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GLASS HANDLE WITH CARE

Have you seen recent advertisement of M/S SAINT GOBAIN GLASSES shown in Televisions? ? Then, you must have known about two-way mirror and is also shown in Hindi Movie HUMRAAZ. How to determine whether a mirror is two-way or not (not a Joke!). Not to scare you, but to make sure that you aware. Many of the hotels and textile showrooms (trial room) cheat the customers this way and watch privately.

How to detect a two-way mirror ?

When we visit toilets, bathrooms, hotel rooms, changing rooms, etc., how many of you know for sure that the seemingly ordinary mirror hanging on the wall is a real mirror, or actually a 2-way mirror i.e., they can see you, but you can't see them). There have been many cases of people installing 2-way mirrors in female changing rooms or bathroom or bedrooms. It is very difficult to positively identify the surface by just looking at it. So, how do we determine with any amount of certainty what type of mirror we are looking at?

Conduct this simple test

Place the tip of your fingernail against the reflective surface and if there is a GAP between your fingernail and the image of the nail, then it is a GENUINE mirror. However, if your fingernail DIRECTLY TOUCHES the image of your nail, then BEWARE, IT IS A 2-WAY MIRROR! (There is someone seeing you from the other side). So remember, every time you see a mirror, do the "fingernail test." It doesn't cost you anything. It is simple to do. This is a really good thing to do. The reason there is a gap on a real mirror, is because the silver is on the back of the mirror UNDER the glass. Whereas with a two-way mirror, the silver is on the Surface. Keep it in mind!

Make sure and check every time you enter in hotel rooms. May be someone is making a film on you.

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INTERNET BEWARE

?Pitfalls along the way?Dangerous elements Ahead?, ?Tread with caution?. These signs are plastered all over the information superhighway. The Internet has no watchdog or regular authority. Its very nature makes it a veritable playground for mischief makers.

Spam

Spamming can be defined as ?unsolicited and usually commercial e-mail sent to a large number of addresses. Today, the most common form of spam is e-mail spam. Though the idea of bulk mailing people with commercial pamphlets is not new, the advent of newer means of communication has opened up more vistas for spammers. Spammers have, thus, developed a variety of spamming techniques varying only in the media they operate in. Apart from e-mail spam, they also indulge in instant messaging (IM) spam, search engine spam, spamming a blog with comments, and mobile phone messaging spam.

So how do these spammers obtain your e-mail addresses? There are various tools that can be used to harvest e-mail addresses. Some of the most common ones are using a spider or a ?bot? of crawl the Web and collect the e-mail ids. These web spiders go around looking for e-mail addresses all over the Web. The most common targets are sites where you give out your e-mail address for purpose of registration, or a Web site where you put your mail id so that other members of that site/group can contact you. It is, however, possible to fool the Web spider by substituting the ?@? symbol with ?at? or any such other symbols while posting an e-mail ID. For example, instead of posting e-mail address as abc@xyz.com, you could try abc(at)xyz(dot)com.

Viruses

Every computer user is aware of the damage a virus can inflict . The main criterion for classifying a piece of executable . A virus can only spread from one computer to anotherwhen its host is taken to the infected computer; in most cases, by a user sending it over a network. Additionally, viruses can spread to other computers by infecting files a virus is that it should spread by means of ?hosts?. on a network file system or a file system that is accessed by another computer.

In many cases, viruses are confused with worms. A worm, however, can spread itself to other computers without needing to be transferred as part of a host. Many personal computers are now connected to the Internet and to local-area networks, facilitating the spread of worms.

?Elk Corner?, a virus written by Rick Skrenta is recorded as the first computer virus to appear ?in the wild? that is, outside the single computer or lab where it was created.

Viruses can be divided into two types; on the basis of their behavior when they are executed: Resident and Non-Resident viruses.

Non-Resident viruses immediately search for other hosts that can be infected; infect these targets, and finally transfer control to the application program they infected.

Resident viruses do not search for hosts when they are run. Instead, a resident virus loads itself onto memory upon execution and transfers control of the host program. The viruses stay active in the background and infect new hosts when those files are accessed by other programs or the operating system itself.

Other malware such as worms and Trojans have also been instrumental for a number of Internet outages in the past. Unlike viruses and worms, Trojans cannot replicate and spread on their own. A Trojan is a malicious program that is disguised as legitimate software. The useful, or seemingly useful, functions serve as camouflage for the undesired operations that the software performs.

