Introduction to HTML

- HTML(Hypertext Markup language) is the language used to create web pages. HTML language uses tags to create the web pages. Browsers read these tags to display the output to the user.

- Note that html is interpreted browsers and hence we don't need to compile it.

What are HTML Tags?

Tags are Predefined keywords inside angular brackets.

Example : To represent body tag in html, we need to put it inside angular brackets like <body> . Now this is how we write body tag inside html page.

Example of other tags are <html>, <p> <h1> etc.

Example

Let's consider the example of a building. So how we create a building. We add bricks, tiles, pillars and other materials in a proper order, and then we use cement and create a building. **Similarly for a web page we add materials like different tags and finally add them up to create a web page.**

HTML File Structure

The root tag is <html>

It has two child tags as <head> and <body>

```
<html>
<head>

</head>
<body>

</body>
</html>
```

DOCTYPE Tag

Document Type Declaration or DOCTYPE declares which version of html is being followed by the document. Note that doctype is not a html tag, it is just used to tell the browser about the version of the html to follow for the current code. Note that <!Doctype> should be the first tag in html code.

In html version, there are three types of DOCTYPES can be used :

- Strict,
- Transitional
- Frameset.

Ex: This is an example of Transitional type doc type. <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN""http://www.w3.org/TR/html4/loose.dtd">

<head> tag

The head tag contains the header information, link to scripts and meta data about the web page. The <head> tag is placed outside the body tag. Let's look at a code snippet having doctype, head and body tag included. The <title> tag is contained inside head tag. It is used to show the title of the web page.

Head tags has child tags:

1. title - specifies the title for a web page
2. meta - specifies the content type
3. link - used to call an external CSS page
4. style - specifies that CSS is written inside this tag
5. script - specifies that JavaScript is written inside this tag

Examples for Meta Tags

keywords attribute defines keywords for search engines:

```
<meta name="keywords" content="clothes, fashion, fashion accessories">
```

description attribute describes your web page:

```
<meta name="description" content="Buy fashin clothes and accessories online" >
```

revised attribute define the last revision of your page:

```
<meta name="revised" content="Hege Refsnes, 23/10/2011" >
```

http-equiv attribute Refreshes document every 10 seconds:

```
<meta http-equiv="refresh" content="10">
```

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
    <title>HTML study page</title>
    <meta content="text/html">
    <style>
        /*
            all css styling goes here
        */
    </style>
    <script type="text/javascript">
        //all javascript code goes here
    </script>

</head>
<body>

    This is the place to add the data of the page

</body>
</html>
```

First HTML Example

Open any editor of your choice or use notepad and type in the code shown below. After typing it save it as first.html file and open it in a web browser. Hey..! you have created first web page.

