



Useful Stuff

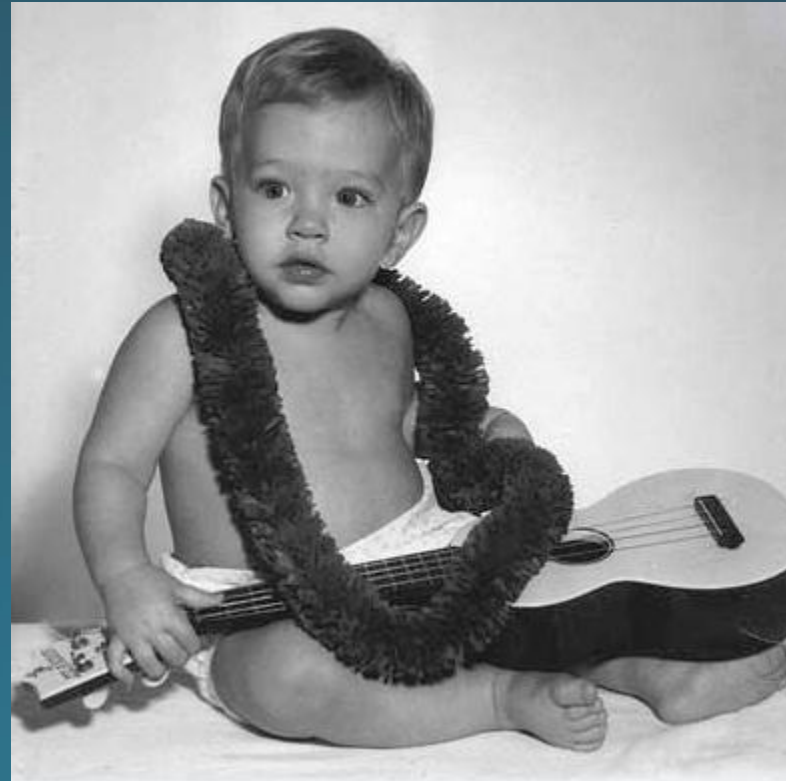
For More Productive &
Enjoyable Computing

NCTCUG
July 6, 2011

A Challenge...



Geeks



Beginners



Backup


There are two kinds of people who do backup...

- Those who do
- Those who will



Windows 7 Backup & Restore

Three components

- Users' data (not system folders or program files)
- System image
- Bootable system recovery disc (system repair)
- See  for information from Microsoft

↑ Click here



Macintosh OS-X* Backup

- Time Machine, to external disk drive
- Time Capsule, wireless/wired backup device

See 

* Current version is “Snow Leopard”; “Lion” coming July 2011






Acronis True Image Home 2011

- Disk imaging
- File backups
- Full, incremental & differential backups
- \$39.99 to \$79.99 (3-pack)

See 






Other Backup Schemes

- See Wikipedia  for 17 free backup utilities and 46 for a fee
- Cloud backup
 - For a comparison of 37 offerings, see 
 - For more information see  (*PCWorld*)








Other Backup Schemes (cont.)

- Consider RAID 1 (mirroring) dual disk drives for desktop computers:
 - Apple
 - Dell
 - HP
 - For information on RAID, see 
- Window Home Server, see  and 



Other Backup Schemes (cont.)

- Linux backup systems
 - Time Vault, see 
 - Clonezilla, see 
 - Duplicity, see 
 - Amanda, see 
 - Rsync, see 



Price of External Disk Drives

Capacity	Price (\$)	\$/GB
500 GB	74	0.148
1 TB	95	0.095
1.5 TB	109	0.073
2 TB	120	0.060
3 TB	167	0.056



Price Change of Disk Drives

(a slight digression)

In 1979, the price of a 75 MB disk drive was \$12,500
(\$37,349 in 2011 dollars). \$498/MB

In 2011, the price of a 3 TB disk drive is \$167. \$0.000055/MB

A drop (or ratio) of **8.946 million to 1** in 32 years



Price of Cars

2011 Mercedes-Benz SLS AMG



\$207,000

2.3¢



Anti-Virus/Malware

There are two kinds of people who use anti-virus/malware software...




