

## Linux Tips - [I-Part].

### Navigation

Navigating around the files and directories of your hard drive could be a dreaded task for you, but it is necessary knowledge. If you were a user of command prompt interfaces such as MS-DOS, you'll have little trouble adjusting. You'll only need to learn a few new commands.

#### Cd

The `cd` command changes directories. It's a very common navigation command that you'll end up using, just like you might have done in MS-DOS. You must put a space between `cd` and the `..` or else it won't work; Linux doesn't see the two dots as an extension to the `cd` command, but rather a different command altogether. It'll come to make sense if it doesn't already.

#### Ls:

The `ls` letters stand for list. It basically works the same way as the `dir` command in DOS. Only being a Unix command, you can do more with it. :-) Typing `ls` will give you a listing of all the files in the current directory. If you're new to Linux, chances are that the directories you are commonly in will be empty, and after the `ls` command is run, you aren't given any information and will just be returned to the command prompt (the shell).

There are "hidden" files in Linux, too. Their file names start with a dot, and doing a normal `ls` won't show them in a directory. Many configuration files start with a dot on their file names because they would only get in the way of users who would like to see more commonly used items. To view hidden files, use the `-a` flag with the `ls` command, i.e. `ls -a`.

To view more information about the files in a directory, use the `-l` flag with `ls`. It will show the **file permissions** as well as the file size, which are probably what are the most useful things to know about files. You might occasionally want to have a listing of all the subdirectories, also. A simple `-R` flag will do, so you could look upon `ls -R` as a *rough* equivalent of the `dir /s` command in MS-DOS. You can put flags together, so to view all the files in a directory, show their permissions/size, and view all the files that way through the subdirectories, you could type `ls -laR`.

#### Pwd:

This command simply shows what directory you're in at the moment. It stands for "Print Working Directory". It's useful for scripting in case you might ever want to refer to your current directory.

### File Management:

Most of the file management Linux gurus do is through the command line, so if you learn to use the commands, you can brag that you're a guru. Well, almost.

## **Cp:**

Copying works very much the same. The `cp` command can be used just like the MS-DOS copy command, only remember that directories are separated with slashes (/) instead of backslashes (\). So a basic command line is just `cp filename1 filename2`. There are other extensions to the `cp` command. You can use the `-f` command to force it. You can use the `-p` command to preserve the **permissions** (and also who owns the file, but I'm not sure).

You can move an entire directory to its new destination. Let's say you want to copy a directory (and all of its contents) from where you are to be `/home/jack/newdirectory/`. You would type `cp -rpf olddirectory /home/jack/newdirectory`. To issue this command you would have to be in the directory where the subdirectory "olddirectory" is actually located.

## **Ln:**

A feature of linking files is available in Linux. It works by "redirecting" a file to the actual file. It's referred to as a symbolic link. Don't confuse this term with the linking of programs, which is when binary programs are connected with libraries that they need to load in order to run.

The simplest way of using `ln` is to create symbolic links `ln -s existing_file link`. Evidently there's a hard link and a symbolic link; you can also use the `-f` flag to force the command line to overwrite anything that might have the symbolic link's file name already. To remove a symbolic link, simply type `rm symbolic_link`. It won't remove the file that it's linked to.

## **Mv:**

The `mv` command can be used both to move files and to rename them. The syntax is `mv fileone filetwo`, where "fileone" is the original file name and "filetwo" will be the new file name.

You can't move a directory that is located in one partition to another, unfortunately. You can copy it, though, using `cp -rpf`, and then remove it with `rm -rf` later on. If you have only a single partition that makes up your filesystem then you have very little to worry about in this area.

## **Rm:**

The `rm` command is used for removing files. You use it just like the `del` or `delete` command in MS-DOS. Let's say you want to remove a file called `foobar` in your current directory. To do that, simply type `rm foobar`. Note that there is no "Recycle Bin" like in Windows 95. So when you delete a file, it's gone for good.

To delete something in some other directory, use the full path as the file name. For example, if you want to delete a file called "windows" that's in the directory /usr/local/src/, you would type `rm /usr/local/src/windows`. To remove an entire directory and its contents, type `rm -rf /directory` where "/directory" is the path to the directory that you want to delete. If you're wondering, the "rf" stands for "recursive" and "force". Be very careful with this command, as it can wreak havoc easily if misused.

### **Editing:**

If you haven't figured out how important a text editor is, you soon will. Graphical interfaces can't shield you forever, and those utilities have their limits. Besides, if you're reading this page, you want to be able to customize beyond the capabilities of graphical utilities. You want to work at the command prompt. I know you do.

The basic syntax to invoke these text editors is the same. Type the name of the editor followed by the file you want to edit, separated by a space in between. Non-existent files will be blank. Blank files will be blank as well.

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## **Telnet – Short Piece**

Telnet is a program that allows us to log into computers on the Internet and use online databases, library catalogs, chat services and more. To telnet to a computer, we must know its address. This can consist of numbers or words. Some services require us to connect to a specific port on the remote computer. In this case, type the port number after the Internet address. Example: `telnet nri.reston.va.us 185`. Telnet is available on the University UNIX and VAX host machines. Simply type the word telnet and then the address.

Telnet is available on the World Wide Web. Probably, the most common web-based resources available through Telnet are library catalogs. A link to a Telnet resource may look like any other link, but it will launch a Telnet session to make the connection. A Telnet program must be installed on our local computer and configured to our web browser in order to work.

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## Space Suit – Life Saver!

We know that the atmosphere at the earth surface produces a pressure equal to the weight of a large automobile on each square metre. We do not notice this, since it is equal both inside and outside of our bodies. But if the air inside the metal pot is, for instance force out boiling water inside it, the pot collapses under this pressure.

Similarly, an unprotected astronaut in a space flight would not only die by swelling up, but his blood would also start to boil. The temperature at which a liquid boils depends on the atmospheric pressure. At a height of 9 km water boils 74 c and above 19 kms blood boils below body temperature. At zero pressure, the astronaut's blood would instantly turn to deadly foam.

