CPA Lab-Report
Lab 2 Prime Numbers

Simon Birrer, Dominic Schürmann

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Partners:	Simon Birrer
	Dominic Schümann
Instructor:	Professor Smith

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1 Biggest prime storable in 8 bytes

The Source for the solution is in the file *primo_grande.c*

1.1 Compiling without OpenMP

To use the program in both ways, either with or without OpenMP , we used the preproccessor directives. Now the compiler decides upon the arguments if the code will use OpenMP or not.

ToDo insert code sample

1.2 Time measurement of parallelized version

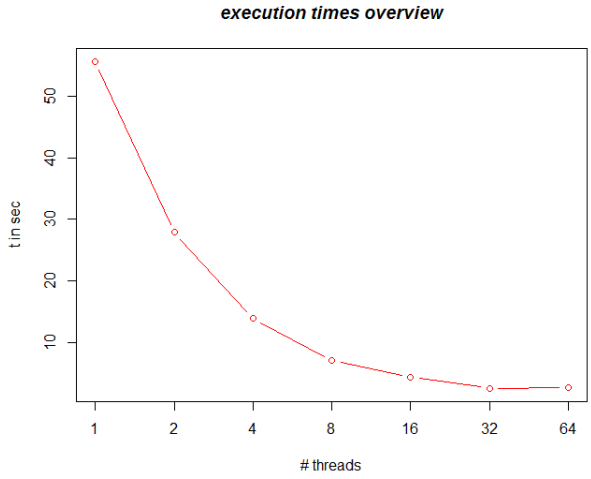

Figure 1: execution times for exercise 1.2

In figure 1 are the measured times of executing the program with different numbers of threads using kahan.

Since a node of kahan has 32 cores, the execution with 32 threads was the fastest. In addition the performance decreases if the number of threads will be increased. This is shown in figure 1 and the overhead is even more visible in figure 2 .

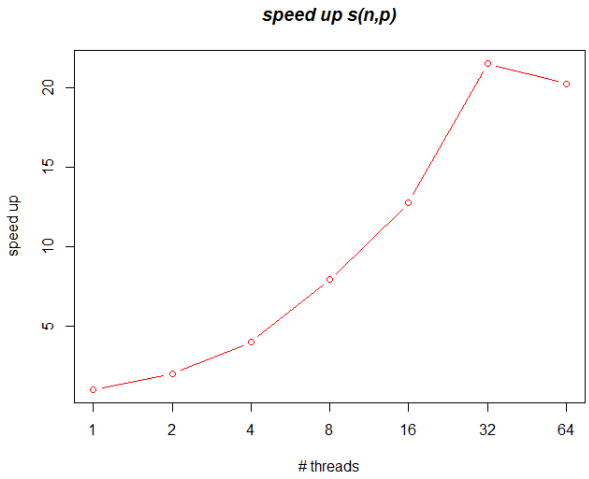

Figure 2: speed up for exercise 1.2

2 Count primes in a range

The Source for the solution of exercise 2.1 is in the file *primo_numeros_1.c* and for exercise 2.2 in file *primo_numeros_2.c*

2.1 Exercise 1 with reduction clause

2.1.1 scheduling distribution

- static 0, without chunk
- static 1, with chunk
- dynamic

2.2 Exercise 2 printing workload