Subject: Doing Nothing Takes Longer Than Doing... Nothing?
Posted by timrobishaw on Wed, 11 Feb 2004 11:25:59 GMT
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Hi there,

I'm really stumped here. I wrote a routine that compares the average time to run two different modules. I decided to run the benchmark in clumps... I timed how long it took to complete routine #1 NREPS times and then took the average; then I did the same for routine #2. BUT, I also repeated this process NAVGS times (since I can see fluctuations in the average time when I load ESPN in my web browser! I have a slow computer on my desk, but the situation I'm about to describe was reproduced on some wicked fast machines). So the most basic test I could come up with was to make two modules, TESTROUTINE1 and TESTROUTINE2 that do ABSOLUTELY NOTHING. My first guess would be that they should take the same amount of time to run. But I wouldn't be writing this post if they had. I would be hugely appreciative if some kind folks would run the code below and see if they find this similar pathology: no matter which modules I race and no matter which order I race them in (e.g., TESTROUTINE1 vs. TESTROUTINE2 or TESTROUTINE2 vs. TESTROUTINE1 or *even* TESTROUTINE1 vs. TESTROUTINE1) I find that the module inside the first loop is always FASTER. I threw in a 3rd routine that does NOTHING as well... same deal. I have a feeling this may have something to do with the fundamentals of computer science, or magic. Any help here would be appreciated! Best -Tim.

```
;================================
pro testroutine1
end
;================================
pro testroutine2
end
;================================
pro testroutine3
end
;================================
pro benchmark

NREPS=5000L
NAVGS=50L

profiler, /SYSTEM, /CLEAR, /RESET
profiler,'testroutine1'
profiler,'testroutine2'
profiler,'testroutine3'

delt1 = dblarr(navgs)
```

```
delt2 = dblarr(navgs)
for j = 0L, navgs-1L do begin

    ; TIME ROUTINE NUMBER 1...
    tstart = systime(1)
    for i = 1L, nreps do begin
       testroutine1
    endfor
    delt1[j] = (systime(1)-tstart)

    ; TIME ROUTINE NUMBER 2...
    tstart = systime(1)
    for i = 1L, nreps do begin
       testroutine2
    endfor
    delt2[j] = (systime(1)-tstart)

    ; UPDATE OUR PROGRESS...
    print, 100*j/(navgs-1), format='($,"Progress: ",I4,"%",%"\R")'

endfor

;==============
; GET THE AVERAGE TIMES...
avg1 = delt1/double(nreps)
avg2 = delt2/double(nreps)

;==============
; GET THE MEANS...
mnavg1 = total(avg1,/DOUBLE)/double(navgs)
mnavg2 = total(avg2,/DOUBLE)/double(navgs)

; TELL US ABOUT THE RESULTS...
print, mnavg1, format='(2(%"\V"),"Average1  = ",e16.7," s")'
print, mnavg2, format='("Average2  = ",e16.7," s",%"\V")'

; WHAT DOES IDL CODE PROFILER REPORT...
print, 'IDL Code Profiler reports:'
profiler, /REPORT
profiler, /CLEAR

end; benchmark
```