

Serial optimization

Building a program

Pi directory

1. Build the program

```
make
make debug
```

2. Review optimization report

```
less Release/pi_serial.optrpt
```

3. Profiling with Allinea map

```
map Release/pi_serial
```

4. Compare profile with the debug version

5. Using vtune

```
bash /opt/intel/vtune-amplifier_xe/amplxe-vars.sh
amplxe-cl -collect Release/pi_serial < input.txt
amplxe-gui
```

F90__matrix-multiply

Perform performance analysis of code

What is the major bottleneck?

CPP__matrix-multiply

Same as fortran with index calculation in a 1D array

CPP__boost__matrix__multiply

Same as Fortran 90 but with `boost::multiarray`