Phishing

Phishing, also called spoofing, is the act of attempting to fraudulently acquire sensitive information, such as passwords and credit card details, by masquerading as a trustworthy person or business with real need for such information in a seemingly official electronic notification or message. The e-mail directs the user to visit a Web site where they are asked to update personal information, such as passwords and credit card, social security and bank account numbers that the legimate organization already has.

Such attacks are classified as social engineering attacks because perpetrators acquire the details by gaining the victims trust. As is obvious, the term phishing comes from the fact that these Internet scammers use sophisticated lures as they ?fish? for users? financial information and password data.

The term Phishing was coined in the mid 1990s by crackers who attempted to steal account details from AOL.

Phishing has now become one of the major threats on the Internet today because of the rise in financial transactions being conducted online. A number of companies have filed cases against these unknown attackers claiming millions in damages.

Pornography

Pornography is not only images, but also videos and stories. Pornographic material is also one of the most searched for on the Internet. According to Google, 68 million searches are made every day for some variation of the word ?porn?. Excessive viewing pornography has a detrimental effect on an individual?s personal and social life. Most of the successful Internet entrepreneurs are those who own pornographic sites.

There are various ways to tackle pornography. You can install software such as Net Nanny that monitors your computer and restricts users from visiting unauthorized Web sites. Browsers too, have inbuilt restrictive features that can be used to prevent viewing of certain sites.

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GRID COMPUTING ON DESKTOP PC's - WILL IT HELP YOU ?

Grid Computing is a relatively new term describing a not so new activity. We?ve been using networks of computers for decades. What?s new

is the cheap bandwidth allowing large numbers of computers to converse. A typical business has network capacity exceeding what NASA had when they landed on the moon. The combined computing power of a company?s desktops can exceed that of a supercomputer. Products are appearing that exploit this network and computational capacity to solve business, scientific, and engineering problems. For certain classes of problems, the increase in performance is linear with the number of computers on the grid.

Suppose you have a number crunching application (or a data crunching application) that takes minutes or hours to complete. Can a grid complete it faster? This paper describes a particular type of grid and explains what kinds of problems can or cannot be solved on it. It then describes the steps involved in adapting a single computer application to the grid.

Look around. See the Grid?

A grid could be a set of servers in a computer center that are configured to share computational tasks in a flexible way. That? S not what we're talking about. The grid we're discussing is the set of desktop computers connected by your company local area network. Suppose software exists (it does) that allows any idle desktop computer to contribute free CPU cycles to a grid. Now think about how many desktops aren't being used at any given moment. People go to meetings. People go to lunch. People go home at night.

You've got a grid.

Can you use it for a given application? Here's how to tell:

Does the entire application complete in a few seconds on one computer? If so, there is no advantage in distributing it on the grid. There is a second or two overhead in sending a task to an idle computer. Distributing a fast application will slow it down.

Can the application be broken into pieces? Look for loops and arrays. These are the features that suggest a program could be adapted to distributed execution. Could iterations of a loop be executed in any order? That?s good. Does one iteration depend on data from another? That?s bad.

Is the application slow ONLY because it? s consuming huge amounts of data from a file or database? Is the actual computation time trivial? Even if you can make the computation parallel, the I/O time may not improve. It? possible to get some benefit from the grid, but it depends on the nature of the data accesses. If different parts of the file/database are accessed by different pieces, you'll see a benefit. If the whole file must be read by each piece, probably not.

An exception to the above is if each piece is reading the same file multiple times. If the file isn't too big, you can distribute a copy of the file to each participating computer and still get an improvement in execution time.

Does one piece of the application depend on other pieces? This is where things get tricky. Consider a 3D graphics application that traces rays from a light source, bouncing off objects, and eventually reaching a viewer. This is a great application to distribute, because light rays (photons) don't interact with each other. Give each piece a range of angles to work on, distribute the pieces, and sum the results.

What if you want to simulate a billiards game? In each time slice, the movement of each ball depends on whether it? s touching another ball. It's tough to distribute this kind of computation because after each simulated time slice you'd have to communicate every ball's position to all the computers. The communication cost overwhelms the processing gain.