Therefore keeping this aspect in view, a space suit is specially designed so as to protect astronaut from the dangers of space during space flights. Space dangers include space temperature, hazardous radiations, fast moving particles, vaccum etc.

A space suit cloth is made up of several layers ,each of which has a specific purpose. Each suit has got a primary life support system. It holds enough water and oxygen to enable to carry out space walks several hours. The space suit has the liquid cooling and ventilation system. Infact each suit is made from a number of different pieces. Each piece is made by selecting the sizes. Individual astronaut is given a suit from these so as to fit him.

One very surprising thing about Manned Maneuvering Unit (MMU) is its weight. On earth it weighs about 158 kgs but when used in space it makes the astronaut very mobile. This is because of the weightlessness conditions in the space.

A special suit is a life saving device for an astronaut.

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## Virus – The Venom!

A virus is a small program that sneaks into a computer, usually perform some devious tasks and then replicates and spreads to the other computer. A virus is a weapon capable of destroying all the data on your computer as well as extending its damage to the computer of your friends, coworkers and contacts.

**Table: Impact of Virus Over Time**

<b>VIRUS NAME</b>	<b>YEAR</b>	<b>TYPE</b>	<b>TIME FOR REACH “MORE PREVALENT VIRUS” STATUS</b>	<b>DAMAGES</b>
Jerusalem, cascade form and others	1990	Various file and boot sector virus	3 years	\$50 million for all viruses over a 5-year period.
Concept	1995	Word macro	4 months	\$50 million
Mellisa	1999	Word macro, e-mail enabled	4 day	\$93-\$385 million
Love Letter	2000	VBS Microbe-mail enabled.	5 hours	Over \$700 million.

### **Famous Virus:**

#### **Love Letter:**

Allegedly written by a 23-year-old computer student in Philippines, the love letter virus (also referred to as the love bug or I Love You virus) was released in May 2000 and became the fastest spreading and most destructive Internet worm to date. Love Letter combined the power of Micro soft visual basic, scripting, edition (VBScript) programs with the continece of the outlook address book to quickly spread copies of itself. The victim of the worm would receive an e-mail message with a copy of the VBScript attached to it, and in Trojan horse style, the attachment would be titled with the friendly sounding “I LOVE YOU”. When the victim double clicked the VBA attachment, the worm would be activated. The worm would be deleted certain files on your computer and sent e-mail copies of itself to every address listed in the victims outlook address book.

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## **Internet Picnic!**

### **Incharge of Internet: -**

It is a convergence of technologies if needs someone to organize and regularize its applications. The following are the main groups involved in managing Internet network.

**IRTF** – The **I**nternet **R**esearch **T**ask **F**orce is responsible for developing new technologies to Internet.

**IAB** – The **I**nternet **A**rchitecture **B**oard involved in managing and planning activities of the growing Internet community.

### **Internet Requirements: -**

#### **Hardware: -**

##### **Personal Computer: -**

Recommended configuration of a personal computer for Internet. 48666MHZ or higher processor, 15 MB hard disk space, 16 MB of RAM, 800\*600 SVGA Video resolution, Windows 3. x, Windows 95/98 or Windows NT.

##### **Telephone Line: -**

Since Internet makes use of the telephone line, a normal connection provided by department of telecommunication is required.

##### **Modem (Modulator/Demodulator): -**

Modem is a device used to convert the digital signals used in the PC to analog signals used by telephone line and converts them back again. This enables to send and receive information to and from other computer using ordinary telephone line.

#### **Software: -**

##### **Browser: -**

A browser is a program, which brings the contents of the web sites that we specify to our computer screen. The process of getting information via Internet through web sites is known as browsing. Examples of browsers are Internet explorer and Netscape navigator.

##### **Mailing Software: -**

It is used to send and receive mails. Once this software is configured, whenever mail comes, it will automatically indicates the user about the incoming mail. Eudora pro, Eudora light, outlook express are few of the popular mailing software.

##### **Other Applications: -**

Chat, Instant messenger, Search engine, News groups etc

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## Definitions of Unix on The Web

A computer operating system is the most common operating system for servers on the Internet.

A computer operating system, Unix is designed to be used by many people at the same time (it is multi-user) and has TCP/IP built-in. It is the most common operating system for servers on the Internet.

It is an operating system developed by Bell Laboratories that supports multi-user and multitasking operations.

A computer operating system (the basic software running on a computer, underneath things like word processors and spreadsheets). UNIX is designed to be used by many people at the same time (it is “multi-user”) and has TCP/IP built-in.

An operating system, commonly used on the backbone machines on the Internet. Most Web servers are run under the UNIX operating system.

## Host Name Top-Level Domains

This list shows you the three-Letter last word of Internet HostNames; for two-letter codes

Com	Company or Individual.
Edu	Educational Institution.
Gov	U. S. Federal Government.
Mil	U. S. Military.
Net	Network Organization.
Int	International Organization.
Org	Non-profit or Other non-commercial Organization.

## Types of URL's

File://pathname	File Stored on local computer.
ftp://Hostname/pathname	File on FTP Server.
http://hostname/pathname	World Wide Web page. (You can usually omit http://)
Mailto:address	E-Mail Address.
News:Newsgroupname	Use net News Group.

## **Video Card Shopping Tips**

### **1. Do not pay a premium for 256 MB graphics cards.**

Only those purchasing ATI Radeon 9600 XT or Nvidia GeForce 4 FX 5700 Ultra or faster cards should consider paying additional money for a 256 MB card. Your money would be better spent on a faster video card with 128MB of memory. The additional memory on a slower video card will not give you an appreciable boost in speed.

### **2. Understand the warranty.**

Most graphics cards manufacturers have a 2-year or longer warranty on video cards. However, at least one brand of video cards, PNY's Verto, claims to have a lifetime warranty, while in reality its warranty only covers the card as long as it is in production.

### **3. Beware of overpriced video cards.**

GeForce FX 5200 and 5600 cards priced in the \$175 range. These cards typically have 256 MB of video memory and are proclaimed as a great deal. Don't be fooled! The ATI Radeon 9600 XT and Nvidia GeForce 4 FX 5700 Ultra with 128MB of video memory can be found in the same price range and are much faster cards.

