**Internet Technology**
**Prof. Indranil Sengupta**
**Department of Computer Science and Engineering**
**Indian Institute of Technology, Kharagpur**
**Lecture No #13**
**HTML -Part – I**

Today we shall start our discussion on html which is the de-facto language for designing web pages. Although today we have several other alternatives available with us, but still html remains one of the most popular choices when it comes to the design of web pages. So today actually we shall be starting with the basic structure of an html document. What are the different things? What are the different so called tags and attributes that typical html file contain? And we shall in our subsequent lecture what are the other features that you can support as part of html.

(Refer Slide Time: 1:20)


So the first thing is that html the full form is Hyper Text Markup Language. So there are two components to this name. One is hypertext, other is markup. Well hypertext we had already talked about earlier. Hypertext is a kind of textual document where you can have links to other documents. In html this kind of links are allowed. So in that sense, html is a hypertext document. Markup, we shall be explaining shortly. This html actually constitutes a collection of platform independent styles. This is called platform independent in the sense that well you can view these files on any browser you want. It can be explorer, it can be konquerer, it can be Mozilla. So in that sense these styles are considered to be platform independent. They are all; they are actually part of some kind of standard. And these styles will define the various components of a web document. And we will actually specify how the document will be displayed on the window of the browser.

Now in html these styles are specified by something called markup tags. This we shall be explaining very shortly. So html essentially is a plain text document. It can be opened and edited using any simple text editor. You can use any simple text editor like notepad, like vi and you can view the doc. You can view the source file of the html you can edit it. But of course there are many more sophisticated editors which are available, these are called what you see is what you get or wysiwyg editors. These are more graphic user friendly interface oriented where whatever you type you see it on the screen in exactly the same form in which it will get displayed on the browser window. In contrast in a text editor you see simple text and those special commands to specify the styles which when you are viewing on the browser window will show up in a particular way depending on what kind of commands you have put in there.

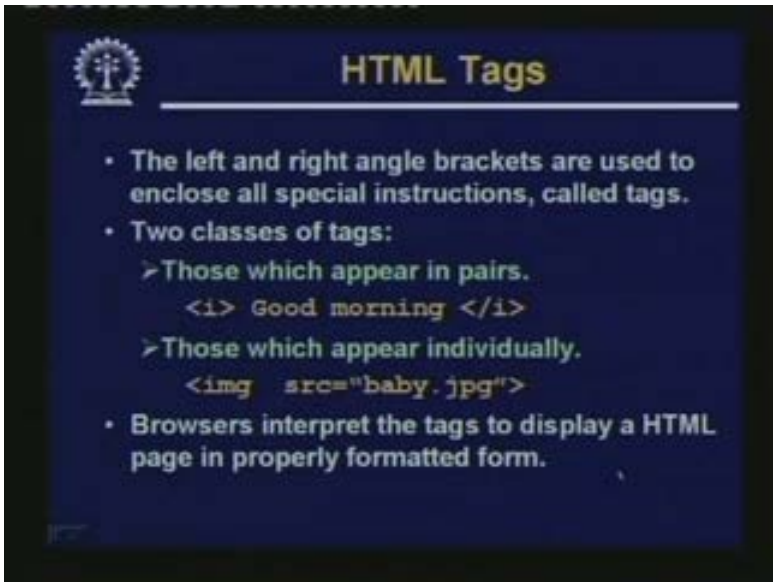
(Refer Slide Time: 03:54)


Now talking about mark up, well, html is a markup language. Markup language is one where you have the document or the textual information. In addition you can embed some special commands in the document, these are called tags. These tags are nothing but some special formatting commands. Well the idea is that you have some kind of a document with you. You have a document and you can specify some special tags which will tell you, for example, this portion of the document will be displayed in bold face letters and so on. So the mark up tags or the markup language features will allow you to embed these kinds of special commands in the original html document. These tags essentially specify how the text should be displayed when you are seeing it on the browser or printed when you are taking a print out. So as I told you html is a markup language, it provides some special formatting codes.

Again I am repeating, these are called tags in html. Using these tags you can do a number of different things. For instance, you can adjust the fonts in terms of font sizes, font styles, font color; you can create different kinds of lists. You can create font forms, you can include images you can create tables and you can do a lot of other things. So this tags

which are there in html provides a very powerful feature that allows you to specify a number of different things with respect to the language. So now there are few things you need to remember. Now in html this set of this tags are fixed or well defined; which means html is a fixed language. Now we shall see later, there is a trend where people are talking about. Well a not a fixed language but rather a language where we can have some extendable or user definable tags. They will be much more powerful or flexible.

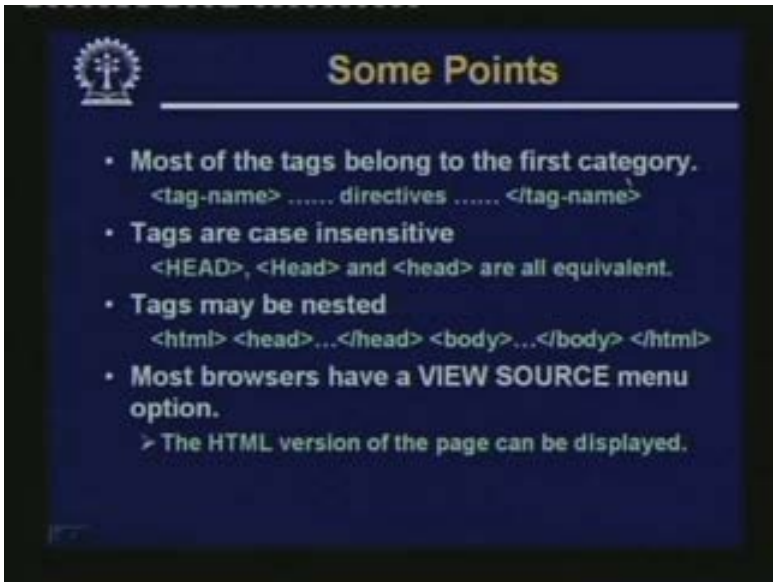
(Refer Slide Time: 06:22)




Now let us see how html tags look like. Now in html, tags are specified by enclosing them within left and right angle brackets. There are two classes of tags in general. One in which tags appear in pairs; for example, this is one example. This specifies the beginning of the tag; this specifies the end of the tag. It is like begin-end structure in a document. In this specific example this angular bracket i means that text which is there in between should be displayed in italics font. And the end tag will contain the same name but it will start with a slash character. So remember the slash character before the name of the tag will specify that the tag definition is ending here. So in text you can have a begin tag and end tag and whatever comes in between will get formatted as part of the definition of that tag.

But there are some tags for this end tag is not required for the tag definition appears individually. This is an example. This img is the name of a tag. This is the begin tag symbol. This is the ending angular bracket and between these examples also illustrates that in addition to the tag name img you can have some attributes specified like here. This example tells you that you want to include an image whose, the corresponding file name is baby.jpg. So here src is an attribute which specifies which is the file name for this image. For this you do not need an end tag with which will contain slash img. Browsers have the capability to interpret the tags so as to display them in a properly formatted form on the window of the browser.

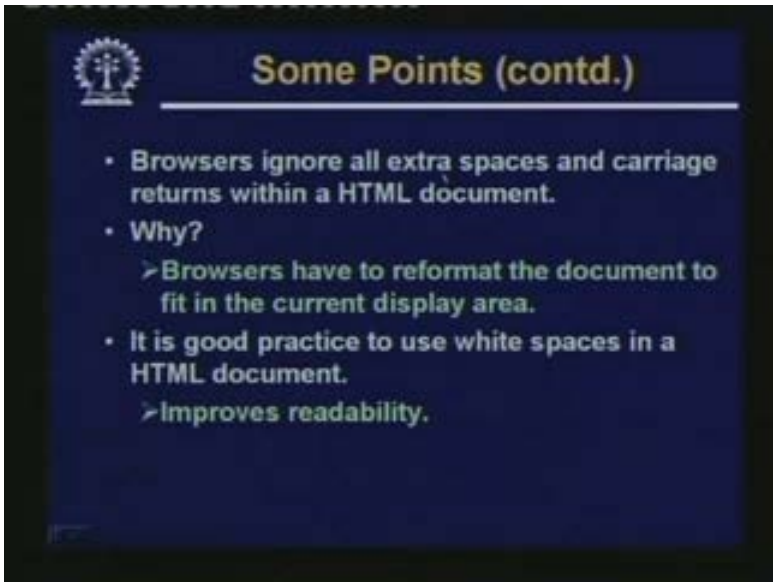
(Refer Slide Time: 08:46)




Some points to note is that number one is that most of the tags we use belong to the first category in the sense that it starts with a tag name it finishes with an end tag. But there is a slash character in the beginning and in between there is something. This is can be a text this can be a table whatever which will get formatted according to which tag you are specifying. There is another point. Tags are not case sensitive. They are case insensitive. So it is up to you how do you want to put in your tag. You can put it in all capital you can put only the first letter capital all lower case or any order of lower and upper case letters you can use. Tags can be nested just like you can nest structures in a program. This is one simple example. This is a tag html, this is begin html, this is end html. Now within this begin and end there is a begin head, end head, begin body, end body.

So the rules of nesting are identical to the rules of nesting of loops in a conventional programming language. Nesting should be total there should not be any overlap with respect to two different structures. Because, if you have given a begin command the end tag, command should come after any other begin and end tag command you have put inside it, it cannot overlap. And suppose in a browser you are viewing a page, if you want to look at the corresponding html code, most browsers have a view source option which if you click, then the source or the html version of the page gets displayed on a separate window. You can see the html version of the page which has led to the page which you are seeing in form which is getting displayed.

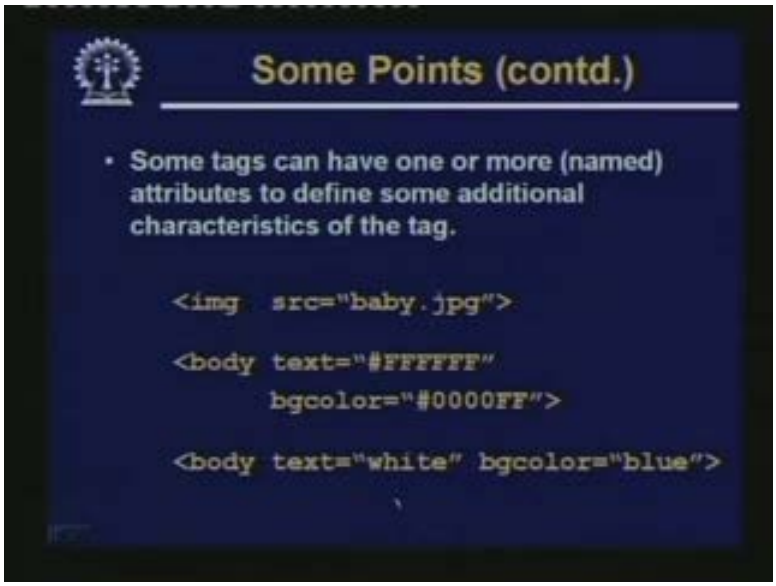
(Refer Slide Time: 10:42)




Well in html you can add as many extra spaces as you want to make your document readable. Browsers will ignore all extra spaces it will ignore all carriage returns. You can put as many lines of space in between as you want. But browser will take minimum amount of space. It will ignore all spaces unless you explicitly specify that here is a line break here is a paragraph break and so on. It will ignore all line breaks. This is done primarily because you know that a browser when it is displaying on your computer screen. You can resize the browser; you can make it big; you can make it small. Now depending on the current area of the display window the browser has to reformat the text or whatever as you display with in that space.