- Those who do
- Those who will



See Wikipedia for a list of 61 offerings 







Anti-Virus/Malware (Free)

- Microsoft Security Essentials (free) from 
- Malwarebytes (Free) from 
- SUPERAntiSpyware (Free and fee versions) from 








Anti-Virus/Malware (Free)

- Avast! see 
- AVG, see 
- Avira, see 
- Comodo, see 
- Panda, see 








Anti-Virus/Malware (Paid)

- Norton Products, see 
- McAfee products, see 
- Kaspersky Anti-Virus, see 
- AVG, see 
- ZoneAlarm, see 



Anti-Virus/Malware (Paid)

- BitDefender Antivirus, see 
- ESET Nod32 Antivirus, see 
- Trend Micro Titanium Antivirus, see 
- Panda Antivirus Pro, see 
- CA Anti-Virus, see 










Those Without Backup & Anti-Virus Software...



Security Utilities


Password Management

- RoboForm, see  (\$29.95)
- Password Genie, see  (\$15.00). Also see *SmartComputing*, **22**, 05 (May), p. 28 (2011)
- LastPass, see  (Free)
- Password Safe, see  (Free)
- KeePass, see  (Free)
- 1Password, see  for PC & Macintosh (\$39.99)
- IronKey, see  [\$79 (1 GB) to \$298 (32 GB) flash drives]



Security Utilities

Password Checkers

See  for a password “strength test” from Rumkin.com

Enter your password or passphrase here:

Length: 12

Strength: **Reasonable** - This password is fairly secure cryptographically and skilled hackers may need some good computing power to crack it. (Depends greatly on implementation!)

Entropy: 42.3 bits

Charset Size: 26 characters



Security Utilities

Password Checkers

See  for Microsoft's password checker

Password:

Strength: Weak

Password:

Strength: BEST



Security Utilities Password Calculator

See  for Gibson Research Corporation

Which of the following two passwords is stronger,
more secure, and more difficult to crack?

D0g.....

PrXyc.N(n4k77#L!eVdAfp9



GRC's Interactive Brute Force Password "Search Space" Calculator

(NOTHING you do here ever leaves your browser. What happens here, stays here.)

6 Uppercase

9 Lowercase

4 Digits

4 Symbols

23 Characters

PrXyc.N(n4k77#L!eVdAfp9

Enter and edit your test passwords in the field above while viewing the analysis below.

Brute Force Search Space Analysis:

Search Space Depth (Alphabet):	$26+26+10+33 = 95$
Search Space Length (Characters):	23 characters
Exact Search Space Size (Count): (count of all possible passwords with this alphabet size and up to this password's length)	3,106,266,216, 369,922,375,245,484,442, 102,782,269,741,626,495
Search Space Size (as a power of 10):	3.11×10^{45}

Time Required to Exhaustively Search this Password's Space:

Online Attack Scenario: (Assuming one thousand guesses per second)	9.88 hundred million trillion trillion centuries
Offline Fast Attack Scenario: (Assuming one hundred billion guesses per second)	9.88 trillion trillion centuries
Massive Cracking Array Scenario: (Assuming one hundred trillion guesses per second)	9.88 billion trillion centuries

Note that typical attacks will be online password guessing limited to, at most, a few hundred guesses per second.



GRC's Interactive Brute Force Password "Search Space" Calculator

(NOTHING you do here ever leaves your browser. What happens here, stays here.)



1 Uppercase



1 Lowercase



1 Digit



21 Symbols

24 Characters

D0g

Enter and edit your test passwords in the field above while viewing the analysis below.

Brute Force Search Space Analysis:

Search Space Depth (Alphabet):	$26+26+10+33 = 95$
Search Space Length (Characters):	24 characters
Exact Search Space Size (Count): (count of all possible passwords with this alphabet size and up to this password's length)	295,095,290,555, 142,625,648,321,021,999, 764,315,625,454,517,120
Search Space Size (as a power of 10):	2.95×10^{47}

Time Required to Exhaustively Search this Password's Space:

Online Attack Scenario: (Assuming one thousand guesses per second)	93.83 billion trillion trillion centuries
Offline Fast Attack Scenario: (Assuming one hundred billion guesses per second)	9.38 hundred trillion trillion centuries
Massive Cracking Array Scenario: (Assuming one hundred trillion guesses per second)	9.38 hundred billion trillion centuries

Note that typical attacks will be online password guessing limited to, at most, a few hundred guesses per second.



