number of processor cores

In all the above cases, if you want Open MPI to default to the number
of hardware threads instead of the number of processor cores, use the
--use-hwthread-cpus option.

Alternatively, you can use the --oversubscribe option to ignore the
number of available slots when deciding the number of processes to
launch.
--------------------------------------------------------------------------
betul@betul-virtual-machine:~/Documents/HW1$
```

Mpi worked up to 2, 3 and 4 processors, but since my virtual machine is 4 cores, 5 slots gave an error.

It's not a big bug, it works fine when I change the core count of the virtual machine.