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1. ***What is the Internet?***

* is a worldwide network of computers, linked mostly by telephone lines; the Web is just one of many things (called applications) that can run on the Internet. When you send an email, you're using the Internet: the Net sends the words you write over telephone lines to your friends. When you chat to someone online, you're most likely using the Internet too—because it's the Net that swaps your messages back and forth. But when you update a blog or Google for information to help you write a report, you're using the Web over the Net. You can read more in our article about how the Internet works.

1. ***What is the Web?***

* is the worldwide collection of text pages, digital photographs, music files, videos, and animations you can access over the Internet. What makes the Web so special (and, indeed, gives it its name) is the way all this information is connected together. The basic building blocks of the Web are pages of text, like this one—Web pages as we call them. A collection of Web pages on the same computer is called a website. Every web page (including this one) has highlighted phrases called links (or hypertext links) all over it. Clicking one of these takes you to another page on this website or another website entirely. So far, so simple.

1. ***What is the difference and similarity between the Internet and the Web?***

* The internet is a worldwide network of computers, linked mostly by telephone lines. While the web is the worldwide collection of text pages, digital photographs, music files, videos, and animations you can access over the Internet.

1. ***What made it difficult for early computers to communicate?***

* Back in the earlier days of computers, in the 1960s, 1970s, and 1980s, it was rare for computers to be able to exchange information at all. The machines made by one manufacturer were often totally incompatible with those made by everyone else. In the 1970s, early personal computers (which were called microcomputers) could not even run the same programs.

1. ***What changed in the mid-1980’s?***

* The first thing that happened was that IBM—the world's biggest computer company, famous for its "big blue" mainframes—introduced a personal computer for small businesses. Other people started to "clone" (copy) it and, pretty soon, all personal computers started to look and work the same way. Microsoft came up with a piece of software called Windows that allowed all these "IBM-compatible" computers to run the same programs. But there was a still a problem getting machines like home computers talking to giant machines in science laboratories or big mainframes in large companies. How could computers be made to talk the same language?

1. ***What is ASCII and how did it help solve the communication problem?***

* Although early computers were pretty incompatible, almost all of them could store or process information using ASCII (American Standard Code for Information Interchange), sometimes known as "plain text." In ASCII, the numbers 0–255 are used to represent letters, numbers, and keyboard characters like A, B, C, 1, 2, 3, %, &, and @. Berners-Lee used ASCII to come up with two basic systems of rules (known in computer terminology as protocols). If all the computers at CERN followed those two rules, he realized they could exchange any information very simply.

1. ***What does HTTP stand for and how does it work?***

* He called the first rule HTTP (HyperText Transfer Protocol). It is essentially a way for two computers to exchange information through a simple "conversation," whether they're sitting next to one another in the same room or on opposite sides of the world. One computer (which is called a client and runs a program called a web browser) asks the other computer (which is called a server or web server) for the information it needs with a series of simple messages. The web browser and the web server then chat away for a few seconds, with the browser sending requests for the things it wants and the server sending them if it can find them. The HTTP conversation between a web browser and and a web server is a bit like being at a dinner table when someone says: "Pass the salt, please", someone else says "Here it is", and the first person says "Thank you." HTTP is a sort of simple, polite language that all computers have learned to speak so they can swap files back and forth over the Internet.

1. ***How does a web browser (client) ask for a web page?***

* Web browsers (clients) and servers converse not in English, French, or German—but HTTP: the language of "send me a Web page", "Okay, here it is." This is a brief example of how your browser could ask to see our A-Z index page and what our server would say in response. The actual page and its information is sent separately.