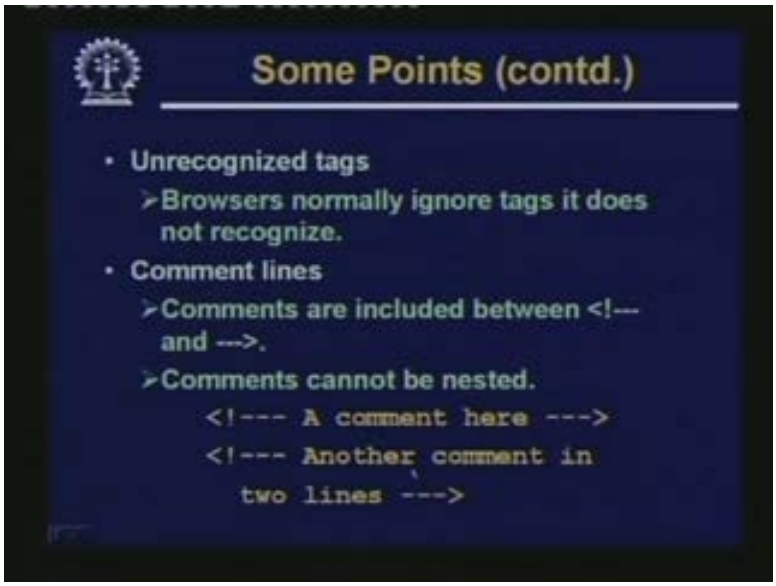
So if you are hath coding space in your document it becomes difficult for the browser to format it. So spacing is the responsibility of the browser how the spacing in the document will be controlled. So as I have just told spacing is done explicitly done by putting in the paragraph or the line break commands as part of some tags explicitly. So implicitly by putting extra spaces or extra blank lines browser will not give the additional spacing in between whatever is displayed. But as it is said, it is always good practice to use paces to improve the readability of your html source code.

(Refer Slide Time: 12:22)



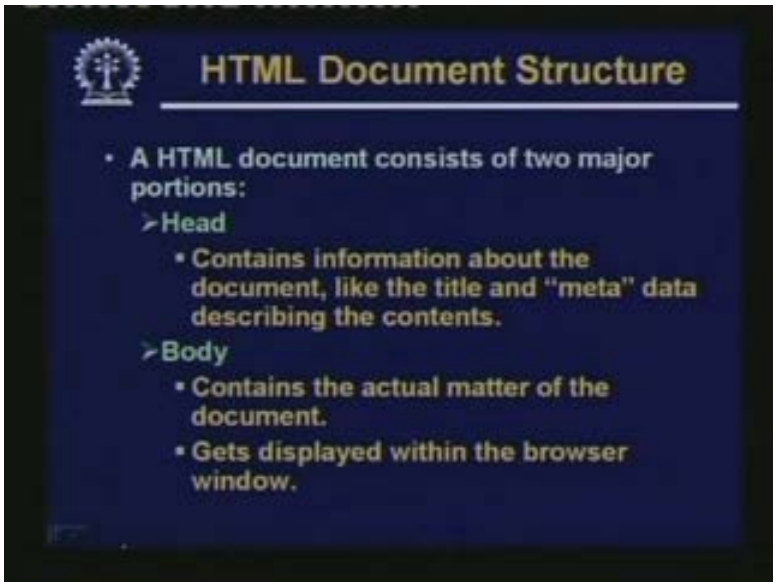

Some tags as I mentioned, can have one or more attributes. Now each of these attributes have a name. Some of these attributes can also have a value. These attributes specify some additional characteristics of the tag. Some examples are shown here. This first example I have already mentioned earlier. This img is the tag name. This is the optional attribute. This src is the name of the attribute. It means that what is the name of the file equal to baby.jpg is the value of the attribute. Similarly body is another tag where these are the two attributes text and bg color. Text specifies that what should be the color of the text, that will get displayed and bgcolor will tell you what should be the color of the background. These are the two things you can specify. Just instead of specifying color like this. This will just see what this means? This fff and this 0 0 0? You can also specify colors by specifying names like text equal to white bg color equal to blue. These are example of attributes of the tags.

(Refer Slide Time: 13:39)




Now if some tags are unrecognized, for example if you have misspelled a tag, browsers normally ignore those tags or they will displays just like it were a normal text. It will not do any formatting with respect to that. It depends on the browser exactly what it does. You can include comments lines which will be ignored by the browser. When it gets displayed and comment lines begin with this angular bracket exclamation and three dash. And it will end with three dash followed by closing angular bracket. So comments can lye entirely on a single line or it can be broken across as many lines as you want. So it will be starting with this. It will be finishing with this. So it is good practice to include comments in html source as to increase the readability, what you have done in the different sections of the document.

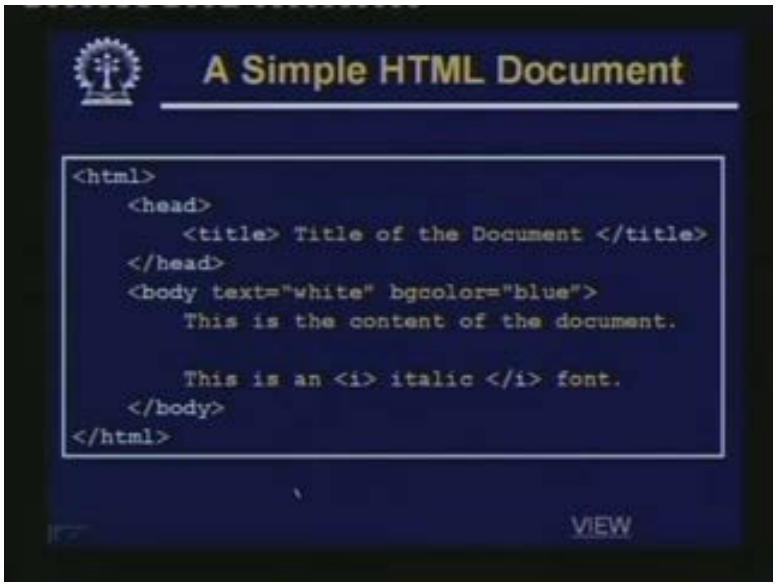
(Refer Slide Time: 14:40)




Now talking of the structure of an html document, an html document consists of two major portions: the head, the body. Now in the head section you specify some information about the document. This we shall see some of the information today and some we shall see later. For example, you can specify what will be the title of the document. The title of the document typically gets displayed on the top title bar on the browser when the browser window comes the top title bar displays the title of the document. So whatever you specify as title will come on the top. There is some additional Meta data you can also specify this we shall talk about later. Meta data actually specify some information about the contents.

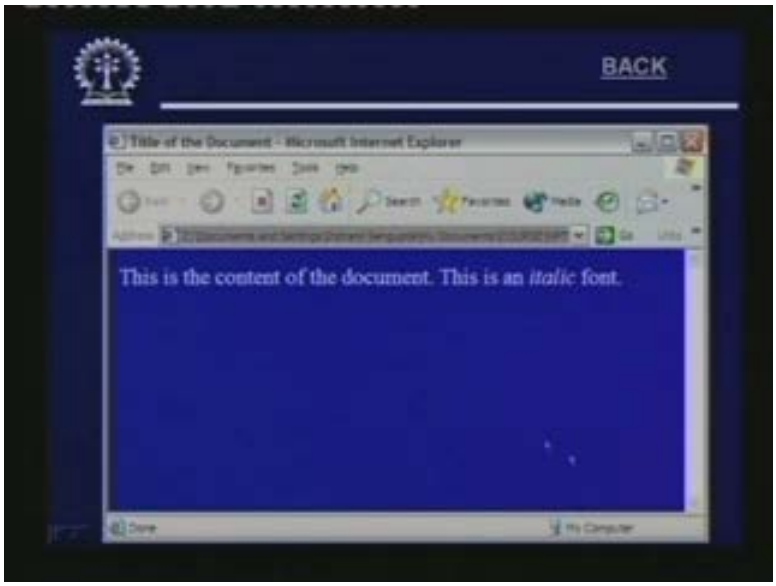
Like for example some of the key words that is that your document contains. These are sometimes used by the search engines in order to provide indexing services. For example if you are searching Google for a page you give a key word that means how to locate the page. So the periodically, Google look for pages, they look for Meta tags in the header. So if they find, they update their data indexing database. In addition to head there is a body. Now in the body portion the actual matter of the document resides and it is the body which gets displayed within the browser window. The head is something which specifies the title and some other information. Body is something which gets actually displayed in the window.

(Refer Slide Time: 16:26)



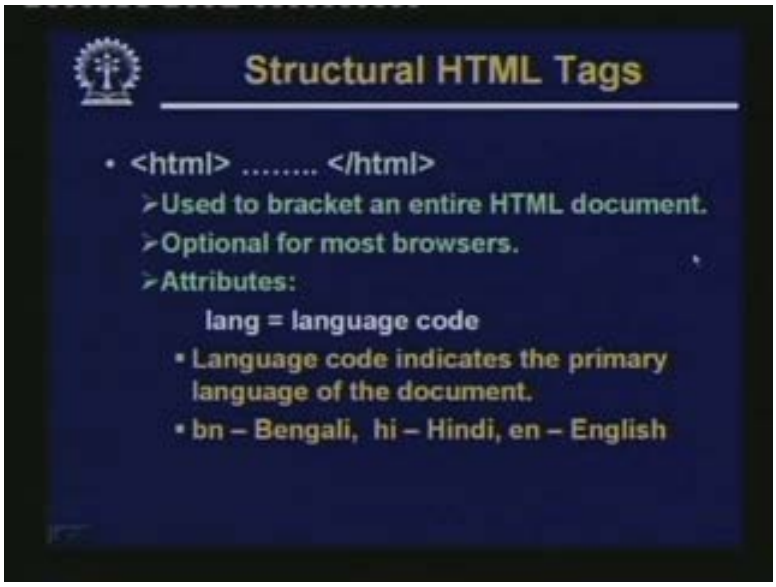

This is a very small example. This is a very rudimentary and a simple html document. You see this starts with a begin html, it ends with an end html. Now in most browsers, this begins and end htmls are optional. This you can also omit. You can see there is a head section, there is a body section. In the head section you have this begin head and end head. And within the head we have nested only one tag the title tag. Now within the title tag we have specified the title of the document. The name I have given as just the title of the document. Now in the body the first you have specified in the begin body tag. We have added some attribute, specifying that our text color will be white and our background color will be blue and the actual body of the document is this. This is the content of the document. This is some text which will come, this is an italic font you see there is a begin italic and an end italic. So the intermediate word is italic, this should come in the italic font. Now this particular html document when it gets displayed on the browser it will look something like this.

(Refer Slide Time: 18:02)




This is the content of the document. This is an italic font. You see that the italic is coming in the italic font and the background is blue and the foreground is white.

(Refer Slide Time: 18:18)

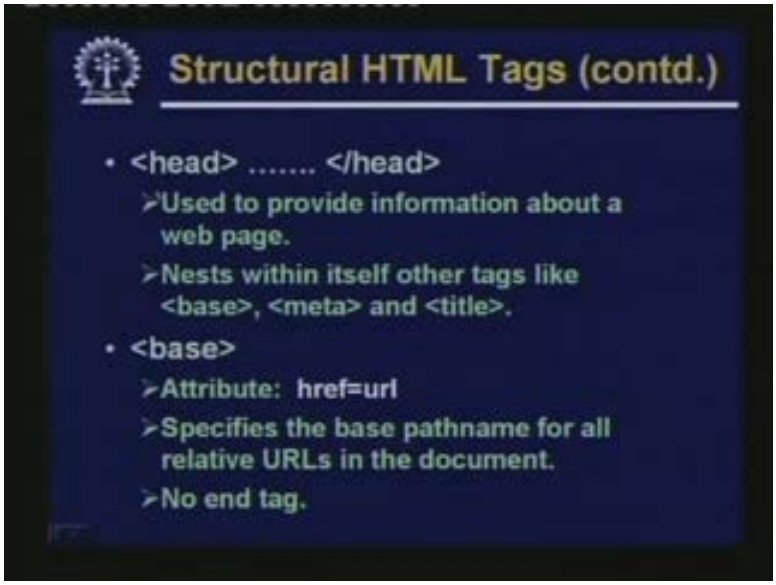



So here we first look at the different html tags with respect to their functionality. First we talk about the tags which define the structure of the document. These are the so called structural html tags. So first tell us look at this. Structure html tag, the most important one is I told you html and the html tags they are used to bracket or specify the boundaries of an entire html document. As we have seen in that example, that the first statement in the html file is the begin html. The last statement is the end html. That is the boundary or the

beginning or end of the entire document. This as I mentioned, html tags are optional for most browsers. If you do not specify anything, it will be assumed that html begins and end is present at the beginning and the end.

Well in the html begin html command you can have some attributes. For example, if it is a multilingual document like means you are specifying a document in a different language, other than English. Then using this lang l a n g attribute will specify the language code. This language code can be any international language like for instance bn will mean Bengali, hi will mean Hindi and the default en will mean English. So if a language code is specified then the browser will know which font it has to use to display the document in a proper way. So we are not going into the detail of this multilingual document and processing and display right now. But browsers have a facility or this html language have the facility to specify this kind of language.