If the billiard game had millions of tiny balls, you could get some benefit by breaking up the table into a few squares. Each square could be processed separately. After each simulation slice, you'd only have to communicate information about the balls near the edges of the squares, which would be an order of magnitude less data. In general, distributing programs that require a lot of interaction between pieces is better done on a dedicated grid, rather than an ad hoc grid of desktop computers.

Even with the above restrictions, there are many applications that can benefit from distribution on a grid of PC?s. The next sections describe a general plan to adapt an existing program to the grid.

What if I don't have the source code?

You may be using a program for which you don?t have the source code. If so, think about whether you could call that program multiple times (with subsets of the input data), and then generate a combined result manually, in a spreadsheet, or through a simple program or script. If so, then you could distribute the program, perhaps with a simple wrapper program that would adapt its I/O interfaces to the framework. If it's a commercial program, be careful about license issues.

Adapting a Program for Distributed Execution

If you have the source code, see if you can reorganize the program so that code within an outer loop is reduced to a single function call. That function should not directly access any global data. It should operate only on parameters passed to it. Code before the loop may prepare data. Code after the loop will display and/or combine the results of each iteration.

Test to see if you broke anything.

Next, make the function accept only two parameters? an input filename and an output filename. The calling program will put all parameters into the input file and extract results from the output file. If possible, format the files in ASCII to ease debugging.

Test again.

Next, put the function in its own executable module. Inside the loop, the calling program should invoke the new module using? System? spawn,execl?, ?shell? Or the like.

Test again.

Finally, replace the local invocation of the new module with a call to a grid framework. The framework will distribute the module and the input files, and collect the output files. Particular frameworks will have unique interface requirements, but the basic functionality is the same.

Test again.

You're done!

This step-by-step adaptation will help you isolate problems as early as possible. Debugging distributed programs can be very difficult. You should always retain the ability to execute the same core logic in a single-threaded, non-distributed mode. This will allow stepping through the program in a debugger, and inspecting the input and output files as they are generated.

Two final topics to consider are error handling and forced termination. Distributed programs, particularly on ad hoc grids, must expect that executions of one or more pieces will be interrupted or fail. The framework will handle retries, but the application code must help by behaving properly. Handling forced termination means the application should check for some signal from the framework, and then exit.

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CHATTING BETWEEN LALU PRASAD AND BILL GATES

Gates: Hi! You must have heard of Windows.

Lalu: Oh yes! In most govt. offices we have the single window clearance concept.

Gates: At home have u installed Windows?

Lalu: I have removed all windows due to increased burglaries in our house.

Gates: (Confused) Then what is the system you operate on?

Lalu: OPERATION? Yes I had a Hernia operation last month.

Gates: (Sweating) Hope the Internet is being used a lot in India.

Lalu: Oh Yes! Due to increased mosquito problems many people are sleeping under the net.

Gates: By the year 2010 India should export computer chips.

Lalu: We are already exporting Uncle Chips.

Gates: (Feeling very Uneasy) do you regularly use Laptops?

Lalu: My grand-child sleeps on the top of my lap.

Gates: (Heavily sweating) the Chief Minister of Andhra Pradesh knows a lot about RAM and ROM.

Lalu: RUM? Prohibition is being lifted and it will be shortly available in A.P.

Gates: (Feeling Dizzy) I would like to take your leave before my system crashes.

Lalu: I have exhausted all my leave.

Gates: I have no energy left let us go out and have a bite.

Lalu: BITE? I believe in non-violence. I will not bite.

Gates: (System Crashes and Found Missing) "Windows is restarting. Please wait............."