GRC's Interactive Brute Force Password "Search Space" Calculator

(NOTHING you do here ever leaves your browser. What happens here, stays here.)

2 Uppercase

5 Lowercase

3 Digits

4 Symbols

14 Characters

<><>M0mis95Yrs

Enter and edit your test passwords in the field above while viewing the analysis below.

Brute Force Search Space Analysis:

Search Space Depth (Alphabet):	$26+26+10+33 = 95$
Search Space Length (Characters):	14 characters
Exact Search Space Size (Count): (count of all possible passwords with this alphabet size and up to this password's length)	4,928,630,108, 082,482,617,642,017,120
Search Space Size (as a power of 10):	4.93×10^{27}

Time Required to Exhaustively Search this Password's Space:

Online Attack Scenario: (Assuming one thousand guesses per second)	1.57 thousand trillion centuries
Offline Fast Attack Scenario: (Assuming one hundred billion guesses per second)	15.67 million centuries
Massive Cracking Array Scenario: (Assuming one hundred trillion guesses per second)	15.67 thousand centuries

Note that typical attacks will be online password guessing limited to, at most, a few hundred guesses per second.



Security Utilities Eraser


See 

A tool that completely removes “deleted” data by overwriting it several times with carefully selected patterns



Security Utilities

CCleaner

- See *
- Completely removes unused files
- Overwrites deleted files
- Cleans traces of online activities such as Internet history
- Has an uninstaller
- Has a registry cleaner

* Piriform is also the provider for “Recuva”



Assorted Utilities

Recuva

See *

Recovers files deleted from Windows computers, Recycle Bin, digital camera card, MP3 player, etc.

* Piriform is also the provider for “CCleaner”



Security Utilities

Ad-Aware

See 

- “A spyware and malware killer”
- Protects against rootkits*
- Is not an anti-virus program

*Hidden malware with privileged access



Security Utilities

Secunia Personal Software Inspector (psi)

See 

- Detects vulnerable and out-of-date programs and plug-ins
- Provides direct links for updates and patches



Security Utilities

Panda USB Vaccine







See 

- Allows users to disable the AutoRun feature on computers, USB drives and other devices







Security Utilities

File Encryption

- TrueCrypt, see  (Free)
- Cryptainer, see  (Free or \$29.95 to \$69.95, see )
- 7-Zip, see  (Free)
- CryptoForge, see  (\$29.95 to \$39.95, see )







Updating Device Drivers

- See  for information on updating device drivers
- Intel driver update utility, see 
- SlimDrivers, see 
- DriverZone.com, see 
- See also *PCWorld*, 29, 5 (May), p. 61 (2011)










Updating Device Drivers Computer Specific

- HP device drivers, see 
- Dell device drivers, see 
- Sony VAIO device drivers, see 
- Toshiba, see 



Assorted Utilities

PDF Viewers

- Adobe Reader X, see . See also  (*Wikipedia*)
- Foxit Reader, see . See also  (*Wikipedia*)
- Sumatra PDF, see . See also  (*Wikipedia*)
- Google Chrome built-in PDF viewer 



Assorted Utilities

Belarc Advisor

See 

- Builds a detailed profile of installed software and hardware, missing Microsoft hotfixes, anti-virus status, security benchmarks, etc.
- Results are displayed in a Web browser.
- All PC profile information is kept private on the PC and is not sent to any Web server



Assorted Utilities

Revo Uninstaller

See 

- Complements/supplements Windows uninstaller
- Free and for fee versions (\$39.95)
- “Pro” version includes several additional utilities



Assorted Utilities

Ditto

See 

- An extension to the standard Windows clipboard (CTRL-C then CTRL-V)
- Items are placed on the clipboard allowing access to any of those items at a later time.
- Includes any type of information that can be put on the clipboard: text, images, html, JPEG, custom formats, etc.