### **4. Make sure the graphics card has the correct video out connectors.**

If you have a flat panel monitor you will need a DVI opt connector. If you have a regular CRT monitor you will need a VGA connector. Those wanting to hook their video card to VCRs need a SVGA connector.

### **5. Make sure your system can use the card before you buy it.**

Many new video cards require the use of a hard drive power connector to function properly. If you do not have a free hard drive connector or your connector is not long enough, buy a splitter/extension known as a hard drive "Y cable".

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## **Hard Disk - Recall**

Large computers use hard disk, which hold more information and allow faster reading. These are usually sealed in plastic cases and may be arranged in a pack of a few disks. The size of computers internal RAM memory is measured in bytes. A microcomputer can store about 16000 to 640000 bytes. In computer jargon this would be written as 16K to 64K. K stands for Kilobytes. Which are 1024 bytes.

In the electronic circuits of memory, the computer holds a vital store of instructions, data and results. This ability to store information enable it to carry out very difficult calculation by working through them step-by-step, storing the results of each stage and checking and comparing them with later results and information.

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## **Dotted Decimal Notation**



When communicated to humans, either in technical documents or through application Programs, IP addresses are written as decimal Integers separated by decimal points. Where each Integer gives the value of one octet of the IP address.

Thus, the 32-Bit Internet address

**10000000 00001010 00000010 00011110**

Is written

**128. 10. 2. 30**

Indeed, most TCP/IP software that displays or requires a human to enter an IP address uses dotted decimal notation. For Example, the UNIX netstat command, which displays the current routing, and application program such as Telnet and FTP all uses dotted decimal notation, when accepting or displaying IP address, thus, It may be helpful to understand the relationship between IP address classes and Dotted Decimal Numbers.

<b>CLASS</b>	<b>LOWEST ADDRESS</b>	<b>HIGHEST ADDRESS</b>
A	0. 1. 0. 0	126. 0. 0. 0
B	128. 0. 0. 0	191. 225. 0. 0. 0
C	192. 0. 1. 0	223. 255. 255
D	224. 0. 0. 0	239. 255. 255. 255
E	240. 0. 0. 0	247. 255. 255. 255

The Range of dotted decimal values correspond to each IP address class.

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## **E-Mail Discussion Groups.**

One of the benefit of the Internet is the opportunity it offers to people worldwide to communicate via e-mail. The Internet is home to a large community of individuals who carry out active discussions organized around topic-oriented forms distributed by e-mail. Software programs administer these and probably the most common program is the listservs.

A great variety of topics are covered by listservs, many of them acadamic in nature. when you subscribe to a listsrv, message from other subscribers are automatically sent to your e-mail box. you subscribe to a listservs by sending an e-mail message to a computer program called listserve. list servers are located on computer networks throughout the world. this program handles subscription information and distributes messages to and from subscribers. You must have a e-mail account to participate in a listserve discussion group. A master list of listservs is available on the university libraries home page on the World Wide Web.

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## **Ms Office 2000 For Scratchers!**

MS office 2000 for everyone follows 'learning by doing' Methodology. The best way to learn some thing and to test whether you have really learnt it is to do it yourself. MS office packages as do a wide variety of things.

### **Ms Word 2000:**

Create your own stationary. Write letters; prepare invoices, memos, taxes, forms, table etc. Edit your documents to make them meaningful and presentable. Beautify and enhance the appeal of your documents. Create templates, run macros and automate your day-to-day tasks. Do spell check, auto correct, mail merge, and a lot more.

### **Ms Excel 2000:**

Create professional looking and highly functional spreadsheets. Create sophisticated tables and automate your work by creating macros and analysis using formulae and functions. Create graphs and charts. Sort filter and query data based upon single or multiple criteria.

### **Ms Outlook 2000:**

Creating, updating, maintaining and using address book, sending messages responding to E-mail using painting calendar. Creating appointments and events. Creating and assigning task list. Tracking all transactions with the journal.

### **Ms Front Page 2000:**

Create and manage complete web sites. Use different types of standard templates to create different web sites with varying degrees of sophistication create work with FrontPage web. Add import link web pages. Format websites work with web pages graphics and text.

### **Ms Publisher 2000:**

Create professional looking publications in a matter at minutes. Work with design sets and catalogue features. Publish letterheads. Visiting cards, calendars, newsletters, brochures etc.

### **Ms Power Point 2000:**

Create and produce impressive and eye catching presentations in a matter of minutes. Prepare presentation slides on the basis of pre-defined templates. Create self running multimedia presentations text , voice, movie clips, animation clips, clip art, graphics, organization chart, graphs and information tables.

### **Ms Access 2000:**

Provides an power full, easy to use database. Can create forms, Queries, Tables and Reports quickly through wizards. Create & Design professional looking database and tables with or without wizards. Create, Design & edit Forms, Print Reports, forms and labels.

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## Shortcut Keys

### Related to power point:

Ctrl + D	:	to create a duplicate slide
Ctrl +M	:	to insert a new slide
Alt +F2	:	save as
Alt +F5	:	restore
Alt +F8	:	to create new macros
Alt +F11	:	to open VB editor
F5	:	slide show
Shift +F1	:	what's this (help) MS DOS command:
DIR	:	to view all the files
DIR/P	:	to view files page wise
DIR/W	:	to view files width wise
DIR/S	:	to view files in sub-directories
DIR/L	:	to view files in lower case
DIR/AD	:	to view all directories only
CLS	:	clear the screen
CD	:	exits the directory
CDI	:	returns to command prompt
DIR*. ??	:	list all files with on extension
DIR?. *	:	list all files with one character
DIRT*. *	:	list all files starting with "T"
DIR/OS	:	big size smallest first

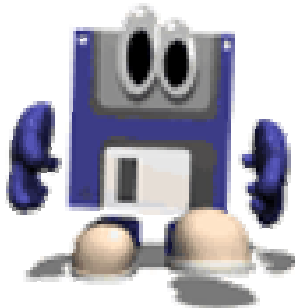
### Internet Lingo short keys used in e-mails and chat:

AFAIK	:	As For As I Know
BTW	:	By The Way
CU	:	See You
F2F	:	Face To Face
FAQ	:	Frequently Asked Question
WRT	:	With Respect To
YMMV	:	Your Mileage May Vary
OTOH	:	On The Other Hand
GOK	:	God Only Knows
FYI	:	For Your Information's
FOAF	:	Friend Of A Friend
WRT	:	With Respect To
IMU	:	In My Opinion
CULSR	:	See You Later

## Compact Disc

The optical disk, either in its original large videodisk or looking exactly like the audio CD is another area of research and development. A single CD can hold almost a gigabyte of data, more than twice the capacity of a large mainframe disk pack, though at the moment it is not erasable like magnetic storage.