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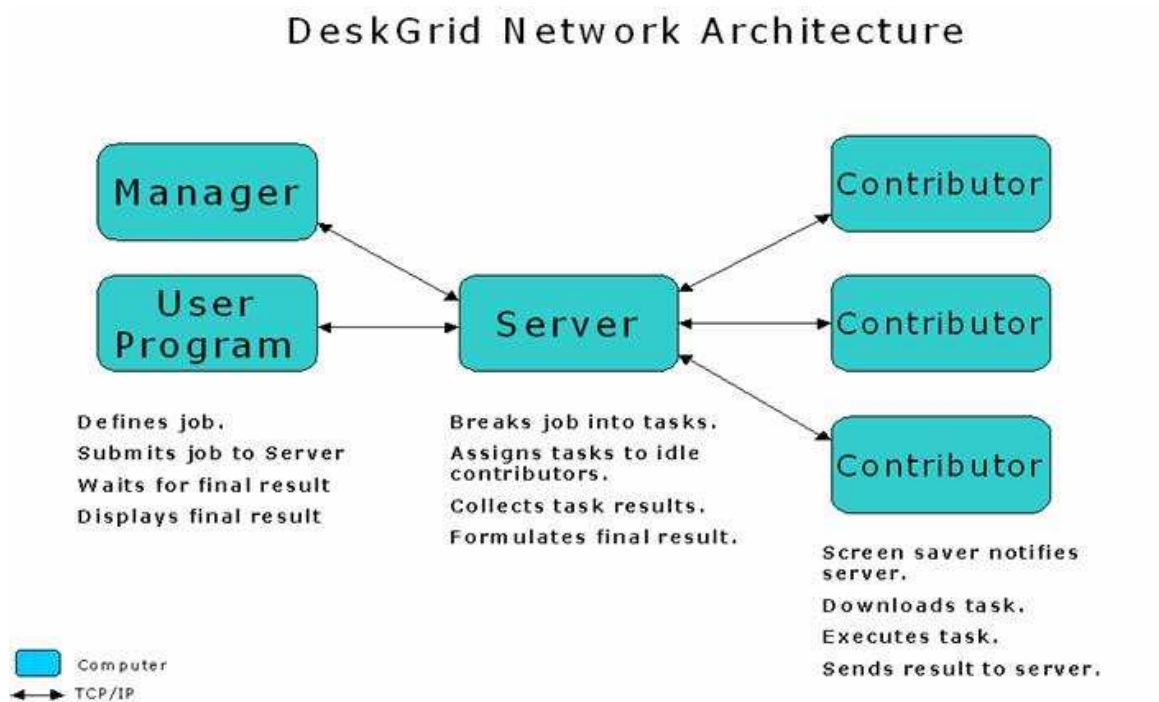
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DESK GRID ? GRID COMPUTING ON DESKTOP PCs

Architecture

A Desk Grid job is processed by three components: a submitter, the server and one or more contributors. A job is defined by an ASCII job

request file which identifies which files are to be uploaded to the server, sent to a contributor, retrieved from the contributor, and returned to the submitter.

DeskGrid Network Architecture

| Manager | | Contributor |

Manager

User Program
Defines job.
Submits job to Server
Waits for final result
Displays final result

Server
Breaks job into tasks.
Assigns tasks to idle contributors.
Collects task results.
Formulates final result.

Contributor

Contributor

Contributor
Screen saver notifies server.
Downloads task.
Executes task.
Sends result to server.

Computer
TCP/IP

A task is the smallest part of a job that can be performed by a contributor. Some jobs have many tasks, others only one. The key difference is that single task jobs can return the contributors output files to the submitter. A multiple task job requires a merge function to combine the task results into a single job result. If a user desires to get back all the task outputs, then the procedure is to submit many one-task jobs and then monitor their status until all are completed. This has the advantage that it requires no programming.

The Desk Grid Manager handles both types of submission: one multiple task job, or multiple single task jobs. The user may wish to submit jobs from within an application rather than using the Manager.

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TROUBLESHOOTING TIPS

Most of the computers purchased in good shops are definitely reliable. In spite of that if something goes wrong; here are a few common reasons and a few trouble shooting tips. The two common reasons of breakdown are:

1. Loose connections.
2. Failure of some electronics equipment.

Target your troubles

Firstly before consulting your dealer, check if there is any of the following problems in your computer:

1. Check the Power cords and connecting Cables.

2. Go through the Manual provided to you by the dealer.

3. Make sure all Electrical connections are intact.

4. If the Mouse Pointer is not moving smoothly, check if any dust has accumulated in the rollers. Remove the plate and clean the dust from the rollers.

5. If the Speakers are not responding properly, check if the speaker input wire is properly inserted or not.

6. Floppy disks, Compact disks and their respective drives have to be maintained carefully.

7. Always keep floppies in their cases. Do not expose them to heat, dust, strong sunlight, water, etc..,

8. Never bend or fold disks.

9. Never force disks into their drives.

10. Do not put disks on top of the screen, printer power cables, telephone or other sources of Magnetism.

11. Do not eat, drink or smoke near computers.

12. Keep your computer clean. Don?t allow the dust to saturate on the computer.

13. When the Machine is not in use, keep it covered.

14. Do not take the Floppy disks out of the drive when the light is still ON. It means the computer is still reading or writing data on it. If you eject the floppy in between, your floppy or your computer will be damaged.