```
<html>
    <body>
        <h1> Hi .. I am a heading</h1>
    </body>
</html>
```

Understanding the code

Lets now dissect the code. **The first tag is the root tag which is <html>.**

All html files need to have **<html>** as the starting tag.

The body tag contains the tags that display the output to the browser.
We have **<h1>** tag which is the headline tag. We have **<h1>** to **<h6>** tags where **<h1>** has the largest font size and **<h6>** has the smallest.

Whatever content we write inside the h1 tag, it will become a headline with bold and increased font size. Next is the closing **</body>** tag followed by the closing **</html>** tag.

Note that we add a slash in the beginning to close it. So if the beginning is **<body**> tag, to end the tag we add a slash and it becomes **</body>.**

Lets understand other html tags in the next section.

Types of tag

1)**Standard tags :** Standard HTML tags have opening and closing tag.

Ex : <body></body>, <h1></h1>

2)**Self closing tags:** These are tags which don't have a closing pair of tags.

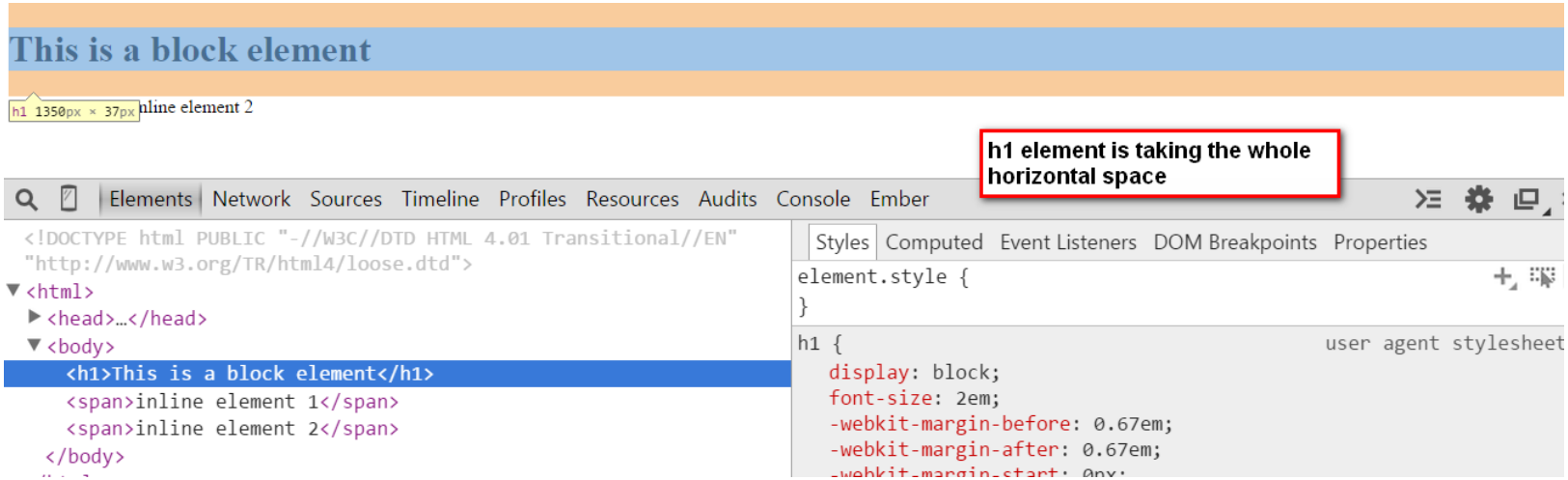
Ex:
 tag which is line break.

Block Elements Vs Inline Elements

1)**Block level tags:** Block level tags add a line break for the content

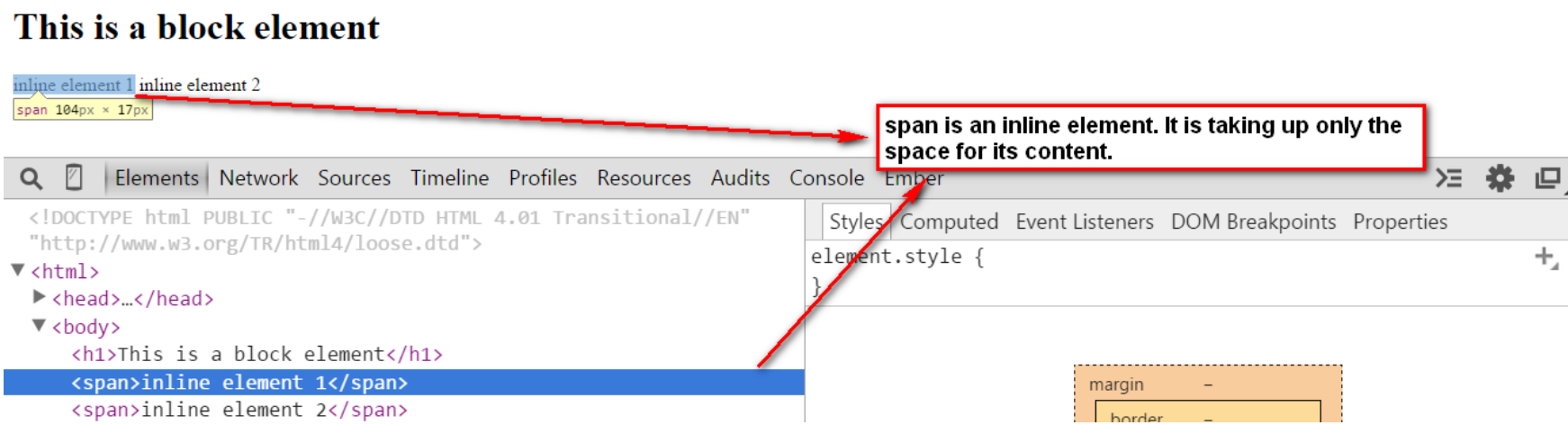
Ex: <h1>, <p> for paragraph tags.

A block element will take the complete horizontal area of the web page. So, if you add a block element, the next element will be placed in next line only.



2)**Inline tags:** Inline tags don't add a line break.

Ex: bold(<b>) tag which makes the content in bold letters.



Tags to display and format text

Paragraphs: For paragraph we use tag. Note that closing this tag is optional, but it's good to have the opening and closing tag.

Ex Hello, i am a text inside paragraph .

Note that paragraph is a block level tag.

Links: To display a link we use the <a> tag.

Ex: Click to Google.

Here **href** is the source of the link. Notice that we have added a property to the tag using a href keyword. We call these properties as attributes.

<b> is for making text bold, **<i>** is for making text italic ,**** for emphasizing a text and **<u>** is for underline.

<img> tag is used to display an image. Note that it is a self closing tag. Means we don't need to close it.

For **<img>** tag we have attributes namely width and height to adjust the height and width of the image. Lets create a snippet of code to display an image, with a link and some text formatting!

Example

Create a file with the name mypage.html and write the code below. To add a comment enclose the comment like this <!-- this is a comment-->

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01
  Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>
        <head>
                <title>This is the title</title>
        </head>
        <body>
                <p> I am text inside a paragraph</p>
                <em> I am a emphasized comment and see the two line break below me!</em>
                <br/>
                <i>I will be italicised</i>
                <pre>maintains the
                        content written
                        as such
                </pre>
                <u>I will have an  underline</u>
```

```
            <img src = “myimage.jpg” width = “200” height = “150”>
            <hr/>
            <a href = “http://google.com”>Google me</a>
            <!-- I am a comment and will not be visible in the page -->
            <h1> I am the bigges heading</h1>
            <h2> I am the smaller heading</h2>
            <h6> I am the smalles heading</h6>
        </body>
</html>
```