(Refer Slide Time: 20:24)

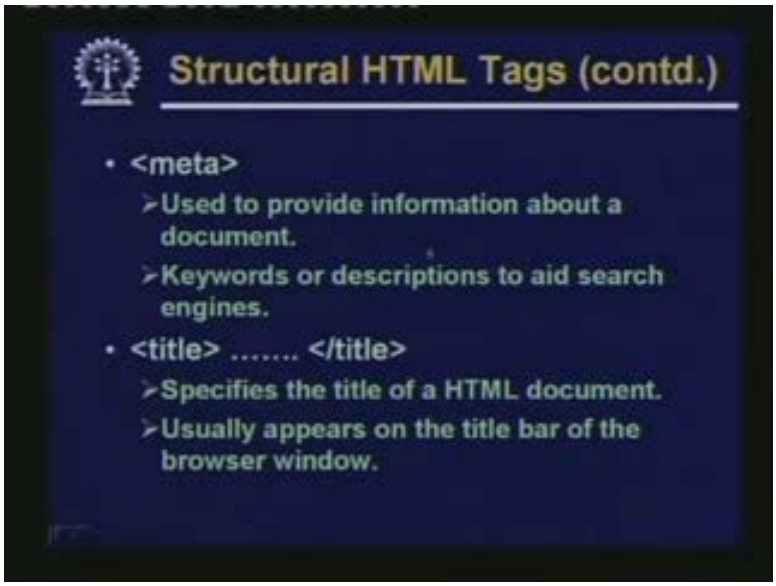



Now within html document as it seem you can have a begin head end head tag. This head is used to provide information about a webpage. There are basically three things which can be nested within head. See head defines a portion of the document begin head and end head. Now the within or between this begin and end heads you can specify a number of other tags. Now in fact it is possible to have three different tags base, meta and title. Let us try to see what these are. Base is a tag where you can specify an attribute, href is equal to you can specify some URL. Like you have something like this, say you can have base, then you can have href equal to, you can have docs slash something like this, which will mean is that you are specifying a base URL out here.

And in the document whatever file name or path name you specify that will with respect to this base URL you have specified. So in all the documents you need not specify doc slash. Base URL allows you to have a shortcut in the path name for all subsequent references. If all the documents you are referencing as part of your html page they can be

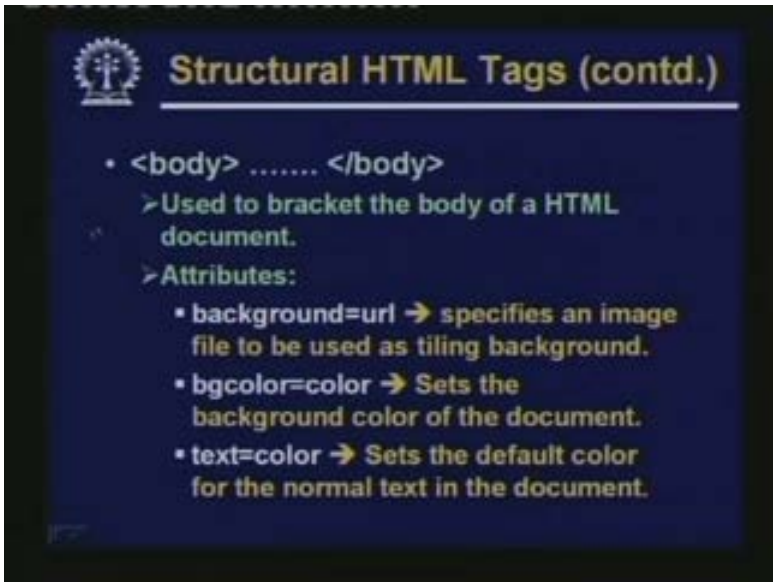
images, they can be other documents links to other documents. If they are all located under the same directory structure you can specify, the path in the base and when you actually referring you need not have to specify the whole path every time, just specify the file name which is there within the base URL. This base URL does not need any end tag.

(Refer Slide Time: 22:24)




Meta we are not going in to the detail right now. Meta basically provides information about a document. Typically keywords or some description about the document which helps the search engines in indexing the pages so that the pages can be linked with respect to the search engines. Well, use of the title tag we have already seen. The title tag will specify the title of the document. And the title of the document usually appears on the title bar on the top; at the top of the browser window. These are the so called structural tags.

(Refer Slide Time: 23:05)




And there is another structural tag which is the actual body of the document. So under this body structure the actual displayable information will be stored or will be specified; the part which will be actually visible in the browser window. Now within the body part you are actually bracketing the so called body of the html document. Now in the body part, there are a number of different attributes you can specify. Well here a couple of this we have already seen. For example we have seen the text attribute, text equal to color. We shall see how we can specify color in different ways. But we can specify a color to the text. If this attribute is present, this will set the default color for the normal text in the document. So if I write text equal to red, then all my text will be displayed in the color red in the window unless I explicitly change the color somewhere else.

Similarly bgcolor attribute this also specifies a color. This will set the background color of the document. Background color means the background of the display window will be set to this color. If I specify bgcolor is equal to blue, then my background will become blue. Sometimes we want to or means we like to have an image to be used as a background and not a fixed color. In that case we use the attribute background. Background equal to some URL or path name, this will specify an image file. Background attribute will specify an image file which will be used as tilling background. So in the window that image will come as the background and the text will be displayed on it. Sometimes we want to have this. Now, in addition to these three attributes, there are other attributes also.

(Refer Slide Time: 25:14)


Well you might be aware that an html document contains links to other documents. There may be some portions which are clickable if you click on the mouse you go to some other document. These are called hyperlinks. Now you can specify the color of the hyper links the color in which they will appear. There are actually three parts to it. There is something called alink, simple link and vlink. Well alink is equal to color means you are setting the color of the active link. Active link means when you move the mouse on top of a link and click it. What color that link or that document which points to other document that part of the document what color will it become. That is active link.

And simple link is normally which color will be used to show the links. Because in a document normally the links are shown in a different way either underlined or in a different color. So you know that these are portions which you can click using the mouse. This is the link and vlink says the links which are already clicked are visited. Normally they are shown by a different color, so that you remember that these are links that I have already clicked that color also you can specify. So in general you can specify these three colors as different. One is active link, one is the normal displayable link and other is the visited link.

(Refer Slide Time: 26:49)


The next is how do I specify colors? Well here although I have given some examples. Let me tell you how you can do this. There are two ways the first way and the most flexible way is to specify the red, green and blue components of the color. Now you may be knowing that red, green, blue, these are three fundamental colors and that any color in this universe can be generated by some combination of these three. So in this method we are specifying this red, green and blue components separately and each of this components are encoded in 8 bits. So in hexadecimal it can be minimum 00 maximum FF. 00 means the contribution of the color is minimum it is turned off. FF means the contribution is maximum.

Well, why we specify a color in this way, you do it like this; body text equal to for example this is a color. The hash sign indicates that you are specifying it in this mode color red, green, blue mode. This hash also means hexadecimal. The first two characters means red, next two means green, last two means blue. In the first one red is FF, green is FF, blue is also FF, which means red, green, blue all are maximum combination of which means white. This is how we specify the white color. Similarly for bgcolor red is 0, green is 0, blue is maximum. So we are specifying a deep blue color. Well in this way you can specify any kind of color if you know the combination which combination will result in which color.

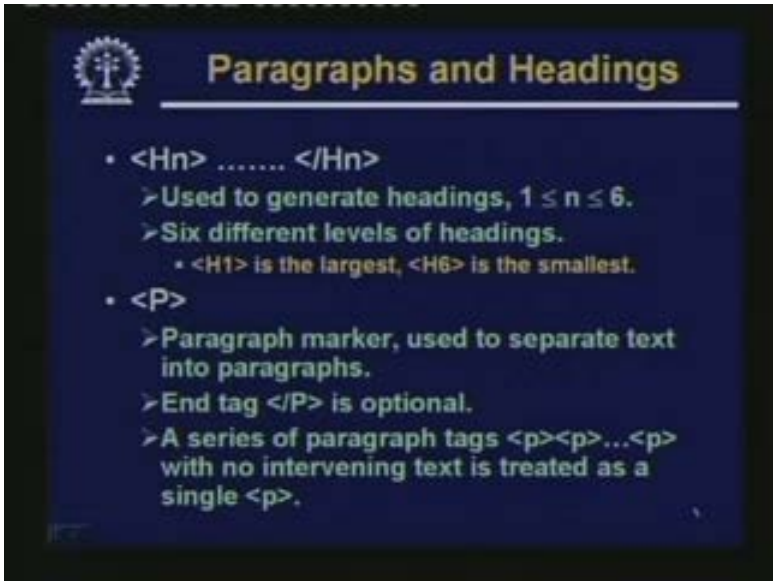
(Refer Slide Time: 28:40)


But there is an easier alternative. Of course there are some limitations to this you cannot arbitrarily specify any color. There is a list of color names you can specify the color by the name. Some of the colors that all browsers support are these aqua, black, blue, gray, green, lime, and etcetera. So you can use one of these colors also in this specification. For example you can say body text equal to white, body bgcolor equal to yellow. Well, this example shows you that this begins and end codes are optional. This you can give and you may not give both will be interpreted correctly by the browser.

(Refer Slide Time: 29:21)

Now let us look at. How we can do text formatting in html? Well in html one of the most important things is to display text. So, let us see how we can display text and how we can do different kinds of formatting using html.

(Refer Slide Time: 29:44)

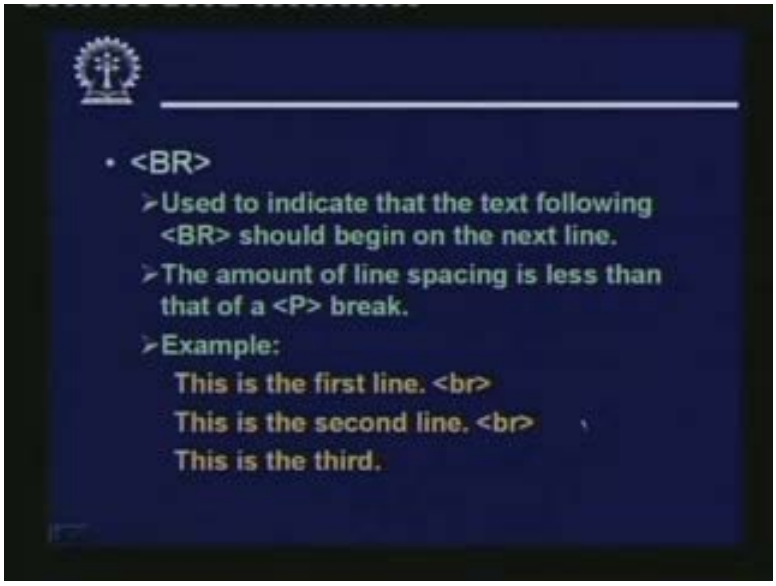



First let us talk about paragraphs and headings. Well html allows you to specify headings by using the h tag; begin h, end h, followed by number n. N is a number which can vary from 1 to 6. So you can have 6 different levels of headings. H1, H2, H3, H4, H5, H6. H1 means the biggest and the boldest headings. H2 means slightly smaller. H3 is even smaller and so on. H6 will be the smallest. Well this among this H1 to H6, all of the text which are enclosed in these headings. They will be displayed in bold or emphasized font. But their sizes will go on progressively reducing.

So if in a document you have several different levels of headings like a section name subsection, name sub, sub section name. You can have different classes or levels of headings to specify which section you are. So as I told you, H1 one is the largest. H6 is the smallest. We shall see examples later and whatever text you include between, this begin heading and end heading will get displayed with respect to that heading size. P, this indicates a paragraph break. This tag just a p within angular brackets is used to separate text into paragraphs.