Assorted Utilities

Ditto (cont.)


- To display extended clipboard key CTRL-`
- 100s or 1000s of items can be retained
- Double-click on the item to be pasted



Assorted Utilities

PC Decrapifier

See 

- Removes dozens of bloatware programs that typically are installed on new computers
- NOTE: Sony VAIO “Fresh Start” (Free). See  for a discussion



Assorted Windows 7 Tips

Character Map

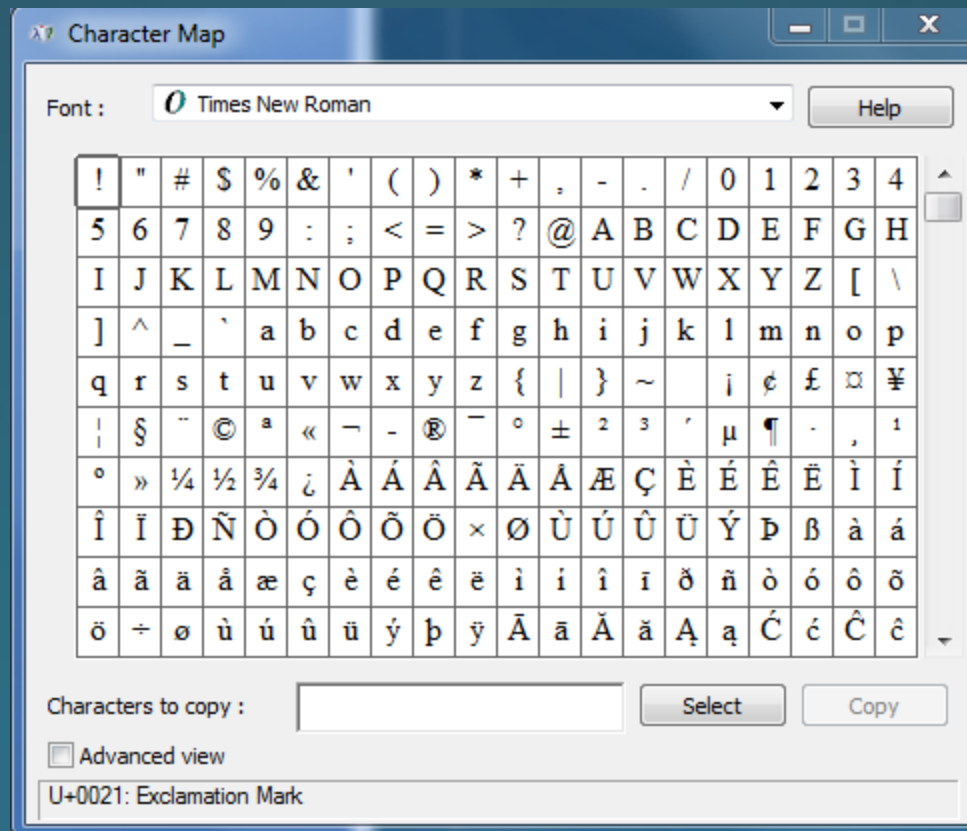
- Easy insertion of special characters
- To pin the “Character Map” to the taskbar...

Start → All Programs → Accessories → System Tools
→ [right-click] pin Character Map to taskbar



Assorted Windows 7 Tips

Character Map (cont.)



Assorted Windows 7 Tips

Reliability Monitor

Provides detailed information on crashes, hanging and quitting applications, etc.