1. ***How does a web server (server) reply to a web page request?***

* What the browser asks for
* GET /azindex.html HTTP/1.1
* Host: www.explainthatstuff.com,
* User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux i686; rv:44.0) Gecko/20100101 Firefox/44.0
* Accept: text/html, application/xhtml+xml, application/xml; q=0.9,\*/\*;q=0.8,
* Accept-Language: en-gb,en;q=0.5,
* Accept-Encoding: gzip,deflate,
* Accept-Charset: ISO-8859-1,utf-8;q=0.7,\*;q=0.7,
* Keep-Alive: 300,
* Connection: keep-alive,
* What the server replies
* HTTP/1.1 200 OK
* Date: Thu, 18 Jan 2018 09:03:23 GMT
* Server: Apache
* Expires: Sun, 19 Mar 2018 09:03:23 GMT
* Content-Encoding: gzip
* Content-Length: 19702
* Content-Type: text/html; charset=UTF-8

1. ***What dies HTML stand for and how does it work?***

* HyperText Markup Language
* HTML (HyperText Markup Language) was based on ASCII, so any computer could understand it. Unlike ASCII, HTML has special codes called tags to structure the text.

1. ***How is a HTML document different from a regular text document?***

* A Web browser can read these tags and use them to display things like bold font, italics, headings, tables, or images. Incidentally, for the curious among you: you can see what the "secret" HTML behind any web page looks like by right clicking your mouse on a web page and then selecting the View source or View page source option. Try it now!

1. ***How are HTML and HTTP different and similar?***

* HTTP and HTML are "how the Web works": HTTP is the simple way in which one computer asks another one for Web pages; HTML is the way those pages are written so any computer can understand them and display them correctly. If you find that confusing, try thinking about libraries. HTTP is like the way we arrange and access books in libraries according to more or less the same set of rules: the fact that they have books arranged on shelves, librarians you can ask for help, catalogs where you can look up book titles, and so on. Since all libraries work roughly the same way, if you've been to one library, you know roughly what all the others are like and how to use them. HTML is like the way a book is made: with a contents at the front, an index at the back, text on pages running left to right, and so on. HTML is how we structure information so anyone can read it. Once you've seen one book, you know how they all work.

1. ***What are the four main parts of a URL?***

* The http:// bit means your computer can pull this page off my computer using the standard process called HTTP. If the URL begins with https, the page is encrypted as it travels between your browser and the Web server (so things like credit-card numbers, user names, passwords, and so on are kept secure from interference in transit). https pages are inherently more secure than http pages, but https alone does not make a website completely secure: it simply secures the connection between your computer and the server (or servers) you're talking to.
* www.explainthatstuff.com is the address or domain name of my computer. Some websites use domain names that begin with things other than www (for example maps.google.com and mail.yahoo.com), which are called subdomains. maps.google.com, drive.google.com, and indeed www.google.com are all subdomains of the main google.com domain.
* howthewebworks.html is the name of the file you're currently reading off my computer.
* The .html part of the filename tells your computer it's an HTML file. Other filenames you might see include .php and .asp, which mean the pages you're looking at are "dynamic"; unlike "static" HTML pages, dynamic pages are built specifically for you, at the moment you request them, by the web server.

1. ***What is the purpose of a URL and why are they important?***

* There was one more clever thing Berners-Lee thought of—and that was a way for any computer to locate information stored on any other computer. He suggested each web page should have something like a zip code, which he called a URL (a Universal or Uniform Resource Locator). The URL is the page address you see in the long bar at the top of your Web browser.
* The address or URL of this page is: http:// www.explainthatstuff.com/ howthewebworks.html

1. ***What is the simplest way to host a web site?***

* Theoretically, you could turn your own computer into a server and allow anyone else on the planet to access it to browse your website. All you have to do is configure your computer in a certain way so that it accepts incoming traffic from the Internet and also register your computer with all the other servers on the Internet so they know where to find it. There are three main reasons why this is not generally a good idea. First, you won't be able to use your computer for anything else because it will be spending all its time serving requests for information from other people. (But if you have more than one computer, that's not such a problem.) Second, you'd have to make sure that your computer was switched on and available 24 hours a day—and you might not want to do that. Third, making your computer available to the Internet in this way is something of a security risk. A determined hacker might be able to access all the other folders on your machine and either steal your information or do other kinds of malicious damage.

1. ***What is the simplest way to edit a web page?***

* Setting up a domain name and Web hosting package takes all of five minutes; creating a website can take an awful lot longer because it means writing all the information you need, coming up with a nice page layout, finding your photographs, and all the rest of it. Generally, there are three ways to create web pages.