

Timing for calculating Pi to large number of digits using *Mathematica* 9.0.1

Nasser M. Abbasi June 2013

View basic information about your computer

Windows edition

Windows 7 Home Premium

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Service Pack 1

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System

Rating:

5.9 Windows Experience Index

Processor: Intel(R) Core(TM) i7-3930K CPU @ 3.20GHz 3.20 GHz

Installed memory (RAM): 16.0 GB

System type: 64-bit Operating System

Pen and Touch: No Pen or Touch Input is available for this Display

```
tbl = Table[{2^i, Timing[N[Pi, 2^i]]][[1]], {i, 1, 27}];
```

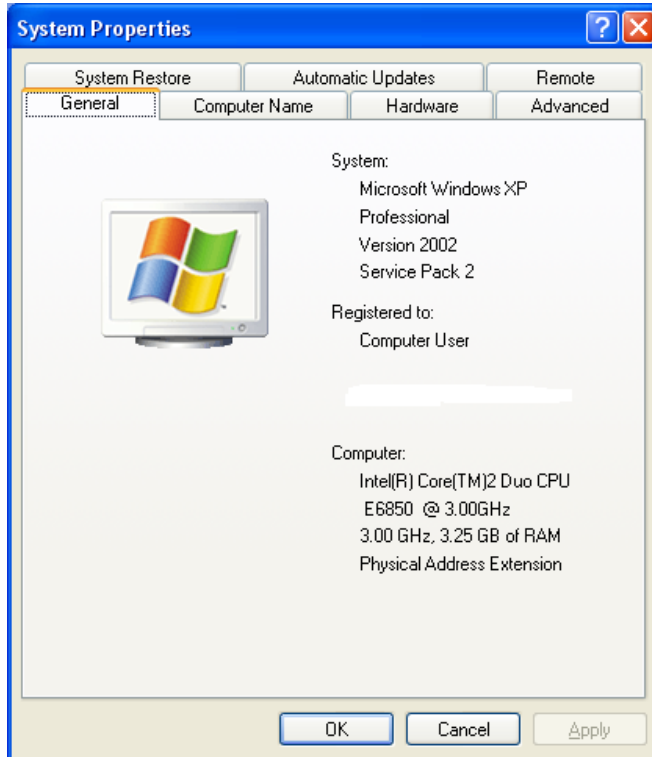
```
TableForm[tbl, TableHeadings -> {None, {"number of digits", "time in seconds"}}]
```

<u>number of digits</u>	<u>time in seconds</u>
2	0.
4	0.
8	0.
16	0.
32	0.
64	0.
128	0.
256	0.
512	0.
1024	0.
2048	0.
4096	0.015600
8192	0.
16384	0.
32768	0.015600
65536	0.031200
131072	0.078001
262144	0.140401
524288	0.327602
1048576	0.686404
2097152	1.606810
4194304	3.650423
8388608	8.049652
16777216	18.376918
33554432	40.997063
67108864	91.166984
134217728	208.027333

Timing for calculating Pi to large number of digits using *Mathematica* 6.0.1

by Nasser Abbasi, March 25,2008

Machine : Windows XP running on



$N[\text{Pi}, 1000]$

```
3. 1415926535897932384626433832795028841971693993751058209749445923078164062862089986280348253421
170679821480865132823066470938446095505822317253594081284811174502841027019385211055596446229
489549303819644288109756659334461284756482337867831652712019091456485669234603486104543266482
133936072602491412737245870066063155881748815209209628292540917153643678925903600113305305488
204665213841469519415116094330572703657595919530921861173819326117931051185480744623799627495
673518857527248912279381830119491298336733624406566430860213949463952247371907021798609437027
705392171762931767523846748184676694051320005681271452635608277857713427577896091736371787214
684409012249534301465495853710507922796892589235420199561121290219608640344181598136297747713
099605187072113499999983729780499510597317328160963185950244594553469083026425223082533446850
35261931188171010031378387528865875332083814206171776691473035982534904287554687311595628638
82353787593751957781857780532171226806613001927876611195909216420199
```

■ Find PI for higher number of digits

```
tbl = Table[{2^i, Timing[N[Pi, 2^i]][[1]]}, {i, 1, 27}];
```

```
TableForm[tbl, TableHeadings → {None, {"number of digits", "time in seconds"}}]
```

<u>number of digits</u>	<u>time in seconds</u>
2	0.
4	0.
8	0.
16	0.
32	0.
64	0.
128	0.
256	0.
512	0.
1024	0.
2048	0.
4096	0.
8192	0.015
16384	5.55654×10^{-19}
32768	0.031
65536	0.063
131072	0.172
262144	0.39
524288	0.875
1048576	2.125
2097152	4.954
4194304	11.75
8388608	27.218
16777216	62.438
33554432	142.359
67108864	325.516
134217728	743.672