

Assignment of
Computer science

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INTERNET

INTERNET:

The largest network of networks in the world.

A network of networks, joining many government, university and private computers together and providing an infrastructure for the use of E-mail, bulletin boards, file archives, hypertext documents, databases and other computational resources.



History of Internet:

- First named as ARPANET
- This is renamed as INTERNET
- TCP/IP (Transmission Control Protocol/Internet Protocol)

How to Connect to Internet:



Internet Services:

- Electronic Mail (e-mail)
- World Wide Web
- Telnet
- File Transfer Protocol (FTP)
- Internet Telephone
- Web TV/Radio
- Internet Relay Chat
- News Groups

Electronic Mail (e-Mail):

Short for **electronic mail**, **e-mail** or **email** is text messages that may contain files, images, or other attachments sent through a network to a specified individual or group of individuals. The first e-mail was sent by Ray Tomlinson in **1971**. By **1996**, more electronic mail was being sent than postal mail. Below is an example and breakdown of an Internet e-mail address.

Eg: e-mail addresses:

- thomas@mes.edu.in
- murugan@mesmarampally.org
- support@computerhope.com

Different e-mail service providers:

G-Mail

Yahoo Mail

Hot Mail

World Wide Web (W W W)

Most important service provided by Internet. An internet-based hypermedia initiative for global information sharing. Tim Berners-Lee is father of WWW, the inventor of HTML. He Invented WWW while working at CERN, the European Particle Physics Laboratory.



Search Engines:

For searching information on the Internet.

- Google
- Yahoo
- AltaVista
- Ask.com
- bing

TCP/IP Addresses:

- Every host on the Internet must have a unique IP address
- The IP address is a 32-bit number which we write in dotted decimal notation
- The first part of the IP address is the network address – the remainder is the host ID
- A subnet mask is used to determine the network address from a IP host address
- All hosts on the same network are configured with the same subnet mask

Uniform Resource Locator (URL):

URL is the standard for specifying the whereabouts of a resource (such as a web page) on the Internet

A **URL** has four parts:

- The protocol used to retrieve the resource
- The host where the resource is held
- The port number of the server process on the host
- The name of the resource file

File Transfer Protocol (FTP):

ftp://ftp.demon.co.uk/pu

Protocol for copying files between client and an FTP server. Uses a TCP connection for reliable transfer of files with error-checking. Most browsers support FTP, or you can use a dedicated FTP client program, e.g. WS_FTP. Trivial File Transfer Protocol (TFTP) is a lightweight version for small memory devices.

Telnet:

- Telnet allows a user to run commands and programs remotely on another computer across the Internet
- The user runs a Telnet client program on the local host
- A Telnet server process must be running on the remote host
- The user must have the necessary permissions and password to access the remote host.

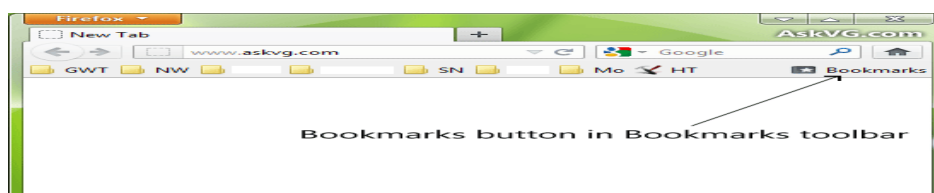
Some Port Assignments:

- 21 FTP
- 23 Telnet
- 25 smtp (mail)
- 70 gopher
- 79 finger
- 80 HTTP

Toolbars:

Following is brief description of some toolbars of a browser

- **NAVIGATION TOOLBAR:** The toolbar near the top of the browser window that includes the Back and Forward buttons.
- **BOOKMARK TOOLBAR:** Toolbar Bookmarks feature lets you save shortcuts to your favorite webpages. Unlike browser favorites that are stored on your computer.



- **ADD-ON BAR:** The Add-on Bar sits at the bottom of the Firefox window and gives add-ons a place to put shortcuts and other widgets.



- **STATUS BAR:** The bottom portion of Internet browsers and other program windows that displays the current status of the web page or window currently being viewed. For example, in Internet Explorer, it displays whether or not the page is secure, what is currently being loaded on the page, the page, and the certificate.



- **MENU BAR:** The browser menu bar is at the top of your browser window just below the title bar. It has a box for typing URLs, plus buttons and menus for many of the actions you can do through your browser. As in most menu bars, the menu items drop down when you click the menu title.