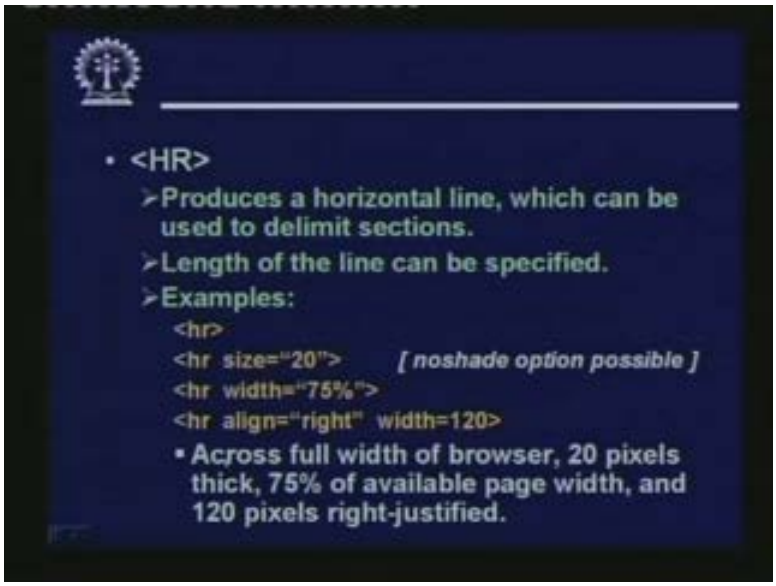
Well sometimes a paragraph you can enclose by giving a begin paragraph and finishing with an end paragraph. But the end paragraph tag is optional. This you need not always give just you can give a bracket p bracket between paragraphs automatically. Paragraph spacing or break will be taken. But one thing you remember that if you put a number of paragraph breaks one after the other with no intervening text. Then the browser will take only one paragraph break and ignore all the rest. So even if you put a number of different paragraph p p p by one after the other, only space equivalent to a single paragraph break will be taken or considered by the browser.

(Refer Slide Time: 32:27)




BR is a line break. Means this is used to specify that the text which follows should begin on the next line. Well in a sense, this is similar to paragraph break also but the difference is that, in a paragraph break, the spacing between the two sections of the document is more. But in a BR break, there is no extra line spacing. The only thing is that the text which follows that BR will start from the next line. But there will be no addition spacing between the line. This is the difference between BR and paragraph p. Just an example if you want that these three lines be displayed on three different lines, on the browser then you give a BR at the end of the first two lines. This is not a paragraph. Break the lines will be displaying will be displaying with the normal text spacing. Only the thing is that they will be starting on different lines. Well in many cases we want that some text begin from a new line. So in that case you can give the BR break command.

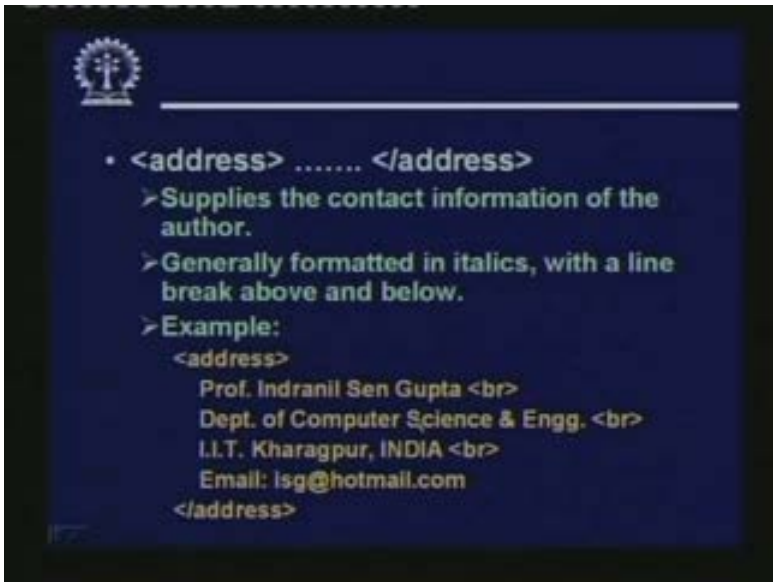
(Refer Slide Time: 33:44)




This HR command produces a horizontal line. Sometimes we need to put a horizontal line like this in the document. Well this can be used to separate a delimit in the different sections. Now HR is flexible in the sense that the length of the line the width can be specified some example follows. If you give a simple HR, well this HR does not contain an end tag. This HR means a rule will be displayed across the full width. If you give HR size equal to 20, this 20 will mean the thickness of the line. That is, how thick the line will be that is the width of the line. Now if you give just like this HR size equal to 20, then the line will be displayed as a hollow thick line like this. What if we give additional attribute called no shade after this 20, just a space and no shade. Then this line will be solid.

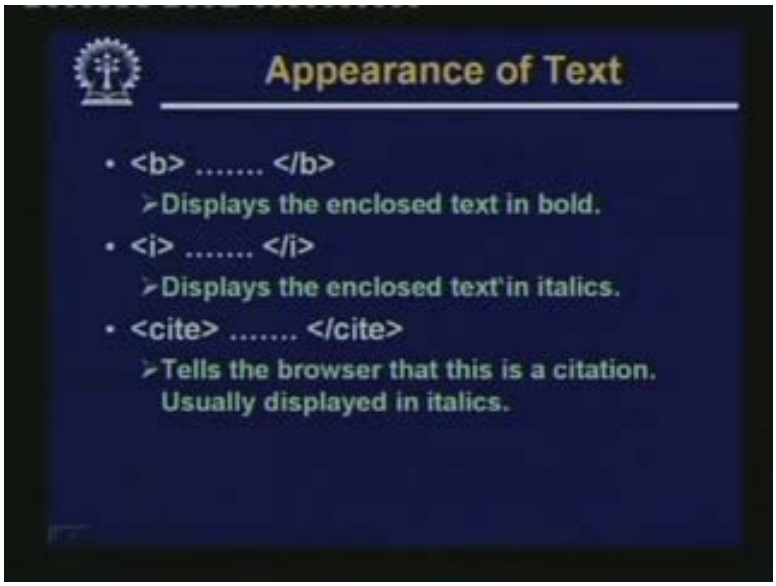
This will come as a solid line. HR width is equal to 75 percent. You can also specify width. Width equal to 75 percent means it will have a width equal to 75 percent of current displayed window. If the window is bigger it will be 75 percent of that if we have resized the window to make it smaller. The line will be 75 percent of that. So you specify the relative width of the window with respect to the widow size of this line. And there is another way of specifying the width by specifying just a number. In this case, this 120 will mean that it is how many pixels the width is specified in terms of number of the number of dots. And this right is specified that your line will be right justified. It will be justified right you can just instead of right. You can specify left that case it will be left justified.

(Refer Slide Time: 35:54)




Sometimes you need to display the contact information of the author or the person you can use the address tags for that purpose. One example is shown here between begin address and at the end address. I can give my contact details. Of course with a line break across lines otherwise everything will display on the same line. Now if it is given in address normally some spacing is given at the beginning at the end and they are usually formatted in italics font.

(Refer Slide Time: 36:28)




Now with respect to the appearance of text, there are some tags like when you want to display a text in the bold font you can use the b tag; begin b, end b. So the text everything

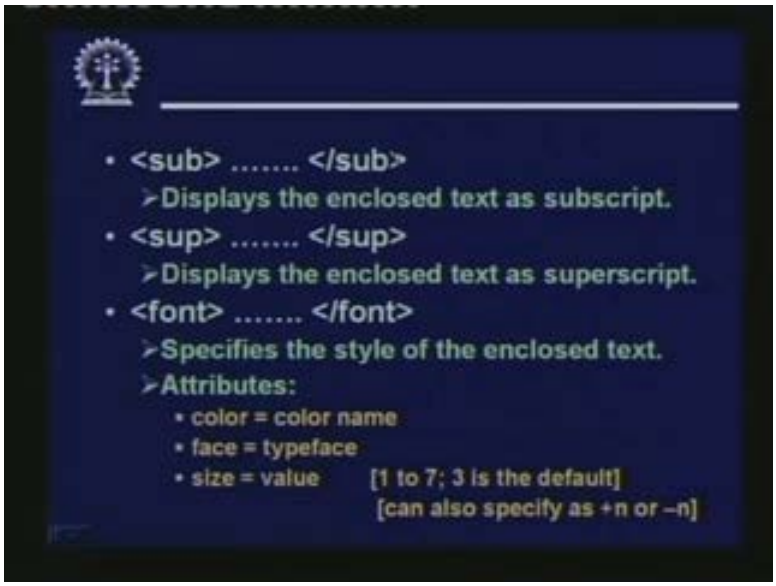
which is there between the begin b and end b that will get displayed in bold font. Similarly you can display in italics. Italics is I; begin i and end i. Sometimes you want to display some kind of a citation. The browser has a facility to display citation in a particular form. There is begin cite, end cite tag in html for this. But most browser display the cite in italics font only, but with proper spacing. So cite and italic may be the same in some browser. But in some other browser the cite may be displayed in a different, may be in a different color. So depends on the browser really.

(Refer Slide Time: 37:44)


Sometimes you need to display some text which is already preformatted. Well I am giving you two examples. Suppose I have a program code. But I have already given some comments some indentations so that my program code already looks good or I have an array of numbers. This can be table containing some array of information head expenditure income balance etcetera. So these are available in text form I want that the browser should display this in exactly the same form I type, I give space in between value type. So there is a tag called pre formatted tag called pre; in short begin pre, end pre. So whatever you include between the begin pre and end pre for example in the here we have included a c-program segment.

This c-program segment will get displayed exactly in this format. So this is how it will get displayed and normally in the preformatted display when it is displayed using the pre tags. The font size is some kind of uni space or mono space fonts like courier. In the courier font the width of all characters are equal. This is unlike other fonts like times new roman or Arial which we use more commonly where you have something called proportional spacing. Where an i is thinner than w for example. But in pre whenever it is displayed, it displayed in some kind of a font where spacing is equal like courier.

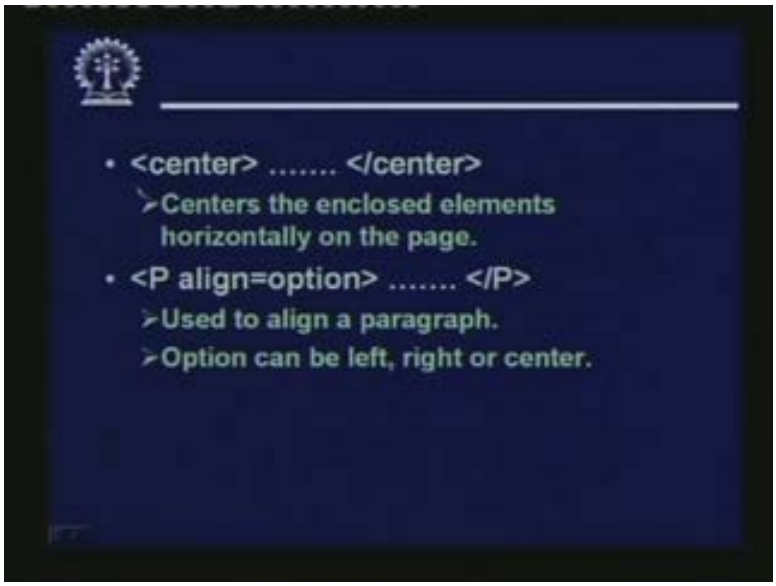
(Refer Slide Time: 39:36)




Sometimes when you want to use a part of the text to be displayed as subscript, you can use the sub tags. Similarly for super script you can use the sup s u p tag. Well sometimes you can specify the style of the enclosed text using the font tag. Now in the font tag there are a number of attributes. Means after this begin font you can specify the attributes. Now attributes can be color equal to the name of the color. Face equal to type face. Well, here you have to know the name of the faces it can be Arial, it can be Courier, it can be Times New Roman etcetera. You can specify the size of the font also. The size can be specified in two ways. Well the size is a number from 1 up to 7; 3 is the default.

