ER01-quicksort-Report

Introduction

Method

We used the algorithm from the link: http://mescal.imag.fr/membres/arnaud.legrand/teaching/2013/M2R_EP_archive_quicksort.tgz

First, we used the following machine: Dell Latitude E6400, with 4 GB RAM and two cores.

Results

Loading the measurements, first for 10 threads, then for 2 and 4, for the same data.

```
## Warning: package 'ggplot2' was built under R version 3.2.1
```

Compute the average execution time for each size and type.

```
library(plyr)
```

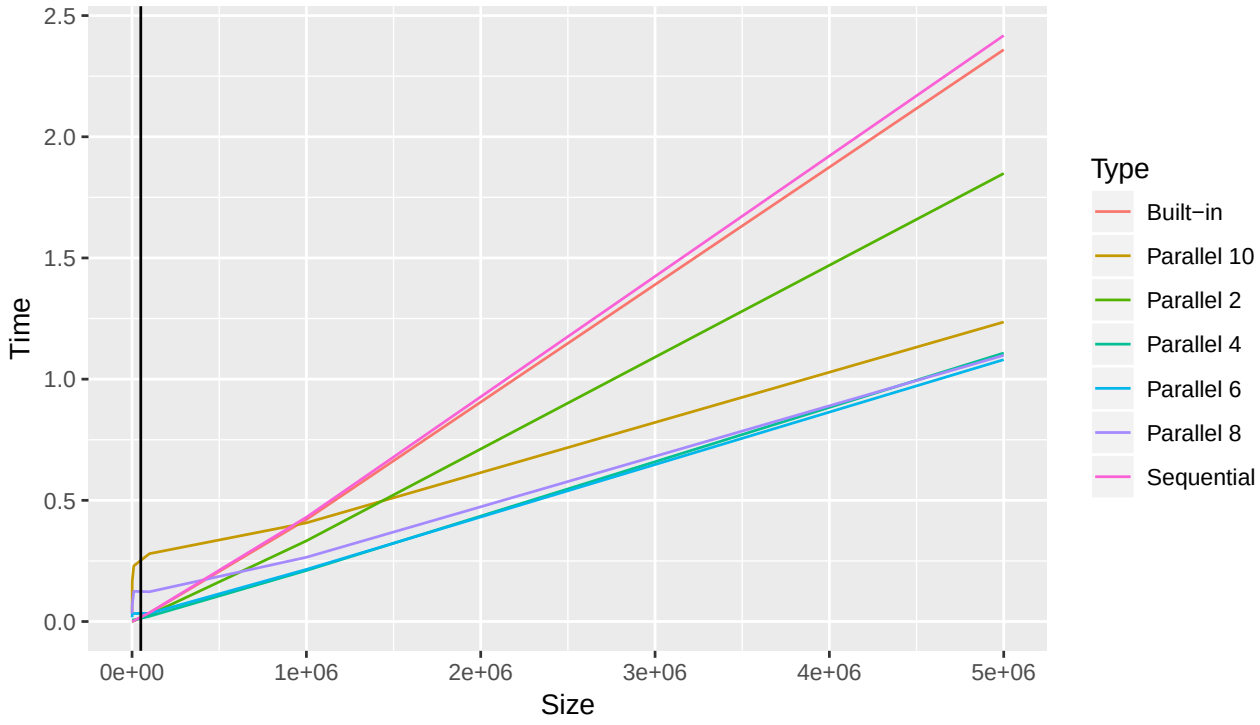
```
## Warning: package 'plyr' was built under R version 3.2.1
```

```
df_avg <- ddply(df,c("Size","Type"), summarise, Time = mean(Time))
df2_avg <- ddply(df2,c("Size","Type"), summarise, Time = mean(Time))
df3_avg <- ddply(df3,c("Size","Type"), summarise, Time = mean(Time))
```

```
par(mfrow=c(2,2))
```

Plotting the execution time for different types with different number of threads.

```
ggplot(data=df3_avg,aes(x=Size,y=Time,color=Type))+geom_line() + geom_vline(xintercept = 5E04)
```


Time
2.5
2.0
1.5
1.0
0.5
0.0
0e+00
1e+06
2e+06
3e+06
4e+06
5e+06
Size
Type
Built−in
Parallel 10
Parallel 2
Parallel 4
Parallel 6
Parallel 8
Sequential