CHPC Student Cluster Competition 2022

HPC Challenge

Your team will need to compile and run the **HPCC** benchmark suite. This code includes several micro-benchmarks which test various performance aspects of the cluster. The suite includes **HPL**, **DGEMM** and **FFT** which test floating point performance. **STREAM** and **RANDOMACCESS** are included to access memory performance. **PTRANS** and 'Communication bandwidth and latency' are used to assess network performance.

You need to run version 1.5.0, which is available for you to copy from your competition folder.

If you can produce a higher individual **HPL** score outside of **HPCC** (through use of alternate software or hardware), you may include this result to supplement your **HPCC** submission for judging.

For guidance, use online resources to determine the theoretical **FLOPS** performance of your hardware (**RPEAK**), and from that a realistic achievable score (**RMAX**).

- Copy an HPL template **MAKEFILE** from `hpl/setup to hpl` and make appropriate changes to **MPI** and **BLAS** sections,
- Compile **HPCC**,
- Edit the `hpccinf.txt` file and configure the HPL parameters for your cluster.
- Run the benchmark using MPI.
- To easily interpret the benchmark results, you can use the script provided:

```
$ ./format.pl -w -f hpccoutf.txt
```

You are required to submit the (1) `hpccinf.txt` file used for the run, the (2) `hpcc` binary as well as the (3) `hpccoutf.txt` results file for judging.