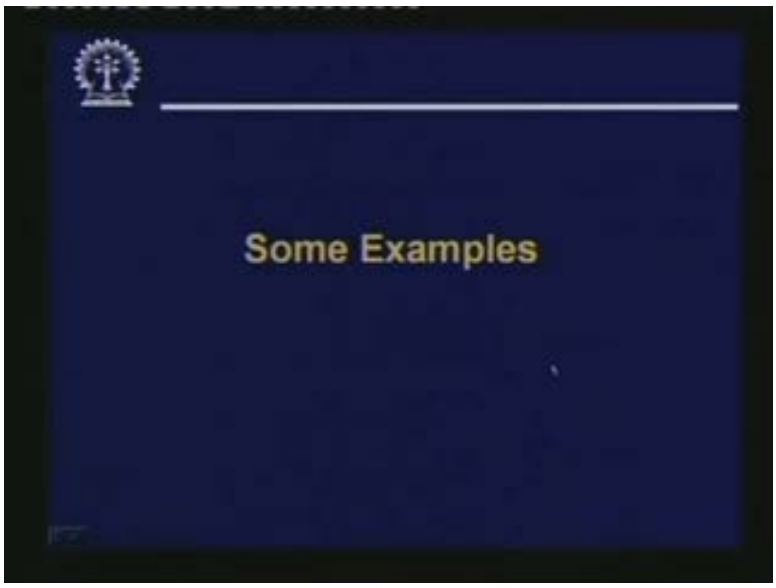
If you do not specify anything text are displayed in a font size of 3. So using this size you can specify any number from 1 to 7, 1 will mean a small font size; 7 mean the biggest. But instead of an absolute number you can also specify the relative number like plus n or minus n. Like you can specify size equal to plus 2 which means it is 2 steps above the current font size. If the current font size is 3, it will be 5; 2 steps above. So value can be a just a number 3 or it can be plus 2 something like this. So you can specify value in either of these two ways. So if you specify plus and minus, it will be with respect to some base font. Well there is a tag again to specify the base font size. So with respect to that you can specify.

(Refer Slide Time: 41:38)



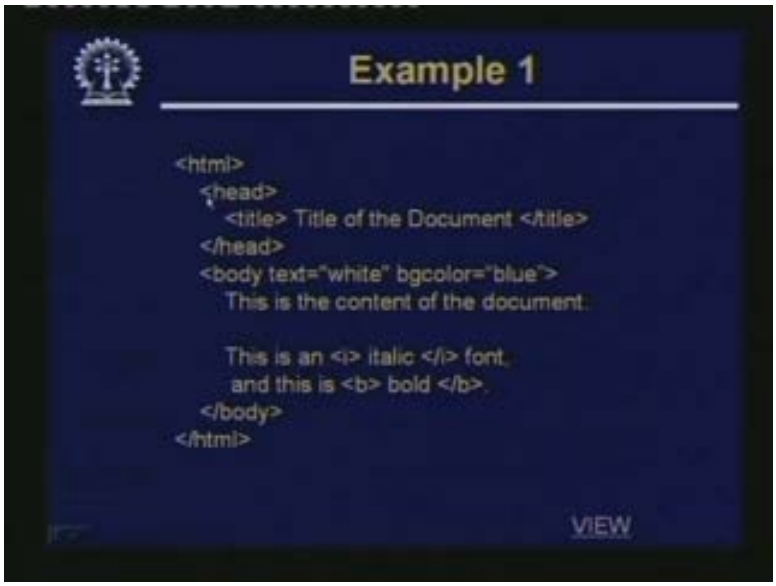

Center is a tag which is used to center some text in a document. Begin center, end center whatever is in between will be displayed centered. Well I have said normally paragraph spacing does not need an end paragraph. But in some cases where you want to do some paragraph alignment you need to have this end paragraph. Well you can have this align operator. This align attribute, align equal to option. Now option can be either left, right or center. So you can have a paragraph which is aligned left, justified right justified or it is centered right.

(Refer Slide Time: 42:20)



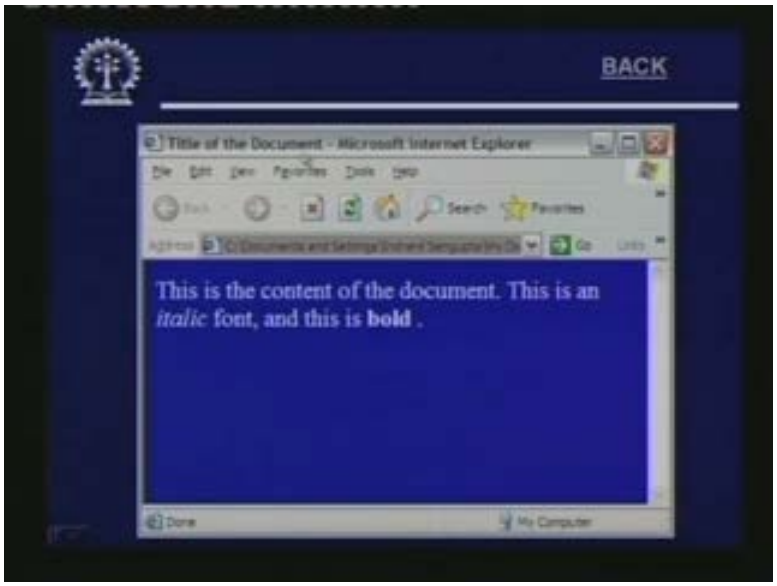
Now that we have looked at some of the tags which will allow to specify the structuring of the document and will allow you to specify the font size of the text and some other display attributes of text. Let us now look at some of the examples which will allow us to see how this can be put to actual use.

(Refer Slide Time: 42:50)



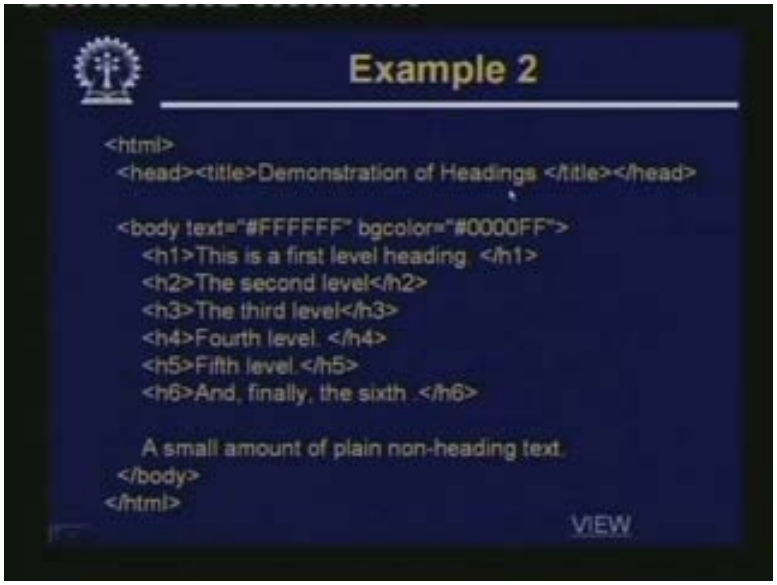

Well this is the first example. Just if you look at this example, it starts with a begin html, it ends with a with an end html, head, begin head, end head, begin body, end body. These are the mandatarate things in a html document. There must be a head, there must be a body. These are the two things which must be there. Now in the head normally we give the title. So the title of the document is the title. Body is specified white as the text color blue as the back ground. This is the content of the document. This is an italic begin I, end i. This italic will be displayed in italic font and this b o l d bold will be displayed in bold font. Now let us see how this looks like.

(Refer Slide Time: 43:40)




This will look like this. When you display it, you see on top of the browser the title gets displayed. Title of the document and the text which is in white, in blue, background, this italic word is displayed in italics and bold word is displayed in bold.

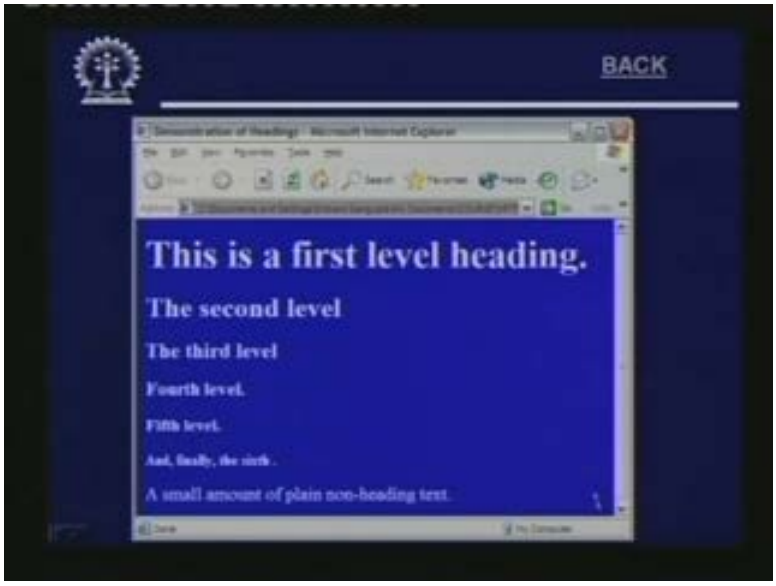
(Refer Slide Time: 44:03)




Now the next example. This example demonstrates headings. Now here again we have specified the color of the text and back ground as white and blue but not in terms of name. But by giving this FFFFFF means white and 0000FF means blue. There are 6 lines. These h1, h2, h3, h4, h5, h6 specifying the 6 levels of heading. And after this we have

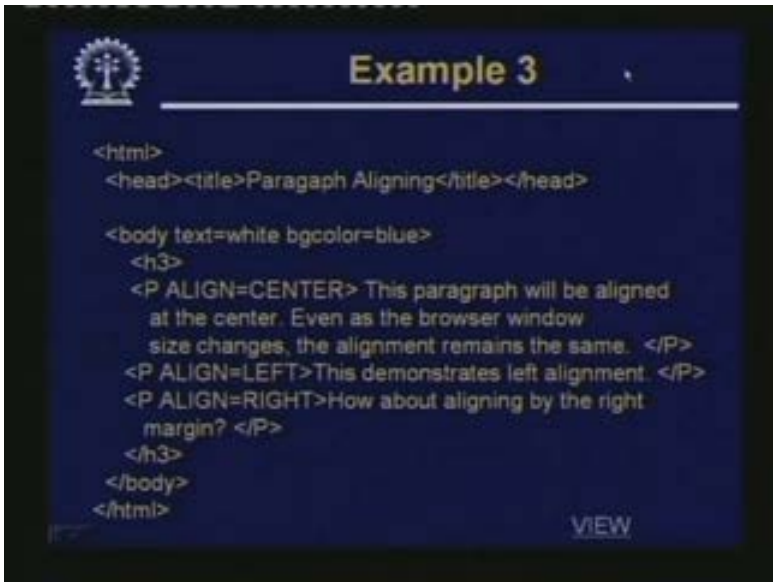
also included a separate text which is not a heading text. So let us see how this looks like and the heading is the title is demonstration of headings.

(Refer Slide Time: 44:45)



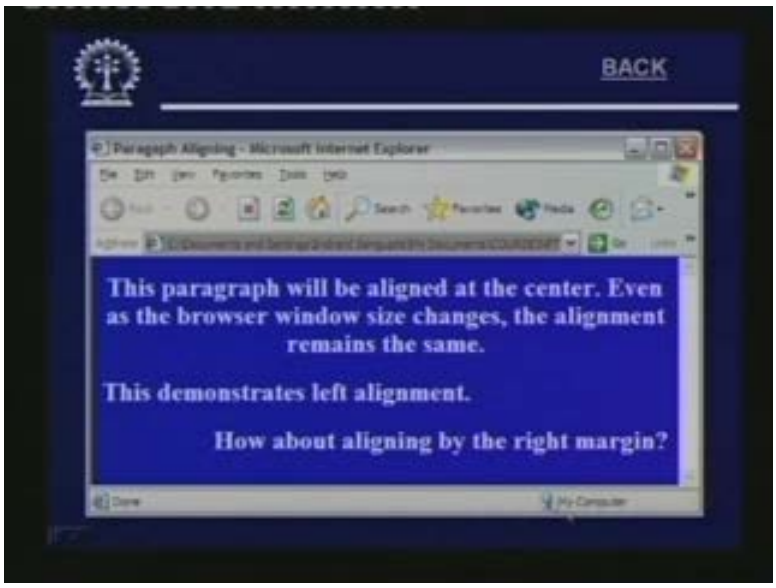

So this if you display will look like this. See this demonstration of headings will come on the title bar. This is a first level heading. This is h1, h2, h3, h4, h5, h6 and this is the normal displayable font size. You can see the normal displayable font size is approximately equal to h4 size. So it depends on your application. That means another thing you observe it may not be it may not be apparent from this, that the headings are all displayed in the bold font. But while this normal text in the last line that is not in the bold font. These are the source program which generated this web page.

