PH510: Advanced Computational Physics: Parallel Performance: Assignment 1

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Github Class Repository

https://github.com/ktallett/advanced_computational_physics.git

Code for task to be found at:

https://github.com/ktallett/advanced_computational_physics/blob/93f379acec83b33437f077b730bebee83b92b3

Code, Job Script, and Outputs to be found on WeeArchie at:

/users/skb19187/ph510/as1

Description of task

Using the wee archie parallel computer to parallel compute pi using the mid-point integral method.

Showing number of cores, time taken and found value of Pi

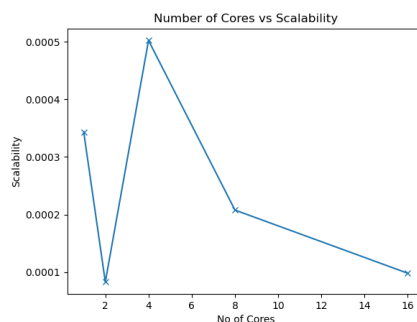| No of Cores	Time Taken	Pi Value
1	3.433228e-05 s	3.14159265358977
2	0.000166 s	3.14159265358990
4	0.002008 s.	3.14159265358988
8	0.001662 s	3.14159265358987
16	0.001570 s	3.14159265358987

Figure 1: Number of Cores vs Scalability

Where scalability was calculated using $S = \frac{t}{N}$