The optical disk is ideal for storage, partly because it is so compact, but mainly because it is robust and the data recorded is not subject to decay over time. It is highly probable that optical disk will replace microfilm and microfiche for archiving and for static data, which once created never, needs to be changed. This technique, called CD-ROM, is already very common with micros.



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## Tips for Downloading Files Safely

**To download files safely from the web, follow these guidelines.**

Exercise caution when downloading files from the web. Beware of downloads from personal or other wise absurd web sites. to be safe, download files only from well known and reputable web sites. For example, you can typically trust downloads from a software vendor such as Microsoft and from a professionally operated web site such as CNET.com, where as you need to be careful when downloading from a college student personal web sites.

Beware that viruses downloads can carry viruses, and you should have your virus protection software scan any downloaded files or programs before you run them on your computer. In the Internet explorer, set the security level for the internet zone medium or high-never lower! Add your trust worthy sites to the Trusted Sites Zone to allow them to be download at a lower security level.

To protect your privacy, use the tools available in Internet explorer to block cookies from being used and to delete them from your hard drive. If you use someone else's computer to surf the web, try to turn off cookies or delete the cookies when you're finished. Deleting the cookies will ensure that another user can't gain access to and otherwise use your personal settings, for example, when shopping online.

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## **Bad Soldier**

One of Microsoft's finest techs was drafted and sent to boot camp. At the rifle range, he was given some instruction, a rifle, and bullets. He fired several shots at the target. The report came from the target area that all attempts had completely missed the target.

The Microsoft tech looked at his rifle and then at the target again. He looked at the rifle again, and then at the target again. He put his finger over the end of the rifle barrel and squeezed the trigger with his other hand. The end of his finger was blown off, whereupon he yelled toward the target area: "It's leaving here just fine. The trouble must be at your end!"

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## **Usenet News**

Usenet news is a global electronic bulletin board system in which millions of computer users exchange information on a vast range of topics. The major difference between Usenet news and e-mail discussion groups is the fact that Usenet messages are stored on central computers, and users must connect to these computers to read the messages posted to these groups. This is distinct from e-mail distribution, in which messages arrive in the electronic mail boxes of each list member.

Usenet itself is a set of machines that exchange messages, or articles, from Usenet discussion forums, called newsgroups. Usenet administrators control their own sites, and decide which newsgroups to sponsor and which remote newsgroups to allow into the system.

There are thousands of Usenet newsgroups in existence. While many are academic in nature, numerous newsgroups are organized around recreational topics. Much serious computer-related work takes place in Usenet discussions. A small number of e-mail discussion groups also exist as Usenet newsgroups.

The Usenet news feed can be read by a variety of newsreader software programs. Newsreader software gives us access to the newsgroup messages, which are stored on a central computer at the university. For example, the Netscape communicator suite comes with a newsreader program called Messenger. Newsreaders are also available as standalone products.

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## **Beware of Viruses**

One Who heard about Computers will have known about Computer Virus also. Whoever using Computer must beware of Viruses. Virus is also Software similar to other software. This is a product from expert programmers. So care must be taken to wipe out Viruses from Computer.

If a Virus enters into the Computer, it links up with a software which is already installed. When We execute the infected program, the Virus starts functioning. There are Virus Softwares which function only on a specific data. The Virus “Friday Thirteenth” functions only when the date is 13 and day becomes Friday. Another Virus Michelangelo functions on March 6, the birthday of the great artist, Michelangelo.

The Viruses are divided into many different Categories. One type links with the programme and start functioning when the infected software is executed. Another type enters into the BootSector of the Hard Disk and starts functioning while booting the Computer. The Only way to get rid of Virus is by using an anti-virus programme. These Programmers search through the Floppy Disk, Hard Disk etc., and destroy the Viruses. These Softwares are Very Costly.

The Following steps may help to prevent the virus from entering into our Computer.

- Buy Only the Licensed Software and not a Pirated Version.
- Install the best anti-virus Software available in the Market and Update the Latest Version Frequently.
- Scan before using disks from outside and make sure that they are not infected by virus.
- Some anti-virus softwares reside in the memory and inform us the presence of virus while using an infected disk.
- Before Opening an e-mail make sure that the attachment of the e-mail is not infected.

To reduce the loss of data or software, back up the data or software frequently. This helps us to restore them from the backup. To make backup, always use CD's which are more durable than Floppy Disk's. It is better for the business people who are using computers for accounting to keep hard copies(Print Outs).

Always scan the hard disk using anti-virus Softwares. If a virus is found, use the most powerful anti-virus softwares to destroy it. Anti-Virus software cannot guarantee that the hard disk is Virus free because an anti-virus programme verifies only for a list of viruses Which are known and there may be many other Viruses Unknown to the author of the anti-virus software. Day by Day new viruses are generated. The damage caused by Various Virus “I Love You” and “Melisa” were huge as you have already known.

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## Old is Gold - FoxPro

FoxPro is one of the leading Database Management System (DBMS) software for the PC. This is an enhanced and updated version of the FoxBASE+ software. Ashton-Tate developed one of the first DBMS' for the PC in 1979-1980 that was called Dbase-II. Then, that company introduced the updated version of Dbase-II in 1984 that was called Dbase-III plus.