Uses of internet:

- Travel
- Blogging
- Shopping
- Networking
- Hobbies
- Current events
- E-mail
- E-Books
- Library websites
- Research
- Online communication and networking
- Sharing, exchanging information
- Business & Advertising
- Education

Advantages:

1. Faster Communication
2. Information Resources
3. Entertainment
4. Social Networking
5. Online Services
6. e-commerce

Disadvantages:

- **Theft of Personal Information:** Theft of personal details While using the Internet, there is high probability that your personal details like name, address and credit card number may be accessed by con artists and used for fraudulent purposes.
- **Spamming:** Spamming denotes distribution of unsolicited e-mails in large numbers. They are meaningless and they unnecessarily block the whole system. These activities are treated as illegal
- **Virus Threat:** Virus threat Virus is a program that interrupts the usual operation of your personal computer system. PCs linked to the Internet have high probability of virus attacks and as a result of this your hard disk can crash, giving you a lot of trouble.
- **Pornography:** Pornography is definitely harmful for your children. There are numerous pornographic sites available over the Internet and watching any of those can have very bad influence on the mental health of your children.
- Social Disconnect

Technology of internet:

The [Internet](#) is a worldwide collection of computer networks that began as a single network that was originally created in 1969 by ARPA (Advanced Research Projects Agency), a U.S. government agency that was far more interested in creating projects that would survive a nuclear war than in creating anything useful for the civilian population.

In its original form, ARPANET, the U.S. government hoped to create a network of computers that would allow communication between government agencies and certain educational centers that would be able to survive a nuclear explosion. It is doubtful that the original founders of ARPANET foresaw what we now know as "the Internet." From its humble beginnings as a military project, the ARPANET grew slowly throughout the 70's and 80's as a community of academics accomplished the truly monumental task of hammering out the building blocks of this new, open, modular conglomeration of networks.

The various protocols, including IP, TCP, DNS, POP, and SMTP, took shape over the years, and by the time the World Wide Web ([HTML](#) and HTTP) was created in the early 90's, this "Internet" had become a fully functional, fairly robust system of network communication, able to support this new pair of protocols which eventually turned the Internet into a household word.

While a large portion of users today confuse the Web with the Internet itself, it must be emphasized that the Web is only one type of Internet application, and one set of protocols among a great many which were in use for over a decade before the Web entered into the public awareness.

The Web is a subset of the Net. Email is not a part of the Web, and neither are newsgroups, although Web designers have developed web sites through which users, the world over, commonly access both of these much older forms of Internet media.

While the Net is a largely abstract phenomenon, it cannot (at least, not yet) be accurately equated with the concept of "cyberspace" as depicted in science fiction. If "judgement day" were to occur as depicted in the latest "Terminator" film, much of the Internet would survive it, but most of the electrical and data infrastructure by which we access the net would not. The line which currently demarcates the "digital divide" would shift dramatically to a point where it would leave only a small segment of humanity in virtual touch. This limitation, however, will slowly be overcome as wireless technologies continue to proliferate and wired technologies become increasingly cheaper.

In March 1972 ARPA became known as DARPA, the Defense Advanced Research Project Agency, and then went back to ARPA in February 1993 and back to DARPA in March 1996 and has been ever since. It was originally created as ARPA in 1958 in response to the launching of Sputnik. The launch of Sputnik made

America realize that the Soviet Union could exploit military technology. DARPA has contributed to the creation of ARPANET as well as the Packet Radio Network, the Packet Satellite Network and the Internet. As well as research into the Artificial Intelligence field commonly referred to as AI. By the late 1970's the Department of Defense had adopted BSD UNIX as the primary operating system for DARPA. It has also had its hands in Space projects which included the launching of the Apollo missions.

GENERAL STRUCTURE

The Internet structure and its usage characteristics have been studied extensively. It has been determined that both the Internet IP routing structure and hypertext links of the World Wide Web are examples of [scale-free networks](#).^[34]

Many computer scientists describe the Internet as a "prime example of a large-scale, highly engineered, yet highly complex system".^[35] The Internet is heterogeneous; for instance, [data transfer rates](#) and physical characteristics of connections vary widely. The Internet exhibits "[emergent phenomena](#)" that depend on its large-scale organization. For example, data transfer rates exhibit temporal [self-similarity](#). The principles of the routing and addressing methods for traffic in the Internet reach back to their origins in the 1960s when the eventual scale and popularity of the network could not be anticipated.^[36] Thus, the possibility of developing alternative structures is investigated.^[37] The Internet structure was found to be highly robust^[38] to random failures and very vulnerable to high degree attacks

Benefits for students:

1. ASSORTMENT OF INFORMATION

Lots of information of different kinds is kept on the web server on the Net. This means that millions web sites include various data in the shape of images and text. On every subject of the planet information can be easily collected by you.

