

Multi-language, multi-platform numerical test in Linux, v2016

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platform >	HP laptop	Asus EeePC	Beaglebone Black	Udoo	Raspberry Pi 1 B	Raspberry Pi 3 B
CPU >	i3-3120	Atom N270	ARM Cortex-A8	ARM Cortex-A9	ARM11	ARM Cortex-A53
cores / freq >	dual / 2.5 GHz	solo / 1.6 GHz	solo / 1 GHz	quad / 1 GHz	solo / 700 MHz	quad / 1.2 GHz / 64bit
distro >	Ubuntu 13.10	Mint 16	Debian 7	Debian 7	Raspian 7	Raspian 8 / 32bit
desktop >	Unity	Xfce	LXDE	LXDE	LXDE	LXDE
	seconds (version)	seconds (version)	seconds (version)	seconds (version)	seconds (version)	seconds (version)
Matlab	0.34s (v13b)	1.69s (v12a)	Not Available	Not Available	Not Available	Not Available
GCC C	0.38s (v4.8.1)	5.15s (v4.8.1)	6.42s (v4.6.3)	1.74s (v4.6.3)	4.21s (v4.6.3)	1.90s (v4.9.2)
GFORTRAN	0.39s (v4.8.1)	5.24s (v4.8.1)	6.43s (v4.6.3)	1.74s (v4.6.3)	4.26s (v4.6.3)	1.90s (v4.9.2)
Go	0.66s (v1.2)	4.14s (v1.2)	26.1s (v1.0.2)	9.05s (v1.2)	26.1s (v1.2)	7.43s (v1.3.3)
Julia	1.48s (v0.2.0)	8.6s (v0.2.0)	Not Available	Not Available	Not Available	Not Available
Ruby	2.83s (v1.9.3)	21.6s (v1.9.3)	50.9s (v1.9.3)	23.1s (v1.9.3)	122s (v1.9.3)	15.7s (v2.1.5)
Python 2	2.79s (v2.7.5)	23.6s (v2.7.5)	53.9s (v2.7.3)	21.8s (v2.7.3)	132s (v2.7)	17.6s (v2.7.9)
Python 3	3.63s (v3.3.2)	32.4s (v3.3.2)	69.2s (v3.2.3)	25.7s (v3.2.3)	183s (v3.2)	23.3s (v3.4.2)
R	9.96s (v3.0.1)	81.9s (v3.0.1)	150s (v2.15.1)	89.3s (v2.15.1)	493s (v2.15.1)	88.7s (v3.1.1)
SciLab	25.6s (v5.4.1)	191s (v5.4.1)	282s (v5.3.3)	183s (v5.3.3)	1112s (v5.3.3)	257s (v5.5.1)
Octave	37.2s (v3.6.4)	312s (v3.6.4)	701s (v3.6.2)	357s (v3.6.2)	2358s (v3.6.2)	299s (v3.8.2)

Pseudocode of test program (different syntax in each language)

```

product = 1
start timer
for 10000 iterations
  for 1 to 360 integer angles
    product = product * ( sin(angle)^2 + cos(angle)^2 )
  end inner for loop
end outer for loop
stop timer
report product (should be a number close to 1 ... and is in all cases)
report elapsed time (results above)
    
```