Start → [key] reliability → [left-click] View reliability history

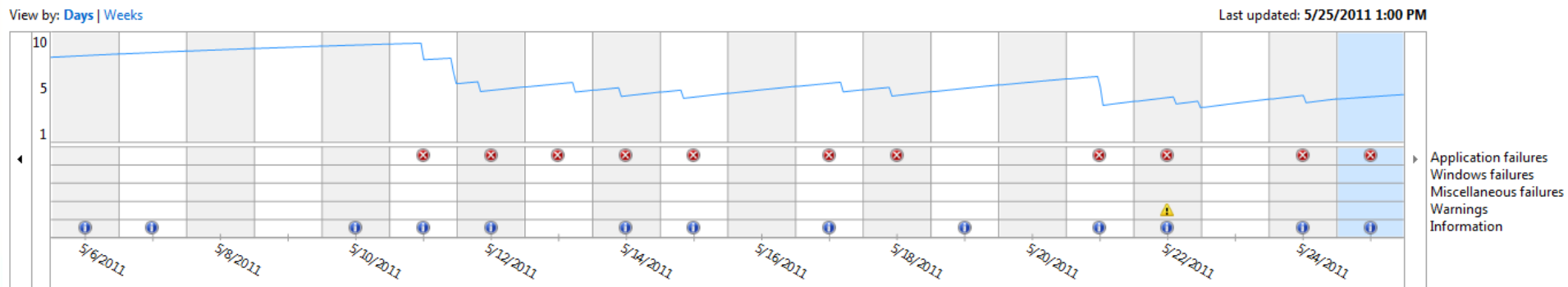


Assorted Windows 7 Tips

Reliability Monitor (cont.)

Review your computer's reliability and problem history

The stability index assesses your system's overall stability on a scale from 1 to 10. By selecting a specific period in time, you may review the specific hardware and software problems that have impacted your system. [How to use Reliability Monitor.](#)



Reliability details for: 5/25/2011

Source	Summary	Date	Action
Critical events			
Microsoft Office Outlook	Stopped working	5/25/2011 1:17 PM	Check for a solution
Informational events (8)			
Update for Windows 7 for x64-based Systems (KB2541014)	Successful Windows Update	5/25/2011 6:14 AM	View technical details
Intel(R) 82566DC-2 Gigabit Network Connection	Successful driver installation	5/25/2011 6:16 AM	View technical details
Intel - Network - Intel(R) 82566DC-2 Gigabit Network Connection	Successful Windows Update	5/25/2011 6:16 AM	View technical details
Windows Internet Explorer 9 for Windows 7 for x64-based Systems	Successful Windows Update	5/25/2011 6:26 AM	View technical details
Definition Update for Microsoft Security Essentials - KB2310138 (Definition 1.105.443.0)	Successful Windows Update	5/25/2011 6:27 AM	View technical details
Microsoft Office Outlook Gadgets for Windows SideShow	Successful application installation	5/25/2011 11:21 AM	View technical details
Microsoft Office Outlook Gadgets for Windows SideShow	Successful application reconfiguration	5/25/2011 11:25 AM	View technical details
Microsoft Office Outlook Gadgets for Windows SideShow	Successful application reconfiguration	5/25/2011 11:26 AM	View technical details

[Save reliability history...](#) [View all problem reports](#) [Check for solutions to all problems ...](#)

OK

Assorted Windows 7 Tips

Problem Steps Recorder (PSR)

Record events when an app misbehaves

- Start → [key] psr.exe → [left-click] Start Record
- Run the application that is misbehaving
- Add comments in the record as appropriate
- [left-click] Stop Record
- Save recording (a zip file) as prompted



Assorted Windows 7 Tips

Resource Monitor

Resurrect locked up applications (processes)

- Start → [key] resmon → [left-click] resmon.exe
- Locate frozen process (highlighted in red), right-click and select Analyze Wait Chain
- If > 2 processes displayed, the lowest one is freezing the program
- Check the box next to this process, [left-click] then [left-click] End Process