Soon, Dbase-III became the industry standard. Later, Ashton-Tate released the enhanced and updated version on Dbase-III plus to get a share of the expanding DBMS market for the PC segment, for software, inc. came out with FoxBASE+ that was almost called FoxPro. Gradually, new versions of FoxPro were released to make it more powerful and user-friendly.

However, this has also widened to the gap between Dbase and FoxPro and now they are partly compatible. FoxPro also called as Relational Database Management System (RDBMS). It may sound complicated. Well, whatever the name may suggest, we are sure that we will find it very simple and easy to use.

FoxPro helps us to edit, view, and change the data in the database through simple built-in commands. Once the database already exists, we can use it to retrieve selected information from it. The retrieved information can be displayed or printed as per the desired report format. The best part is that the data stored in the database is flexible, we can change/modify the contents as well as the structure of a database any number of times.

For instance, if we have prepared a database of employee in an office, later on, if we wish to add some new information, say the data of joining in all records, we can do it very easily. FoxPro is very simple to learn and use. The commands are simple English commands.

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# Future of PC

## Part - II

### **Power Packed Processors:**

In the past few months the processor manufacturing companies have only managed to get a foot in the door when it comes to GHz+ speeds. The pace has been rather slow with a lot of hiccups along the way. Starting next year, both AMD and Intel will chum out faster processors at shorter intervals, and the speeds will rise like nobody's business—imagine processors containing upwards of a billion transistors and running at speeds of over 4 GHz! Current generation CPUs are already being manufactured at an amazing 0.13 micron fabrication process and with the transition to 0.09 micron imminent, a billion transistor CPU isn't too far off—chances are you will find one in your PC next year. These GHz guzzling beasts will be powerful enough to provide as-real-as-it-gets 3D graphics, real-time capture of full-motion MPEG-2 video, and accurate voice recognition.

### **Bandwidth Busters:**

New and emerging memory technologies will be quenching the thirst for continuous data. Bandwidth will double with DDR and QBM (quad band memory) taking over from the existing standards. DDR is the next evolution of the DDR standard. It will offer double the bandwidth of standard 200 MHz DDR(PC1600) by sampling at 4-bits per cycle compared to the current 2-bits. DDR will debut at 400 MHz(100 MHz quad-pumped) and will offer a whopping 6.4 GBps of bandwidth under dual-channel configurations. It's expected to be widely available by the beginning of next year.

Some say that even with this amount of bandwidth, the next generation of CPUs could face some bottlenecks. In steps QBM that offers twice the bandwidth of DDR. But the beauty of QBM is that it can be implemented with any of today's standard DDR266 module (PC2100) will deliver 4.2 GBps, which is double its theoretical bandwidth. Compared to PC5400 levels with existing DDR333 modules.

### **GA-GA Graphics:**

With bandwidth-consuming texture-rich games becoming more and common, the current graphics platform will have to go through a serious upgrade to keep up. Also, every graphics card from nvidia and Ati will have integrated TnL(Transfrom and lighting) along with programmable shaders is being used in almost all new games that are being developed, which can cause the video memory bandwidth to become a severe bottleneck. This would be alleviated to a large degree with the introduction of AGP 8x.

### **Super Storage:**

We are already approaching the technical limitations of the current ATA standard; today's controllers cannot recognize drives larger than 137.4GB as they cannot use a 28-bit addressing system. New standards will adopt a 48-bit addressing system, raising the maximum drive capacity a million fold to 144 petabytes(a petabyte equals a million gigabytes).But some drive manufactures want to take storage to almost unrealistic



heights. IBM is using a new disk material, nicknamed 'pixie dust', placed between two layers of magnetic material, it helps data remain stable at very high densities. The only way to support such large and fast drives will be to transition from the existing parallel ATA standard to serial ATA (SATA). Serial ATA starts at a data transfer rate of 150 MBps and will soon migrate to 300 MBps and then to a whopping 600 MBps. It uses a thinner, more flexible cable that improves airflow and thereby facilitates the development of smaller form factor systems with better thermal designs. Also, 5,400-rpm drives will start their slow and inevitable march into hard drive history, while 7,200-rpm drives will become the standard and ensure that the SATA interface will be pushed to its limits.

### **Perfect Portability:**

It's time to throw away your 700MB CD. The price of DVD has dropped as low as Rs300 per disc and DVD-writers have already started appearing in the market.

The best part is the adoption of DVD's successor-the blu-ray disc. This 12-CM disc will be the same size as its DVD counterpart but will have a maximum capacity of 27 GB per side (compared with 4.7 GB for DVD discs) and a data transfer rate of 36 Mbps to accommodate high-definition content recording. The format would allow a disc to store more than 2 hours of high Definition video content and 13 hours of standard television broadcasts! To top it all, a double layer disc with up to 50 GB of storage capacity is also in the pipeline.