(Refer Slide Time: 45:38)



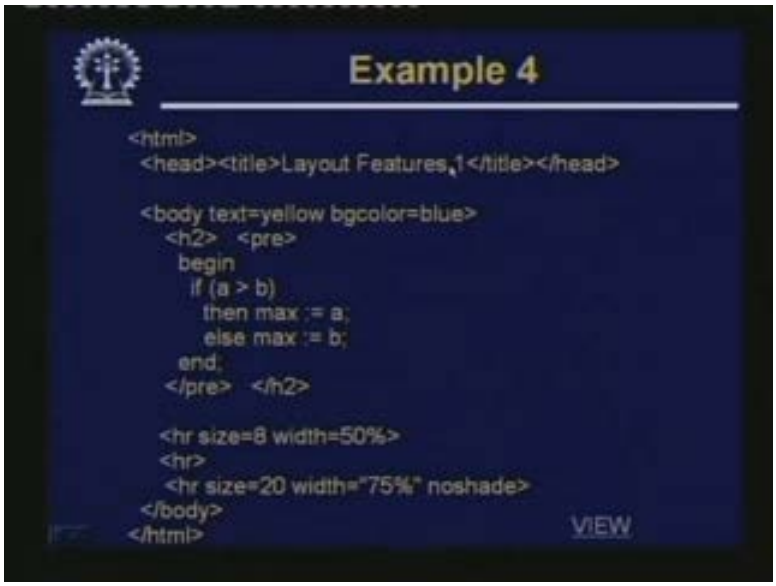

Now the next example. This illustrates paragraph alignment. Now head, title, title see number of tags begin and end can be put on the same line. As I have shown here begin head end head inside this begin title end title. The title is paragraph alignment. Body text white background blue. Well, here the entire thing in order to make it big and easily visible to you. I have put it within h3 heading types begin h3, end h3. There are three paragraphs. The first paragraph I have given align is equal to center. It will be centered and there is some text following and this is the end paragraph. The second paragraph is align is equal to left end paragraph and the third paragraph is align is equal to right. Let us see how this gets displayed.

(Refer Slide Time: 46:37)



This is how the display will come. The first paragraph you see it is displayed in a centered way. The third line which does not fill the line is coming centered. The second paragraph is left justified. The third paragraph is right justified. So in this way you can control the layout of the paragraph, how they will aligned on the page with respect to center left or right.

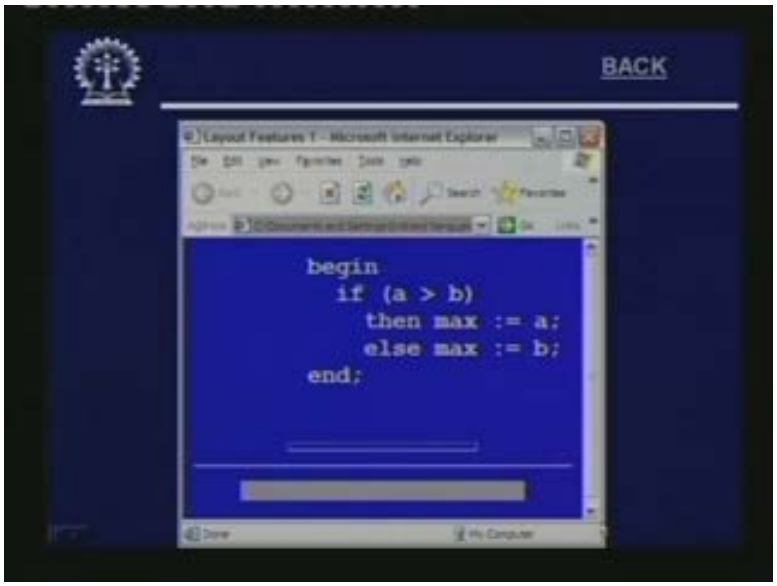
(Refer Slide Time: 47:06)




The fourth example, this tells you about the some of the layout features. So the title is layout features one. Here we have given the text color to be yellow, back ground color is blue. Again well in the first part there is a preformatted document. See begin if then else, this is a small program code segment which we have included using begin pre, end pre. And this whole begin pre, end pre we have enclosed within begin heading, end heading so that it displays in a bigger font. So just I want this entire preformatted text to be displayed in a bigger font. So that is why I have used this way. And after this, in order to in order to illustrate the horizontal rule, I have given three different horizontal rules.

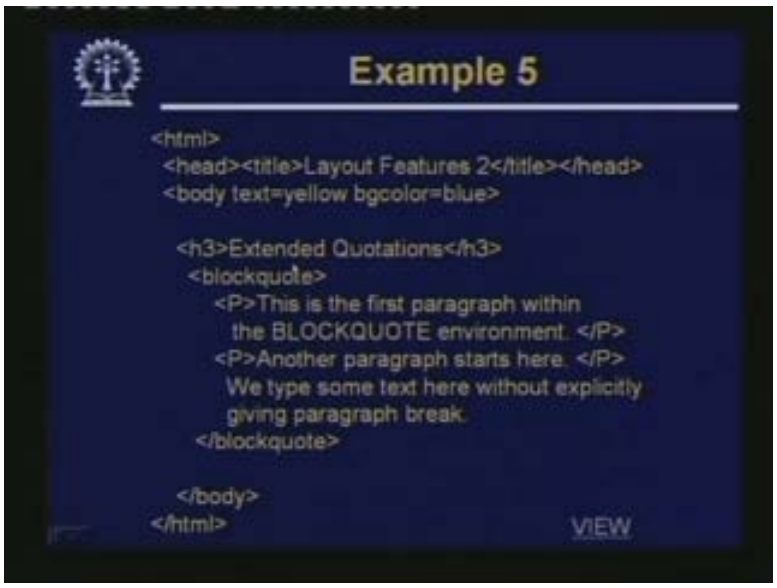
First one says HR size equal to 8. Size equal to 8 means the width of the horizontal rule will be 8 and width will be 50 percent of the displayed window. Size equal to 8 will mean it will be a hollow rectangular kind of a thing of width 8. The second one, HR, this will span the entire width of the page. The third example HR size equal to 20, that means the width that means the thickness will be 20 pixels, width will be 75 percentage of the displayed window. Noshade, this additional attribute with no value are required here. Just the name noshade. Noshade means that the line will be displayed in a solid way. There will be the line will not appear as a hollow rectangle it will be a solid rectangle. Now let us see how this example appears.

(Refer Slide Time: 49:05)




See the first, part the text appears as it is as I had formatted. And this is displayed in courier mono type font. You see that the width of all the characters is equal. This is the first horizontal line which appears as a horizontal hollow rectangle. Second one is a h line which stands across the page; the third one is a thick horizontal line which is solidly shaded.

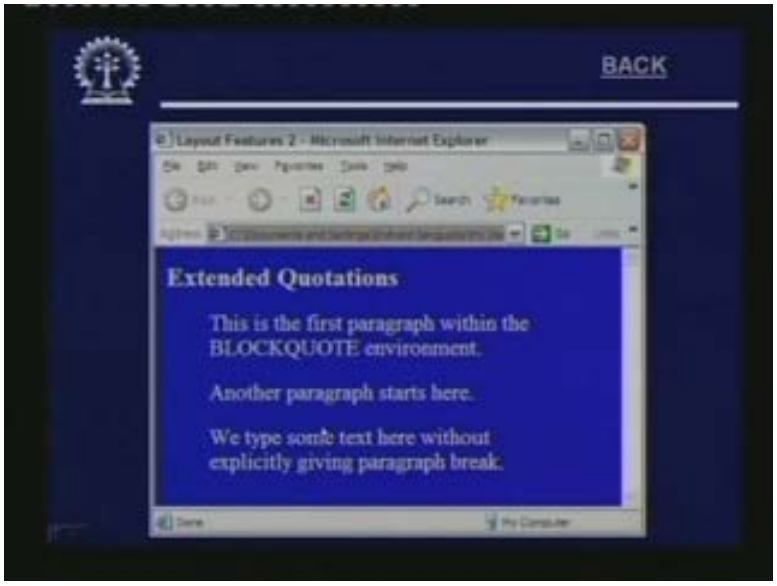
(Refer Slide Time: 49:43)




So this example shows which you have not mentioned in my lecture. This is there is a tag called blockquote. Blockquote is used to produce quotations. Quotations are normally used by having some additional space in the left or right. For example, here there are two

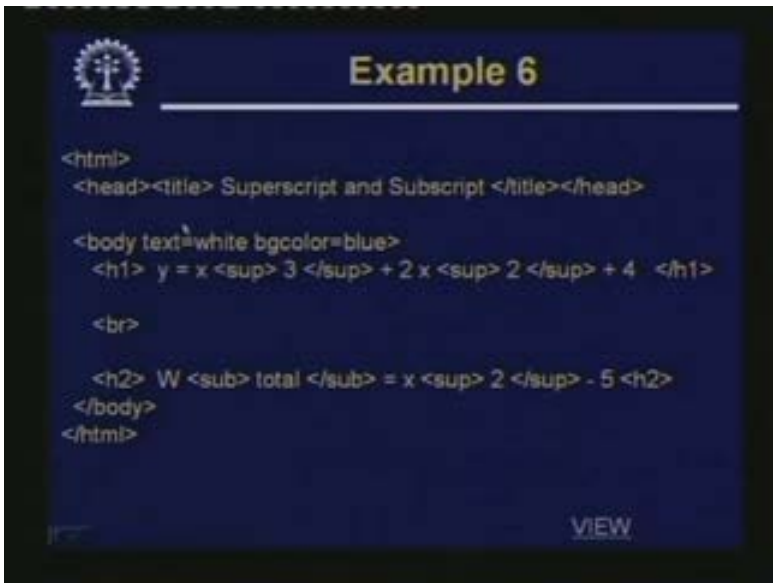
paragraphs. In fact three paragraphs one after the other which is using blockquote and these are heading h3 extended quotation.

(Refer Slide Time: 50:12)



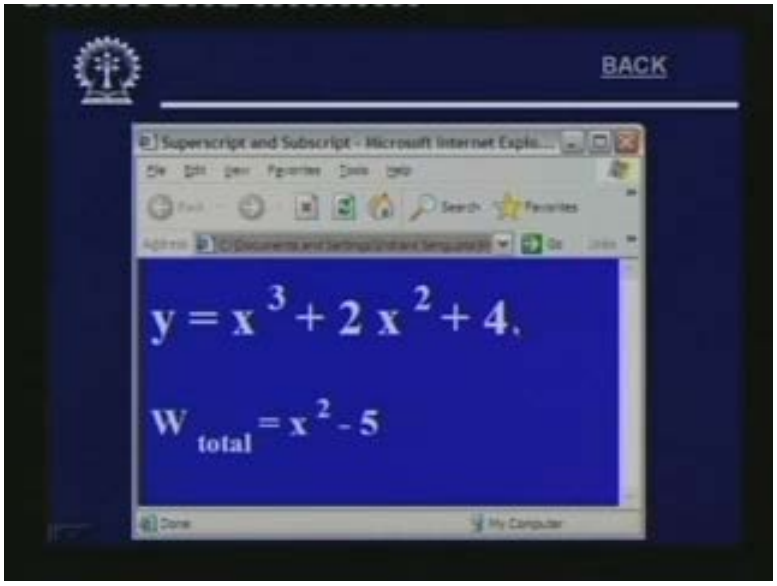

They will get displayed like this. This is the heading and the quotation would have some additional space in the left as well as in the right. Sometimes we need to display quotations like this. As part of a document we can use the blockquote tag for this purpose.