15. Do not plug in anything when the computer is ON. If you have to plug in any peripherals to the computer, turn it OFF and then plug it.

16. Make sure you do not switch OFF the CPU directly. For example, if you are working on Windows 98 you have to first choose Shutdown option and then switch off only when you get message ?It?s now safe to turn off your Computer?.

17. Make sure you buy only legal software. Otherwise, certain problems might arise.

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COMPARISON OF FILE SYSTEMS

	Creator	Introduced in	Original operating system
FS	Bell Labs	1972	Unix
FAT12	Microsoft	1980	QDOS
FAT16	Microsoft	1983	MS-DOS version 2
MFS	Apple	1984	Mac OS

HFS	Apple	1985	Mac OS
OFS	Metacomco for Commodore	1985	Amiga OS
FAT32	Microsoft	1996	Windows 95b
HPFS	IBM & Microsoft	1988	OS/2
NTFS	Microsoft, Gary Kimura, Tom Miller	1993	Windows NT
HFS+	Apple	1998	Mac OS
FFS	Kirk McKusick	1983	4.2BSD
FFS (Amiga)	Commodore	1987	AmigaOS 1.3
UFS1	Kirk McKusick	1994	4.4BSD
UFS2	Kirk McKusick	2002	FreeBSD 5.0
LFS	Margo Seltzer	1993	4.4BSD
Mac OS X UFS	Apple (from UFS1)	-	Mac OS X
ext2	R Card	1993	Linux
ext3	Stephen Tweedie	1999	Linux
ReiserFS	Namesys	2001	Linux
Reiser4	Namesys	2005	Linux
XFS	SGI	1994	IRIX
JFS	IBM	1990	AIX
Be File System	Be Inc., D. Giampaolo, C. Meurillon	1996	BeOS
NSS	Novell	1998	Netware 5
NWFS	Novell	1985	Netware 286
ODS5	DEC	-	VMS

UDF	ISO/ECMA/OSTA	1995	-
VxFS	VERITAS	1991	SVR4.0

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TCP / IP ADDRESSING AND CLASSES

The IP Address and Classes

Hosts and networks

IP addressing is based on the concept of hosts and networks. A host is essentially anything on the network that is capable of receiving and transmitting IP packets on the network, such as a workstation or a router. It is not to be confused with a server: servers and client workstations are all IP hosts.

The hosts are connected together by one or more networks. The IP address of any host consists of its network address plus its own host address on the network. IP addressing, unlike, say, IPX addressing, uses one address containing both network and host address. How much of the address is used for the network portion and how much for the host portion varies from network to network.

IP addressing

An IP address is 32 bits wide, and as discussed, it is composed of two parts: the network number, and the host number [1, 2, and 3]. By convention, it is expressed as four decimal numbers separated by periods, such as "200.1.2.3" representing the decimal value of each of the four bytes. Valid addresses thus range from 0.0.0.0 to 255.255.255.255, a total of about 4.3 billion addresses. The first few bits of the address indicate the Class that the address belongs to:

Class	Prefix	Network Number	Host Number
A	0	Bits 0-7	Bits 8-31
C	110	Bits 2-24	Bits 25-31
D	1110	N/A	-
E	1111	N/A	-

The bits are labeled in network order, so that the first bit is bit 0 and the last is bit 31, reading from left to right. Class D addresses are multicast, and Class E is reserved. The range of network numbers and host numbers may then be derived:

Class	Range of Net Numbers	Range of Host Numbers
A	0 to 126	0.0.1 to 255.255.254
B	128.0 to 191.255	0.1 to 255.254
C	192.0.0 to 254.255.255	1 to 254

Any address starting with 127 is a loop back address and should never be used for addressing outside the host. A host number of all binary 1's indicates a directed broadcast over the specific network. For example, 200.1.2.255 would indicate a broadcast over the 200.1.2 network. If the host number is 0, it indicates "this host". If the network number is 0, it indicates "this network" [2]. All the reserved bits and reserved addresses severely reduce the available IP addresses from the 4.3 billion theoretical maximum. Most users connected to the Internet will be assigned addresses within Class C, as space is becoming very limited. This is the primary reason for the development of IPv6, which will have 128 bits of address space.