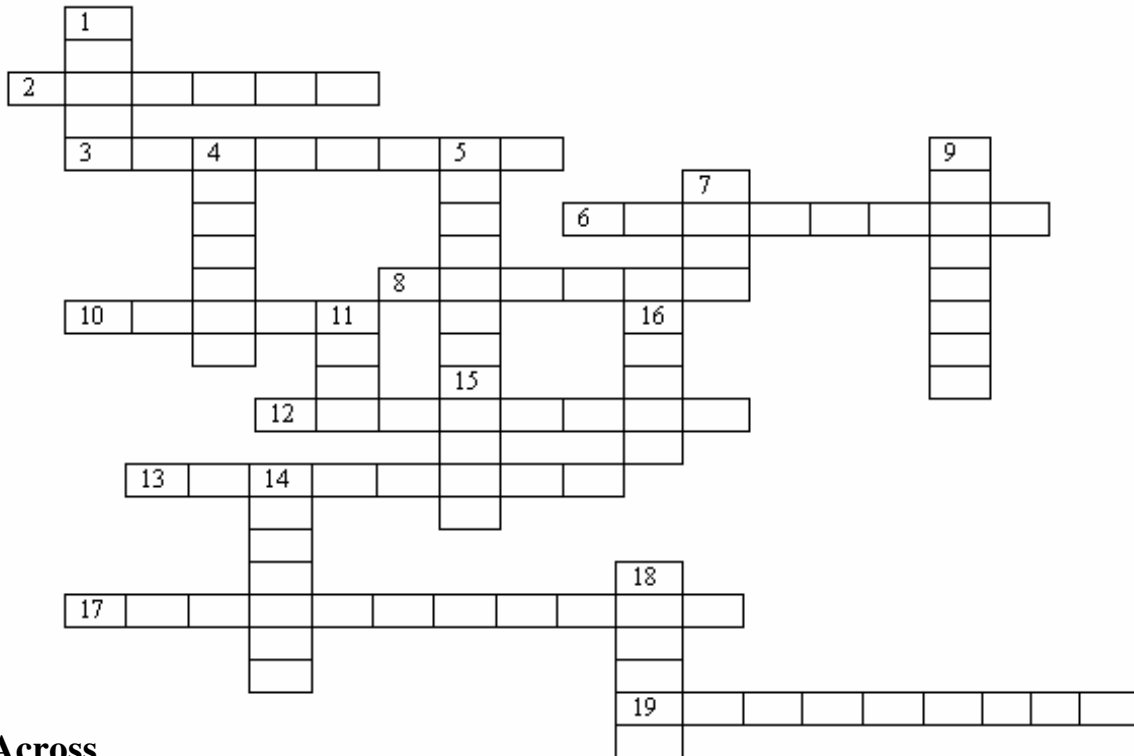
The final nail in the coffin for floppies is being hammered in by the new USB micro drives. This tiny flash fits in the palm of your hand and stores up to 1 GB of data! Just plug it into a USB port and begin using it. These drives work seamlessly with any operating system, be it Macintosh, Linux or Windows and they don't even need any special device drivers.

### **Idiot-Proof Interfaces:**

In a year's time the PC will no longer support legacy I/O ports residing on the back plate of your PC. These will be replaced by high-speed USB 2.0 and IEEE-1394 (FireWire) ports that are nearly 40 times faster than USB 1.0 and over 500 times faster than parallel ports. You will no longer face problems interfacing cutting-edge digital cameras, MP3 players, digital video recorders and external storage devices with your PC. Scanners and printers too will join the faster USB revolution and will shed their old and rather slow parallel interfaces, allowing for faster scanning and printing.

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## CROSS WORD



### Across

- 2. Block of data sent over a network
- 3. Physical arrangement of equipment in a network
- 6. Command that compares two floppy disc
- 8. Delphi is modified version of
- 10. To retrieve data or instruction from storage is
- 12. Most common name of IEEE 802.3 standard is
- 13. The scientific study of ROBOT
- 17. Father of NT operating system
- 19. Repeating a set of actions again & again

### Down

- 1. Most of the modem today used are
- 4. Menu which is used for pointing to the selection of colours
- 5. 'Meaning less Data' in computer parlance
- 7. Government agency that support internet in India
- 9. Command that increase the amount of conventional memory available to run DOS commands
- 11. Computer on a network running an internet protocol
- 14. Gutter margin is also called
- 15. Similar to UNIX

16. First operational general purpose program controlled calculator

17. VRML is also known as

## Windows XP - Refresher

**Here's your one-stop shop for learning how to use the features and technologies that come with Windows XP.**



### Digital Photography

Into digital photography? The features in Windows XP make it easy to transfer pictures directly from your digital camera to your computer and even help you organize and share your photos the way you want to.



### Games for Windows

Games for Windows open a wide world of fantasy and adventure—and give you a break from reality and a chance to have fun with friends and family at any age.



### Making Movies

Windows Movie Maker lets you use your computer to create and edit home movies with a few simple drag-and-drop moves. Then share your movie via the Web, e-mail, your computer, or CD.



### Music and Video with Windows Media Player

With its fast and flexible playback features, Windows Media Player makes it easy to enjoy your favorite music and movies whenever you like, plus discover more with services offering premium entertainment.



### TV and Multimedia

Take advantage of these resources to get the most out of your Media Center personal computer.



## Instant Messaging

Windows Messenger lets you instantly communicate with friends and family all around the world from your computer, using text chat and even voice and video.



## Security and Privacy

Learn to keep your computer and personal data more secure with Windows XP.



## Computer Setup and Maintenance

Learn how to set up, personalize, and maintain your computer.



## Home and Small Office Networking

Networks let you share files, printers, and other peripherals. Get the information you need here.



## Pen and Ink

Find out how to put the features of Windows XP Tablet PC Edition to work for you.

**M. Gunaseelan,  
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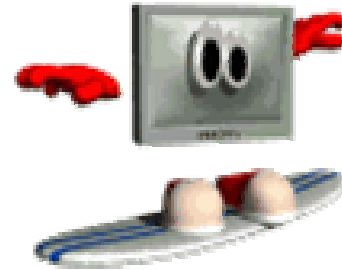
## An A-Z Index of the Linux BASH command line [I-Part]

<b>alias</b>	:	Create an alias
<b>awk</b>	:	Find and Replace text within file(s)
<b>break</b>	:	Exit from a loop
<b>builtin</b>	:	Run a shell builtin
<b>cal</b>	:	Display a calendar
<b>case</b>	:	Conditionally perform a command
<b>cat</b>	:	Display the contents of a file
<b>cd</b>	:	Change Directory
<b>chgrp</b>	:	Change group ownership
<b>chmod</b>	:	Change access permissions
<b>chown</b>	:	Change file owner and group
<b>chroot</b>	:	Run a command with a different root directory
<b>cksum</b>	:	Print CRC checksum and byte counts
<b>clear</b>	:	Clear terminal screen
<b>cmp</b>	:	Compare two files
<b>comm</b>	:	Compare two sorted files line by line
<b>command</b>	:	Run a command - ignoring shell functions
<b>continue</b>	:	Resume the next iteration of a loop
<b>cp</b>	:	Copy one or more files to another location
<b>cron</b>	:	Daemon to execute scheduled commands
<b>crontab</b>	:	Schedule a command to run at a later time
<b>csplit</b>	:	Split a file into context-determined pieces
<b>cut</b>	:	Divide a file into several parts
<b>date</b>	:	Display or change the date & time
<b>dc</b>	:	Desk Calculator
<b>dd</b>	:	Data Dump - Convert and copy a file