Assorted Windows 7 Tips

Windows Calculator

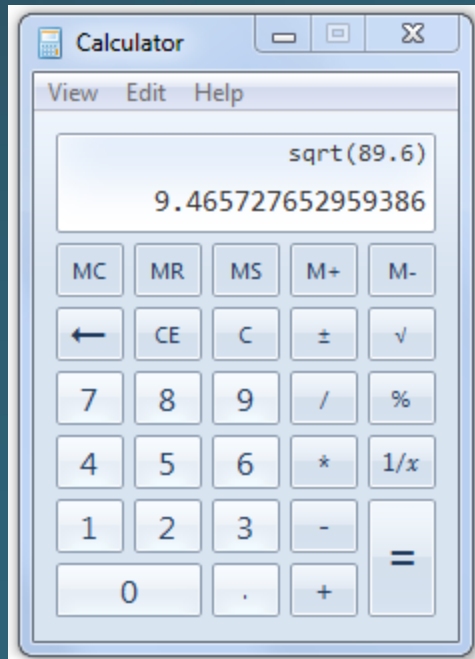
Start → [key] calculator → [left-click] calculator

(If frequently used, pin to Taskbar)

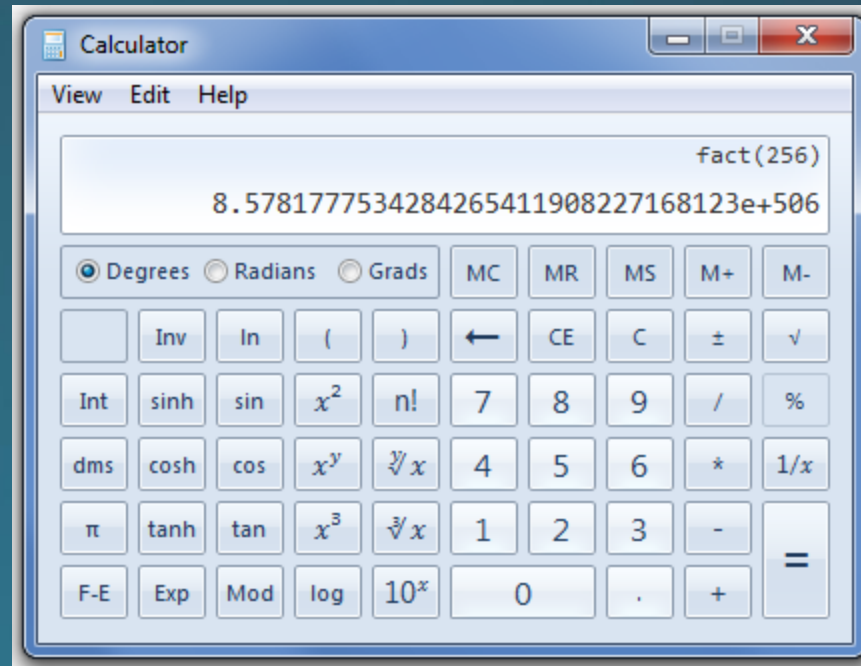


Assorted Windows 7 Tips

Windows Calculator (cont.)