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WHAT IS UNIX??

The Open Group holds the definition of what a UNIX system is and its associated trademark in trust for the industry. In Novell (who had acquired the UNIX system business of AT&T / USL) decided to get out of that business. Rather than sell the business as a single entity, Novell transferred the rights to the UNIX trademark and the specification (that subsequently became the single UNIX Specification) to the Open Group (at the time X/Open Company). Subsequently, it sold the source code and the product implementation (UNIXWARE) to SCO .The Open Group also owns the trademark UNIXWARE, transferred to them from SCO more recently.

Today, the definition of UNIX? Takes the form of the worldwide single UNIX specification integrating X/Open company's XPG4, IEEE?s POSIX standard and ISO C. Through continual evolution, the single UNIX specification is the defacto and dejure standard definition for the UNIX system application programming interfaces. As the owner of the UNIX trademark, the open Group has separated the UNIX trademark from any actual code stream itself, thus allowing multiple implementations. Since the introduction of the single UNIX Specification, there has been a single, open, consensus specification that defines the requirements for a conformant UNIX system.

There is also a mark, or brand, that is used to identify those products that have been certified as conforming to the single UNIX Specification, initially UNIX 93, followed subsequently by UNIX 95, UNIX 98 and now UNIX 03.

The open Group is committed to working with the community to further the development of standard conformant systems by evolving and maintaining the Single UNIX Specification and participation in other related standards efforts. Recent examples of this are making the standard freely available on the web, permitting reuse of the standard in open source documentation projects, providing test tools, developing the POSIX and LSB certification programs.

From this page you can read about the history of the UNIX system over the past 30 Years or more. You can learn about the Single UNIX Specification, and read or Download online versions of the Specification. You can also involve in the ongoing development and maintenance if the Single UNIX Specification, by joining the Austin Group whose approach to Specification development is? Write once, adopt everywhere?, The Open Group's Base Working Group are get involved in the UNIX Certification Program.

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NAPSTER

The Internet provides many services. But, the service which has become very popular in a short period of time converting lot of controversy is Napster. Napster is mainly used to download music files in MP3 format. The function of Napster is different from other services available in the Internet.

When we visit a website, the information from the web server is downloaded to our computer. This web server may be situated in any part of the world. The websites are arranged in an organized manner. Here, the files get downloaded from the computer of the Internet users. We will see the functions of Napster in detail.

For using Napster, We have to install software. After installing the software, when we access the internet, a list of all available music files will be shown. These are the files from the computers of users logged into the internet who are the members of Napster. We can select any song from the list and download to our computer. But, Music companies strongly protest against its use. They feel that the widespread use of Napster may affect their sales.

Some observers feel that Napster may not last long. But, whatever may be the fate of Napster, the popularity gained by it in such a short time is remarkable.

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FUNNY COMPUTER ACRONYMS

Organization	Meaning
NIIT	Not Interested in IT
WIPRO	Weak Input, Poor & Rubbish Output
HCL	Hidden Costs & Losses
TCS	Totally Confusing Solutions
INFOSYS	Inferior Offline Systems
HUGHES	Highly Useless Graduates Hired for Eating and Sleeping
BAAN	Beggars Association and Nerds
IBM	Implicitly Boring Machines
SATYAM	Sad and Tired Yelling Away Madly
PARAM	Puzzled and Ridiculous Array of Microprocessors
AT&T	All Troubles & Terrible
CMC	Coffee, Meals and Comfort
DEC	Drifting & Exhausted Computers
BFL	Brainwash First and Let them go
DELL	Deplorable Equipment & lackluster
TISL	Totally Inconsistent Systems Ltd.
PSI	Peculiar Symptoms of India.

ORACLE	On-line Romance and Chatting with Lady Employees

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USAGE OF COMPUTERS IN WORLD

Country	No. of Computers	Percentage
China	5 Crores twenty nine lakhs nine thousand	6.4%
Germany	4 Crores sixty three lakhs	5.6%
England(U.K)	3 crores fifty eight lakhs nine thousand	4.4%

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