**declare** : Declare variables and give them attributes  
**df** : Display free disk space  
**diff** : Display the differences between two files  
**diff3** : Show differences among three files  
**dir** : Briefly list directory contents  
**dircolors** : Colour setup for `ls`  
**dirname** : Convert a full pathname to just a path  
**dirs** : Display list of remembered directories  
**du** : Estimate file space usage  
**echo** : Display message on screen  
**ed** : A line-oriented text editor (edlin)  
**egrep** : Search file(s) for lines that match an extended expression  
**eject** : Eject CD-ROM  
**enable** : Enable and disable builtin shell commands  
**env** : Display, set, or remove environment variables  
**eval** : Evaluate several commands/arguments  
**exec** : Execute a command  
**exit** : Exit the shell  
**expand** : Convert tabs to spaces  
**export** : Set an environment variable  
**expr** : Evaluate expressions  
**factor** : Print prime factors  
**false** : Do nothing, unsuccessfully  
**fdformat** : Low-level format a floppy disk  
**fdisk** : Partition table manipulator for Linux  
**fgrep** : Search file(s) for lines that match a fixed string  
**find** : Search for files that meet a desired criteria  
**fmt** : Reformat paragraph text  
**fold** : Wrap text to fit a specified width.  
**for** : Expand *words*, and execute *commands*

**format** : Format disks or tapes  
**free** : Display memory usage  
**fsck** : Filesystem consistency check and repair.  
**function** : Define Function Macros  
**gawk** : Find and Replace text within file(s)  
**getopts** : Parse positional parameters  
**grep** : Search file(s) for lines that match a given pattern  
**groups** : Print group names a user is in  
**gzip** : Compress or decompress named file(s)  
**hash** : Remember the full pathname of a name argument  
**head** : Output the first part of file(s)  
**history** : Command History  
**hostname** : Print or set system name  
**id** : Print user and group id's  
**if** : Conditionally perform a command  
**import** : Capture an X server screen and save the image to file  
**info** : Help info  
**install** : Copy files and set attributes  
**join** : Join lines on a common field  
**kill** : Stop a process from running  
**less** : Display output one screen at a time  
**let** : Perform arithmetic on shell variables  
**ln** : Make links between files  
**local** : Create variables  
**locate** : Find files  
**logname** : Print current login name  
**logout** : Exit a login shell  
**lpc** : Line printer control program  
**lpr** : Off line print  
**lprint** : Print a file

**lprintd** : Abort a print job  
**lprintq** : List the print queue  
**lprm** : Remove jobs from the print queue  
**ls** : List information about file(s)  
**m4** : Macro processor  
**man** : Help manual  
**mkdir** : Create new folder(s)  
**mkfifo** : Make FIFOs (named pipes)  
**mknod** : Make block or character special files  
**more** : Display output one screen at a time  
**mount** : Mount a file system  
**mtools** : Manipulate MS-DOS files  
**mv** : Move or rename files or directories  
**nice** : Set the priority of a command or job  
**nl** : Number lines and write files  
**nohup** : Run a command immune to hangups  
**passwd** : Modify a user password  
**paste** : Merge lines of files  
**pathchk** : Check file name portability  
**popd** : Restore the previous value of the current directory  
**pr** : Convert text files for printing  
**printcap** : Printer capability database  
**printenv** : Print environment variables  
**printf** : Format and print data





## **Computer Industry Acronyms (CIA)**

<b>CD-ROM</b>	:	Consumer Device, Rendered Obsolete in Months
<b>PCMCIA</b>	:	People Can't Memorize Computer Industry Acronyms
<b>ISDN</b>	:	It Still Does Nothing
<b>SCSI</b>	:	System Can't See It
<b>MIPS</b>	:	Meaningless Indication of Processor Speed
<b>DOS</b>	:	Defunct Operating System
<b>WINDOWS</b>	:	Will Install Needless Data On Whole System
<b>OS/2</b>	:	Obsolete Soon, Too
<b>PnP</b>	:	Plug and Pray
<b>APPLE</b>	:	Arrogance Produces Profit-Losing Entity
<b>IBM</b>	:	I Blame Microsoft
<b>DEC</b>	:	Do Expect Cuts
<b>MICROSOFT</b>	:	Most Intelligent Customers Realize Our Software Only Fools Teenagers
<b>CA</b>	:	Constant Acquisitions
<b>COBOL</b>	:	Completely Obsolete Business Oriented Language
<b>LISP</b>	:	Lots of Insipid and Stupid Parentheses
<b>MACINTOSH</b>	:	Most Applications Crash; If Not, The Operating System Hangs
<b>AAAAA</b>	:	American Association Against Acronym Abuse.

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## **Latest Trends In The It-Field Net Power (Wipro)**

### **Why Wipro Net Power Servers?**

1. Based on Latest Technology.
  2. Quality Testing & Manufacturing Process.
  3. Support & Certification for all Major Operating Systems.
  4. Strategic Alliances with technology leaders in the World.
  5. Terranova-wipro center of excellence lab, located in Bangalore.
- ◆ Validation of solutions on wipro servers & storage.
  - ◆ Helps in providing the right sizing of servers depending on application requirement.

### **Intel Xeon Server Platforms.**

Intel Xeon processor-based server platforms help provide the price performance, versatility and dependability required for front-end and mid-tier servers. Internet, mail servers, databases, technical computing, and other 32-bit applications benefit response times over previous platform. Innovative 2004 Intel R Xeon™ dual processor server platform offers.

- support for both 64 and 32-bit application.
- Flexible memory, I/O and storage configurations.
- Reduced power consumption option.
- Faster front-side bus over previous platform.
- Layer physical address space over previous platforms.