(Refer Slide Time: 50:28)



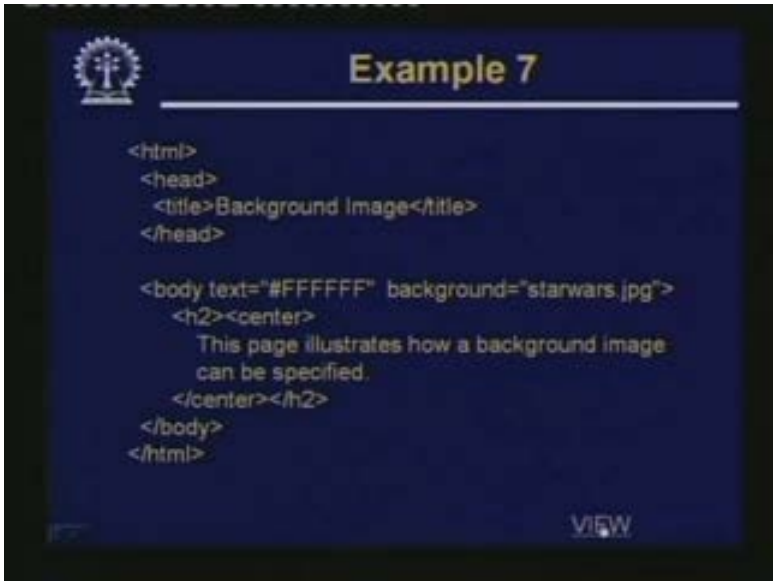
The sixth example illustrates superscript and subscript. Well I have given just two examples. Here two lines, here 1 is y equal to x sup 3. That means it will come as x cube plus 2 x sup 2 and that means x squared plus 4. Similarly y subtotal, that means the total should come below this y w and x square minus 5. So this if you display it will come like this.

(Refer Slide Time: 50:59)



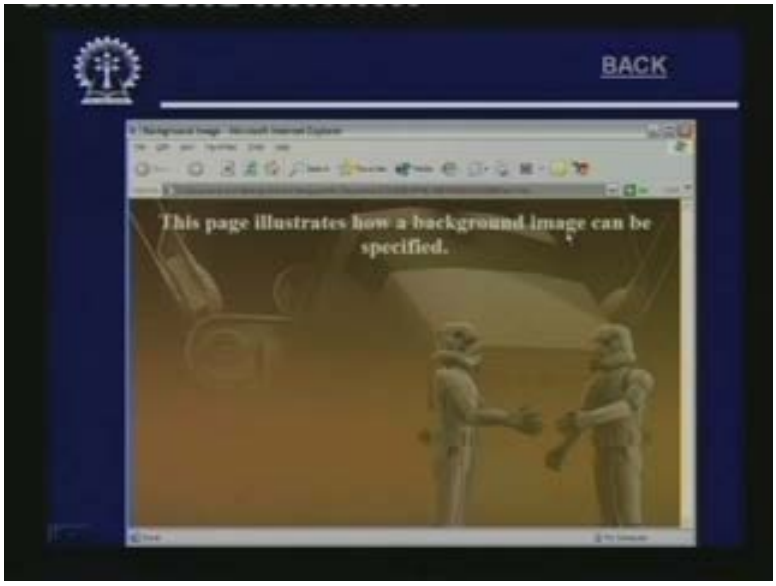

Y equal to x cube plus 2 x square plus 4. W total as subscript equal to x square minus 5.

(Refer Slide Time: 51:09)



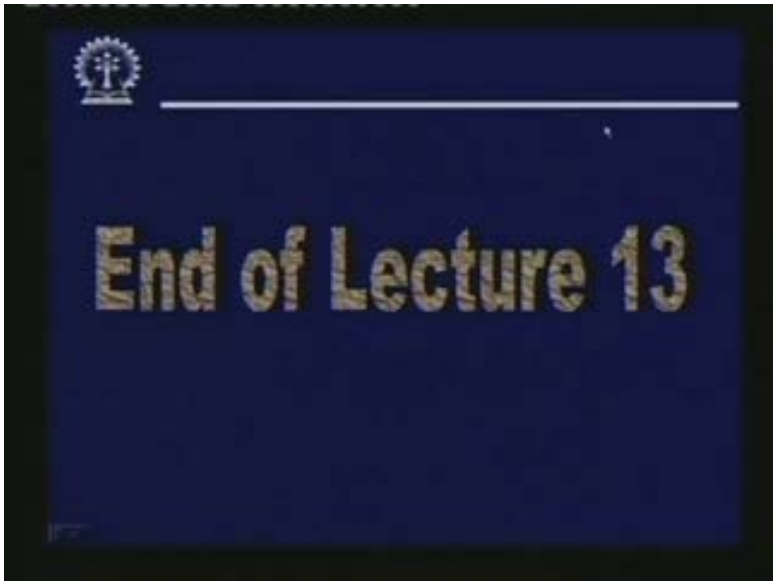
And the last example shows how to include a background image. So in the body, instead of the bgcolor, we have given background with an image file starwars.jpg and with some text.

(Refer Slide Time: 51:26)



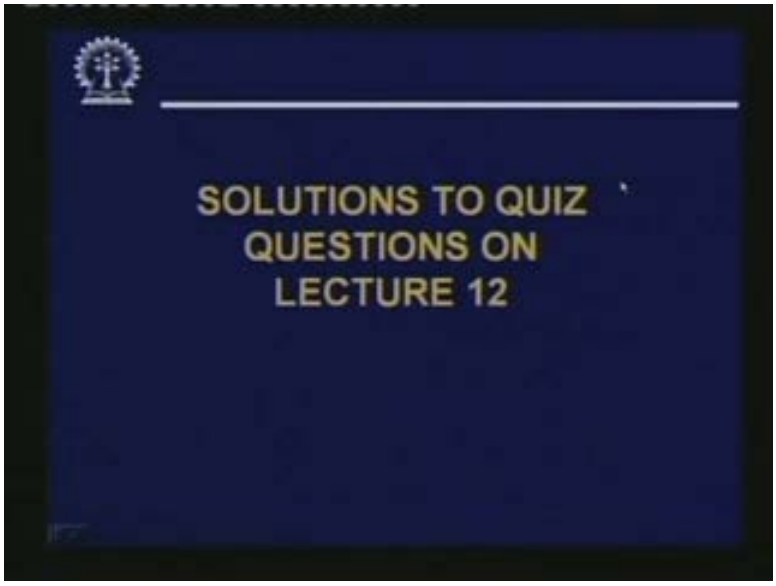

So if this page is displayed, so the background will be an image that is the star wars image and on top of it you have the text whatever you have specified. So in this way you can specify any image in the background when you are displaying a text in the program.

(Refer Slide Time: 51:44)

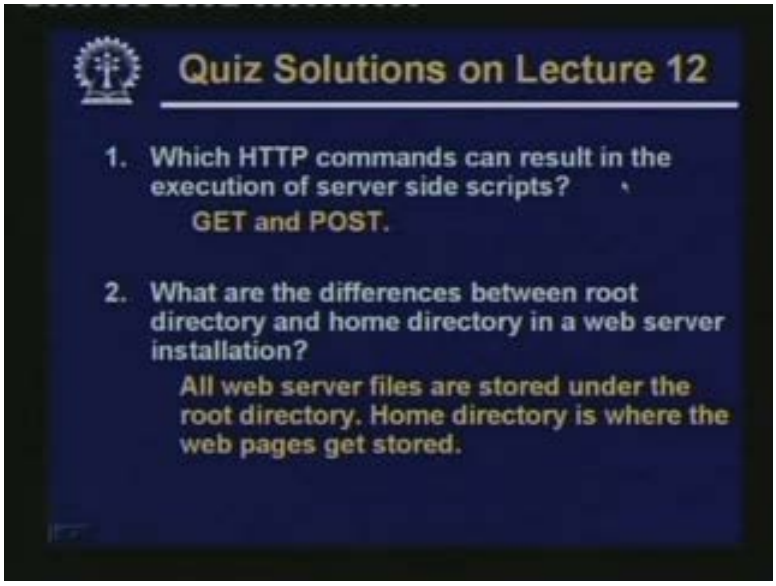


With this we come to the end of today's lecture. Now let us quickly look at the solutions to last day's problems.

(Refer Slide Time: 51:56)




(Refer Slide Time: 51:59)

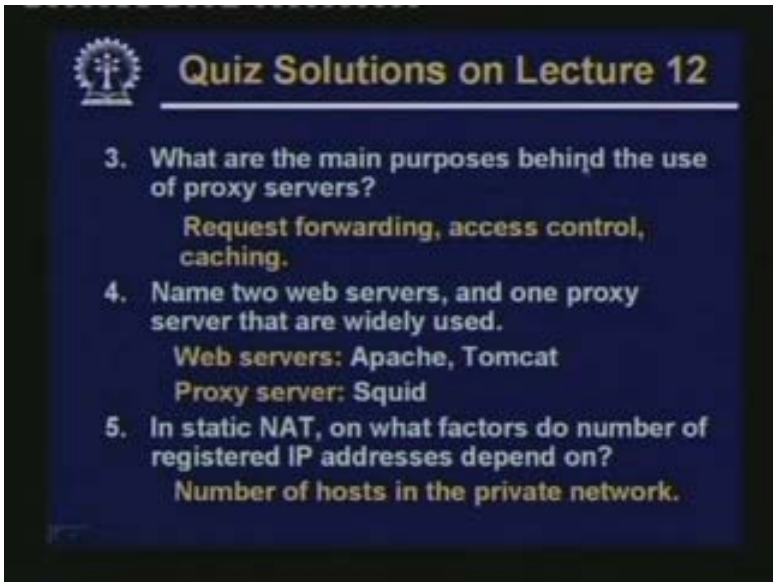



Last day, we were discussing about http web servers and some related quiz. So the questions were as follows:

Which http commands can result in the execution of server side scripts?
We mentioned that there are 2 GET with a question mark and POST.

What are the differences between root directory and home directory in a web server?
Well, root directory means all web server files must be stored under that directory; that is the root. And home directory is the folder under which all the web pages are getting stored.

(Refer Slide Time: 52:33)

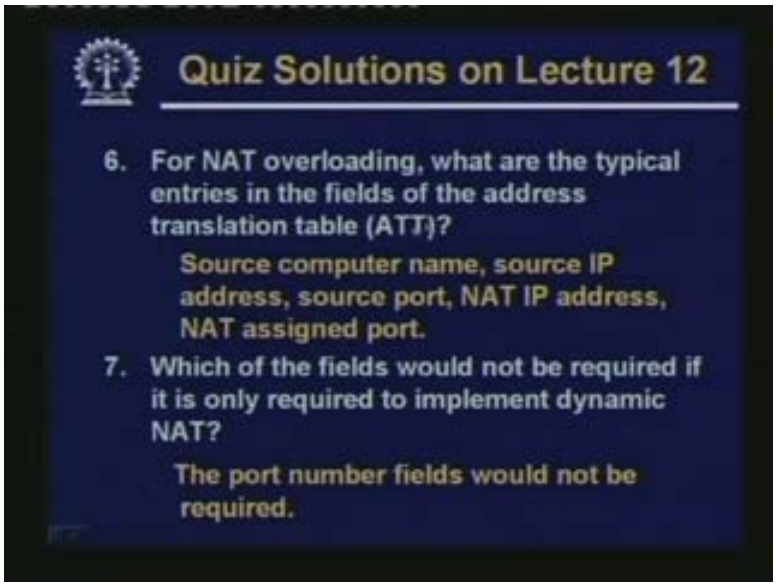



What are the main purposes behind the use of proxy server?
There are three purposes. Mainly request forwarding, access control and caching of the pages we have visited.

Name two web server and one proxy server that are widely used.
Well the web servers apache tomcat. These are very popular. Proxy server squid is very popular.

In static NAT, on what factors do number of registered ip addresses depend on?
Well in static NAT the number of registered ip addresses will be equal to the number of hosts in the private network that is the limit.

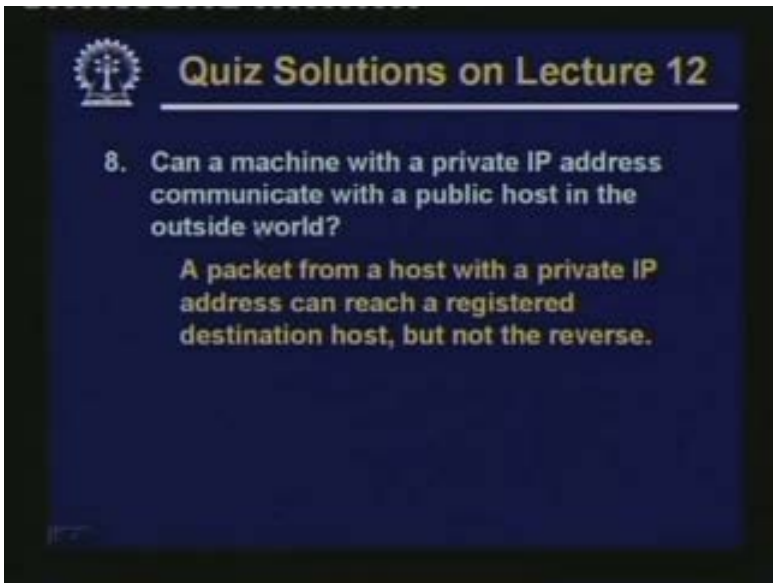
(Refer Slide Time: 53:08)




For NAT overloading what are the typical entries in the fields of the ATT?
Source computer name. Of course, this is an optional field. I told you source ip address source port NAT ip address NAT assigned port. The last four are the required fields.