Standard

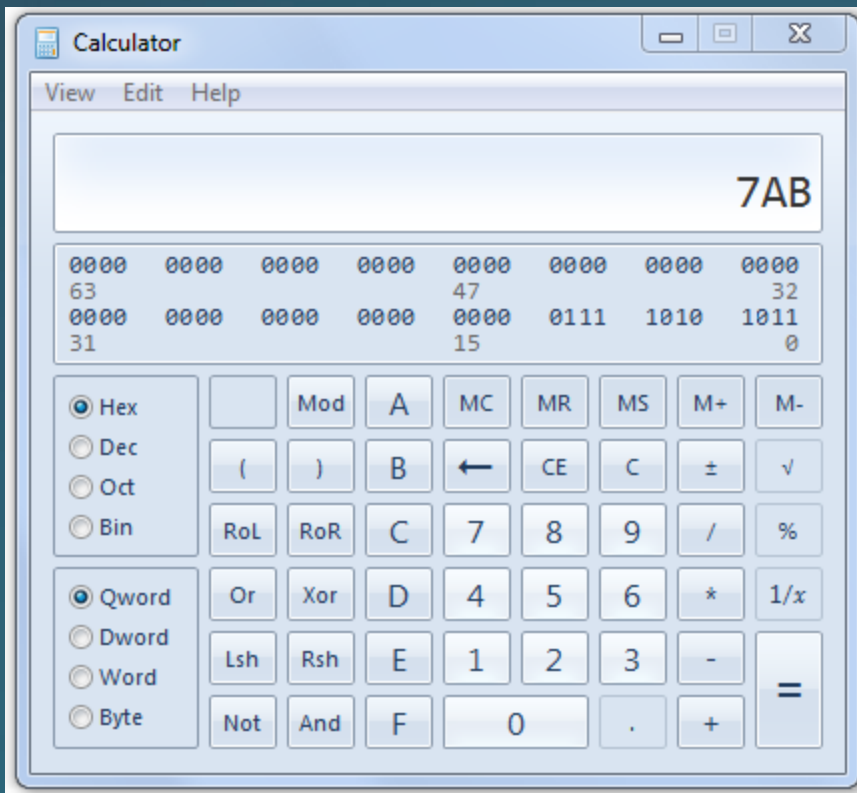


Scientific

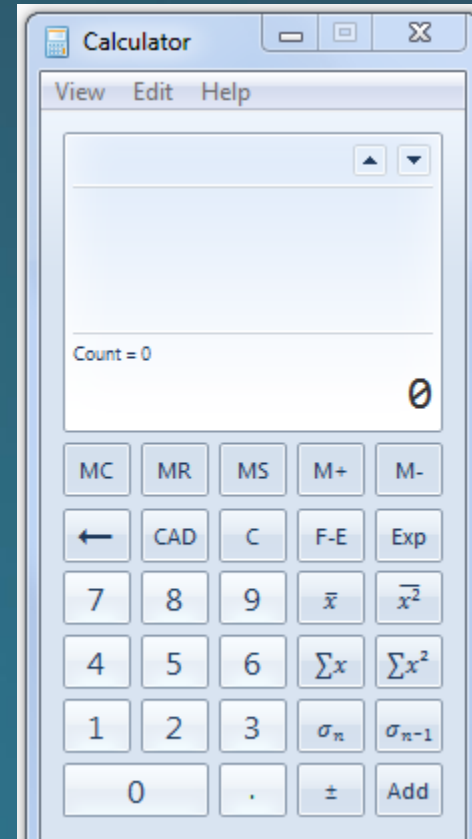


Assorted Windows 7 Tips

Windows Calculator (cont.)





Programmer



Statistics




Assorted Windows 7 Utilities & Tips

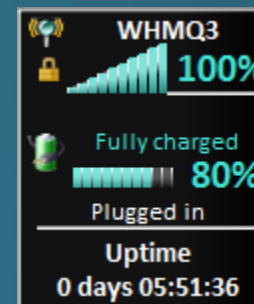
- See  for a list of 92 free utilities
- See  for a list of 85 “Windows 7 tips, tricks and secrets”



Windows 7 Gadgets




System Tools

- System Monitor, see . Shows heads up display CPU, RAM, IP, Battery, WiFi, network, etc.
- Network Meter, see . Displays a wide variety of network characteristics
- Margu-notebookInfo2, see . Displays numerous system attributes



Windows 7 Gadgets


Radio Players

- BBC Radio Player, see . 11 BBC radio stations
- iClassical Radio Player, see . 16 classical music radio stations
- TrueTone Desktop Radio, see . Numerous music genre



Windows 7 Gadgets

Outlook Appointments

- See 
- Shows next 3-5 upcoming appointments in Outlook



A screenshot of the Outlook appointments gadget in Windows 7. It displays a vertical list of five upcoming appointments, each in a colored box with a title, time, and location.

Pick up the Toyota at W.B. Mot 4:00 PM - 4:30 PM 3767 Pickett Road, Fairfax, Virgi
OLLI Course #F302 Five-Star Gre Wed 9:30 AM - 11:00 AM OLLI Tallwood; Fairfax Christ Lut
OLLI Course #F304 Gettysburg-1 Wed 11:45 AM - 1:15 PM Fairfax Christ Lutheran Church :
Bradley Galleher to phone re gu Wed 2:30 PM - 3:00 PM
LRG to give presentation to NC Wed 7:00 PM - 9:00 PM



Windows 7 Gadgets

- Gadgets from Microsoft, see  and 



Time to Wake Up!



The End