### **The Intel Xeon Processor Platform Includes:**

- Intel Xeon processor with 800 MHZ system bus built on 90nm manufacturing process.
- Improved performance and scalability from higher clock speed to layer L2cache.
- Intel r E7520 & E7320 chipsets – combines major platform improvements and new technologies with the Intel r xeon tm, processor to deliver outstanding system performance, scalability and value.
- Intel r extended memory 64 technology – enhances next-generation IA –32 server and workstation platformds with 64-bit memory addressability and related instructions.
- Intel r Iop332 I/O processor for RAID solution – helps reduce system latency with elimination of I/O bridges required in legacy PCI(-X) economical and intelligent data protection features.
- PCI Express-next generation I/O capable of up to 8 GB/S peak bandwidthy softwarecompatible with PCI (-X) to simplify parallel – to – serial transition.

- DDR2 memory based subsystem – Increased memory based width up to 20 percent. Reduces overall system power consumption.
- Demand – based switching with enhanced Intel r speed step technology – switches among legacy, compatibility, and 64 bit modes of maximum flexibility. Enable low transition latency from modes to modes. Helps reduces average processor power consumption over the life of the system.

### **Netpower 1120 specifications:**

- Intel Pentium IV Processor with HT Technology had 800 MHZ FSB up to \$ GB DDR ECC memory.
- SATA or SCSI options.
- Options for RPS and hot swap.
- Dual Gigabyte Ethernet.
- Management Software.

### **Advantages & Uses:**

- Small Medium application server.
- Suited for file &0 print, proxy applications.
- Cost effective solution.

### **Net power 7225Z specifications:**

- Dual Intel Xeon processor up to 3.2 GHZ with IMB/2 MB L2 cache.
- Memory expandate to 12 GB .
- Dual Gigabyte Ethernet Controllers.
- Redundant Power Supplies.
- Up to 7 Hot Swap SCSI drives.
- Management Software.

### **Advantages fuses:**

- Performance and Reliability.
- Mid end server application.
- Full remote management.

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## OS Usage of Chip –India.Com Visitors

OPERATING SYSTEMS	PERCENTAGE
WINDOWS XP	44.25%
WINDOWS 98	27.9%
WINDOWS 2000	16.1%
WINDOWS ME	4.4%
WINDOWS NT	3.3%
WINDOWS 2000 SERVER	1.2%
WINDOWS 95	0.2%
LINUX	1.1%
OTHERS	1.1%
MAC	0.20%

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### Software Can Kill!!!

Can software kill? Most will dismiss the idea as ridiculous. But talk to the family members of 2 cancer patients who died and it's another story. These cancer patients were treated at the national cancer institute in Panama in November 2000, and died after being overdosed by a cobalt-60 radio-therapy machine. The technique that entered patients and medication data into the software that guided the machine, will stand trial on charges of second-degree murder.

### Tiny memory card

It's fast becoming a small is beautiful world. And Panasonic's Mini SD card, the world's smallest flash memory card, is proving the point. The Mini SD card is about 40 percent of the volume of the standard SD Memory card. The new cards will be packed with a Mini SD adapter that enables compatibility with all devices equipped with a standard SD memory card slot memory cards came in three capacities – 32MB, 64MB, and 128MB.

The card is designed especially for use in Mobile phones. It has outstanding functions and performance in a tiny form that measures 21.

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## **Integrated Circuit Chips (Ic)**

Circuits are made up of different electronic components (capacitors, resistors, transistors, etc.) wire together in a manner that performs a specific electronic function. These components are hooked together on fiberglass boards called circuit boards. You can see the small thin copper or metal lines (wires) on a circuit board that connect the different components together. These are called traces.

If you could find an old 7 or 10-transistor radio from the sixties, you could open it up and see the peanut sized transistors on the circuit board. They looked like little water towers with their 3 legs going down to the circuit board where they were soldered in place. Now, imagine that circuit board and all of its transistors, shrunk down to about the size of your little fingernail and put into a small plastic case for protection. In other words, the entire circuit would be integrated into that one small chip. Hence the name, Integrated Circuit (IC).

With today's technology, these circuits and transistors can be etched into small wafers of silicon and sandwiched into a small plastic package or chip. There are small metal pins coming out of the chip that are connected to the silicon wafer inside with microscopic wiring. The most amazing thing is, today's small integrated circuits now contain millions of transistors, not just 7 or 10. These IC chips are then placed on a circuit board connecting them to other components and IC chips.

One technology for producing ICs is called TTL (Transistor Transistor Logic). These chips are actually more tolerant of ESD (Electrostatic Discharge) and even faster than the newer technology. However, they're also larger, use more electricity or power, and their resistance causes them to run very hot. As computer technology advanced and the number of transistors in the chips increased, heat and power consumption today, but the newer CMOS chips (Complimentary Metal-Oxide Semiconductor) have all but replaced them entirely. These chips have a semi-conductive metal oxide layer that allows for less resistance, reducing the power consumption and the generated heat. Unfortunately, the very technology that makes these CMOS chips more efficient also makes them very susceptible to electrostatic discharge.

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## Life Before the Computer

An application was for employment  
A program was a TV show  
A cursor used profanity  
A keyboard was a piano!

Memory was something that you lost with age  
A CD was a bank account  
And if you had a 3 ½ inch floppy  
You hoped nobody found out!

Compress was something you did to garbage  
Not something you did to a file  
And if you unzipped anything in public  
You'd be in jail for awhile!

Log on was adding wood to a fire  
Hard drive was a long trip on the road  
A mouse pad was where a mouse lived  
And a backup happened to your commode!

Cut - you did with a pocket knife  
Paste you did with glue  
A web was a spider's home  
And a virus was the flu!

I guess I'll stick to my pad and paper  
And the memory in my head  
I hear nobody's been killed in a computer crash  
But when it happens they wish they were dead!

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## **Answers:**

### **Cross Word:**

#### **Down:**

1. SMART.
4. PALETTE.
5. GARBAGE.
7. VSNL.
9. MEMMAKER.
11. HOST.
14. BINDING.
15. XENIX.
16. ZUSE-3.
17. VERMIL.

#### **Across:**

2. PACKET.
3. TOPOLOGY.
6. DISCCOMP.
8. PASCAL.
10. FETCH.
12. ETHERNET.
13. ROBOTICS.
17. DAVIDCUTLER.
19. ITERATION.