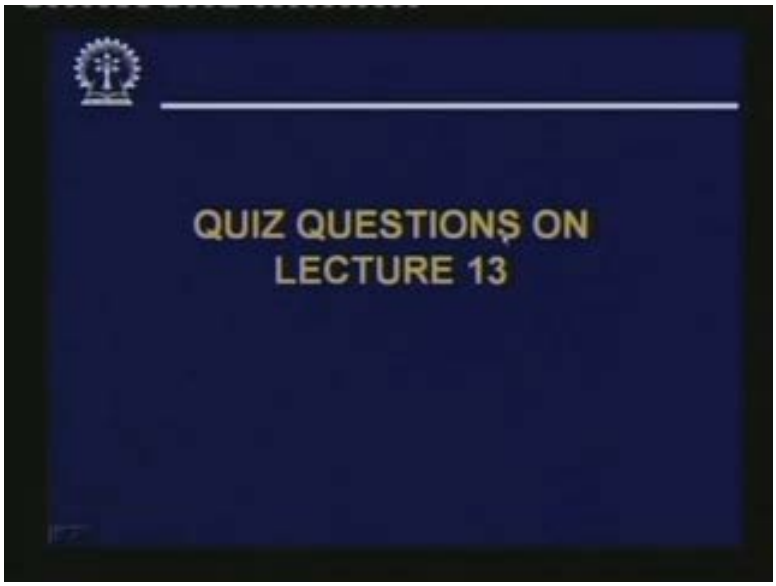
Which of the fields here would not be required if it is only required to implement dynamic NAT?
Well the port numbers would not be required. Only the ip addresses would be required.

(Refer Slide Time: 53:35)



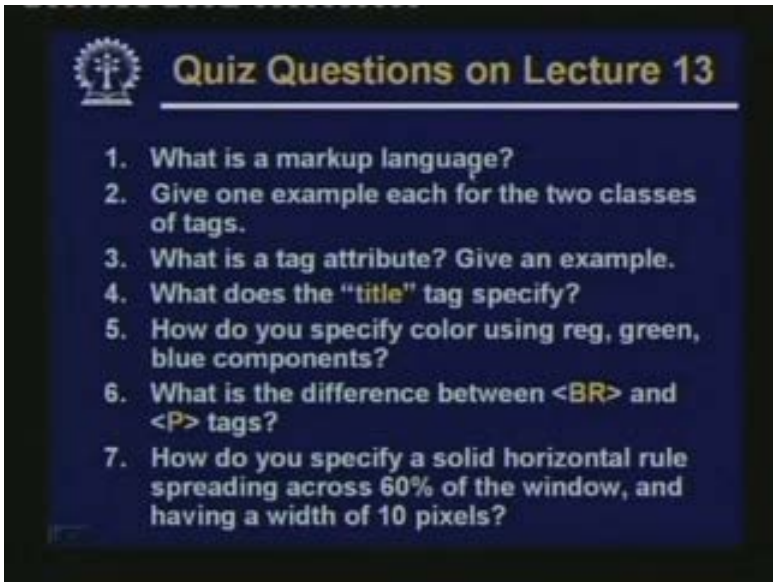
Can a machine with a private ip address communicate with a public host in the outside world?
Well a packet from a host with a private ip address can reach a registered destination. But not the reverse because the reverse packet will be having this private address as the destination which will get rejected by the routers on the way. So you cannot have a packet coming to your private ip from outside, that is not possible.

(Refer Slide Time: 54:00)



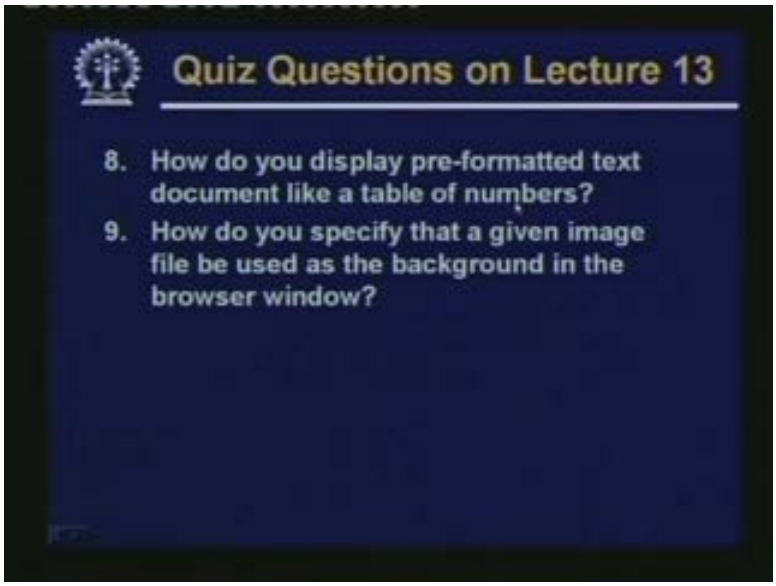

So now some questions from today's lecture.

(Refer Slide Time: 54:05)



What is a markup language?
Give one example each for the two classes of tags.
One which appears in pairs other which does not appear in pairs.
What is a tag attribute? Give an example.
What does the title tag specify?
How to specify color using red green and blue components?
What is the difference between BR and P tags?
How do you specify a solid horizontal rule spreading across 60 percent of the window and having a width of 10 pixels?

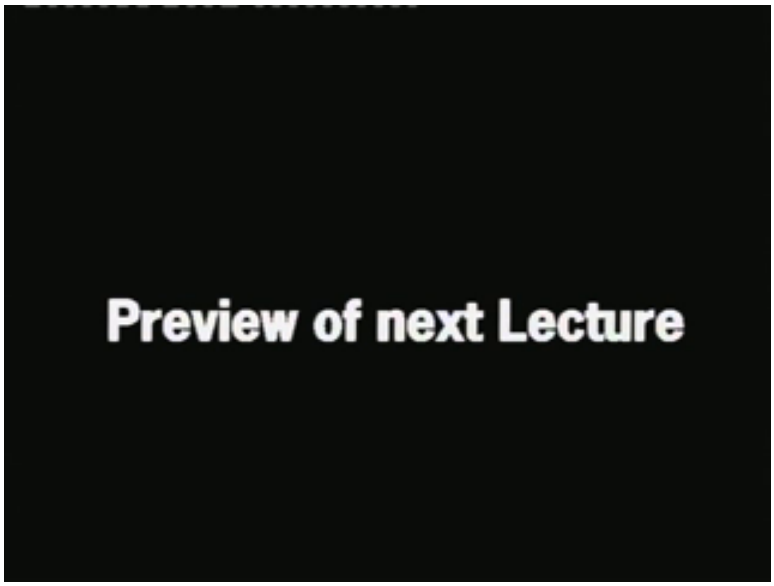
(Refer Slide Time: 54:41)




How do you display preformatted text document like a table of numbers or a program code possibly?
How do you specify that a given image file be used as the background in the browser window?

Well in today's lecture we had looked at a number of features of html language. I suggest you should learn these tags. How they are used with respect to some hands on experience with creating html files and opening them using the browser and see how they look like. They will get a much better feeling as how this tags can control exact appearance of this and we shall be continuing with out discussion on html tags in our next lecture. In our next lecture we shall be starting with how we can display items as bulleted lists as numbered lists and how we can provide hyperlinks and other kind of? What is that links in our documents that you can have links to the image file? For example and all this things we shall be discussing in our next class. Thank you.

(Refer Slide Time: 56:01)




Preview of next lecture.

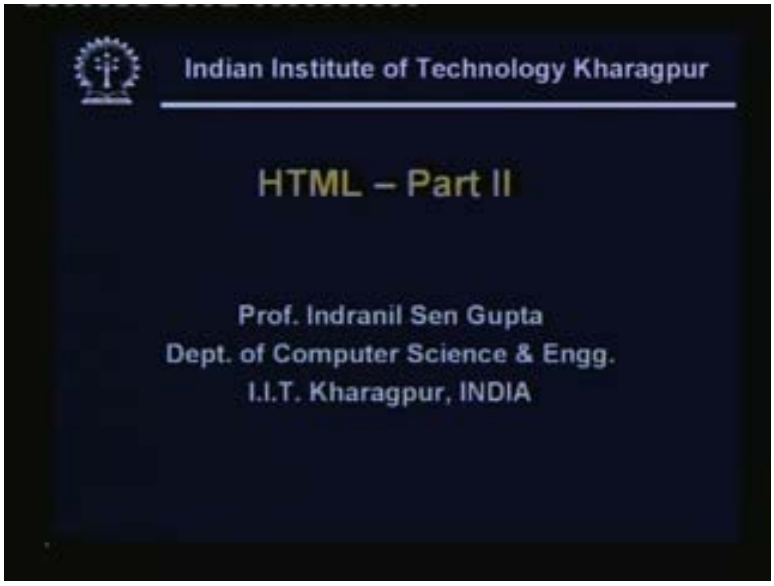
(Refer Slide Time: 56:07)


HTML-Part-III

We continue with our discussion on html. Now if you recall in our earlier class we had talked about some of the features of html like, what is the structure overall structure of html document. We talked about the tags and their attributes which are necessary to define the structure of the document. We talked about the head and the body which are which are included within the overall begin html and end html tags. We looked at some

of the formatting commands and tags as well. Now continuing with our discussion today. First we shall be looking at how we can specify and construct lists using html tags and attributes.

(Refer Slide Time: 57:08)



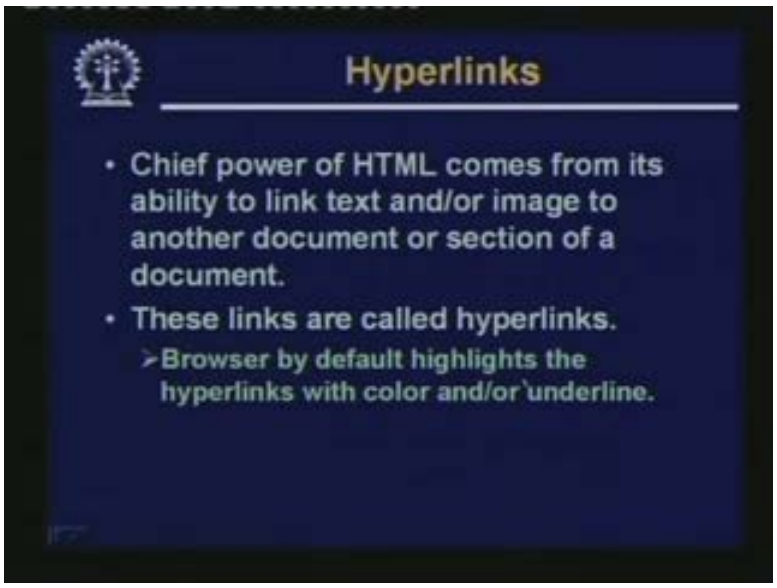

(Refer Slide Time: 57:09)


So the first thing we would be talking about today is html lists.

(Refer Slide Time: 57:16)


You know in html one of the very important features is to specify hyperlinks. Because html is a language in which you can provide links from one document to other resources. It can be another document, another image, some other file like pdf or script anything. So the way we can provide this kind of links is very important and these kinds of links are called hyperlinks.

(Refer Slide Time: 57:43)




So basically hyperlinks give the main power to html. Because if you look at it, the reason html has become so popular today. This is because you are able to browse through the net, you start with a page you click on the links you go to other pages click on some other

link go to some other pages and so on. So this is possible because html supports this kind of linking to other pages. So html has the ability to link text, image, well or any other resources. Here I am showing text and image it can be any other thing also, it can link these to other documents or sections of a document. These links are called hyperlinks. And usually by default of course you can change this default. By default whenever you specify a hyperlink as part of an html page, browser will highlight the hyperlink either by displaying with a different color underlining it or both.