For this function, special sites, called search engines can be found on the Internet to search data of each and every subject of the planet.

2. ONLINE MEDICAL GUIDANCE

Several web sites will also be on the Web to obtain details about various conditions. You are able to consult with a cell of on-line physicians to obtain guidance about any medical problem. In addition, lots of material can also be on the Web for research in medical industry.

3. LOOKING FOR JOBS

You are able to search various kinds of jobs throughout their vacant vacancies are advertised by the world, Most of the organizations/departments around the world, on the web.

The search engines will also be employed to search the jobs on the web. You are able to make an application for the necessary work through the Web.

4. COMMUNICATION

You are able to keep in touch with other through Internet all over the world. You could speak by seeing to 1 another; only you're speaking with your pals in your drawing room.

For this function, various services are supplied on the Internet such as; speaking, video conferencing, Email and Internet telephone an such like.

5. INFORMATION

The Web enables students to see the most recent news on a particular topic they're learning. If they're learning American politics they may do an information search and discover what is happening on the planet of politics at that very time.

It will help them link what they're understanding how to real life. Additionally, it may keep them thinking about a topic.

6. ONLINE TRAINING

The facility is provided by the internet to obtain an online training. Several web sites of different colleges offer lessons and classes on different subjects or subjects. You may also obtain these classes or lessons in your personal computer.

You are able to hear these classes repeatedly and obtain a large amount of understanding. It's very simple and cheap method to get training.

7. ENCYCLOPEDIA

Occasionally, encyclopedia mightn't constantly be accessible to individuals and so they might have trouble with in getting the use of the actual guides within the selection.

If that's the case, the encyclopedia of various topics on the Web could be useful.

8. ONLINE RAILWAY AND AIRPLANE SCHEDULES

Today, railway and several Airline businesses offer their timing of trains and routes respectively on the web.

9. ONLINE RESULTS

Today, all of the training boards and colleges present result on the web. Their results can be watched by the students from any kind of nation or world.

10. ADVERTISEMENT

Today, products are advertised by most of the commercial organizations through Internet. It's effective and inexpensive method for the marketing of goods.

11. Information

The Web enables students to see the most recent news on a particular topic they're learning. If they're learning American politics they may do an information search and discover what is happening on the planet of politics at that very time.

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12. Assortment of Information

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For this function, special sites, called search engines can be found on the Internet to search data of each and every subject of the planet.

Web browser:

Browser, short for *web browser*, is a software application used to enable computers users to locate and access web pages. Browsers translates the basic HTML (Hypertext Mark Up Language) code that allows us to see images, text videos and listen to audios on websites, along with hyperlinks that let us travel to different web pages. The browser gets in contact with the web server and requests for information. The web server receives the information and displays it on the computer.

There are different browsers for various things you do on the internet. There's a text based browser. With a text based browser you are only allowed to see text. Graphical material are not displayed. Hyperlinks are accessed by typing it in through the keyboard. An example of a text based browser is LYNX. There's a graphical browser and that allows the user to see all types of multimedia.

There are several types of browsers but the one thing they have in common is that they carry out the same function; they transfer hypertext. Here are some familiar common web browsers:

- Mozilla FireFox
- Netscape Navigator
- Microsoft Internet Explorer

Every browser features a toolbar that allows you to perform various functions like:

- Go back to the first page you started on the internet which is called Home.
- Book your favorite websites
- Print content you find interesting on web pages
- Check your web history, like the websites you visited in the past
- You can go forward and backwards to see the previous sites you viewed

There are two basic ways that you can navigate through the browser:

- You can click on links on different web pages. Those links will lead you to other web pages.
- If you know the URL or the address of the website you can type it in write in the browser's box all the way at the top. There's no need to type in the: `http://` part when inserting the address because the browser automatically places it in. Then you have to click enter.

Once you click enter you have to wait for the page to load. While it's loading you will see the browser icon. Usually a little box will appear at the bottom with bars. It's called a status bar. When all the bars are filled you will know that the page has finished loading.

So every time you click or a link or enter a URL your browser will request the information from the web server. If your browser returns to the page with a error message the address you typed in could be wrong on you may not be connected to the internet.

Web pages can look different in various types of browser. It's always important to download the latest version of your browser. Today most web pages are designed to be viewed in updated browsers. By keeping up with the most up-to-date version of your web browser you will be able to get the best of the web for everything that you need