

aprof: Title: Amdahl's profiler, directed optimization made easy

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1 Introduction

A R package meant to help evaluate whether and where to focus code optimization using Amdahl's law.

```
> library(aprof)
> filestring<-
+ "
+ naivefunction=function(T){
+
+ pop=data.frame(SP1=1,SP2=1,time=1)
+
+ # Naive way of buidling file
+ for(i in 2:T){
+   SP1=pop$SP1[i-1]*rnorm(1)*(1-(pop$SP1[i-1]+
+   (rnorm(1)*pop$SP2[i-1])))
+   SP2=pop$SP2[i-1]*rnorm(1)*
+   (1-(pop$SP2[i-1]+(rnorm(1)*pop$SP1[i-1])))
+   pop=rbind(pop,c(SP1,SP2,i))
+ }
+ #useless piece of code
+ for(i in 2:T){
+   t(pop)
+ }
+
+ return(pop)
+ }
+ "
> source(textConnection(filestring))
> write(filestring,"naivesource.r")
> N<-3e3
> Rprof(file="naiveoutput.out",interval = 0.0002,line.profiling =TRUE)
> result<-naivefunction(N)
```

```

> Rprof(append=F)
> CallsInt<-readOutput("./naiveoutput.out")
> readLineDensity(CallsInt$calls,CallsInt$interval)

```

Call Density and Execution time per line number:

Line	Call Density	Time Density (s)
Interval (s)		2e-04

Totals:

Calls	1
Time (s)	0

```

>
> #PlotExcDens(tmpsource,tmpout)
>

```