Creating Tables

HTML table can be considered as group of rows where each of them contains a group of cells.

A table can be created using the below tags

<table> element which acts as main container

<tr> element which acts as row container

<td> element which defines a single cell.

Let's look at an example of creating table in the next slide

Table Example

```
<table>
    <tr>
        <td>Cell 1</td>
        <td>Cell 2</td>
        <td>Cell 3</td>
    </tr>

    <tr>
        <td>Cell 4</td>
        <td>Cell 5</td>
        <td>Cell 6</td>
    </tr>
</table>
```

Ordered List Tags Example

```
<OL TYPE="1">
   <LI> Item one </LI>
   <LI> Item two </LI>
   <OL TYPE="I" >
            <LI> Sublist item No one </LI>
            <LI> Sublist item No two </LI>
            <OL TYPE="i">
               <LI> Sub-sublist item No one </LI>
               <LI> Sub-sublist item No two </LI>
            </OL>
   </OL>
</OL>
```

Unordered Lists

```
<UL>
   <LI> Item One </LI>
   <LI> Item Two </LI>
   <UL TYPE="circle">
            <LI> Item Three </LI>
            <LI> Item Four </LI>
            <UL TYPE="square">
               <LI> Item Five </LI>
               <LI> Item Six</LI>
            </UL>
   </UL>
</UL>
```

HTML Forms

Forms are used to enter data and send the data to the server. Let's have a look at a simple form example.

```
<form name = “myform.html” action = “submit.php” method = “GET”> First Name
        <input type = “text” name =“first name”>
        <input type = “submit” value = “submit me” name = “submit”>
</form>
```

In the above example we have a form tag. The attribute name represents name of the form tag, action represent the page to which the form data is sent and method represent the way of data transfer. We have **GET** and **POST** methods.

Inside the form tag we have nested the input tag which creates a text box . Again the input tag needs to have a name and type attribute to represent name and type respectively.

Then we have the input with type as submit which creates a submit button. Now go ahead and write this form to test it yourself.

Input Types

There are many input types available for forms. Some important input types are text input, text area, select, checkbox and radio buttons.

1. input
    a. text
    b. password
    c. radio
    d. checkbox
    e. submit
    f. reset
2. select
3. textarea
4. button

We will cover these in our code section.

Meta Tags

Metadata is information about data.

The <meta> tag is kept inside the <head> element.

The <meta> tag provides metadata about the HTML document. Metadata is not be displayed on the web page.

It is used to

provide information about data to browsers, web services

and search Engines!

Meta elements are typically used to specify page description, keywords and other metadata.

Tag

The tag defines a section of a web page. It is a block level tag.

You can use the DIV element to divide our web page into sections and to give properties to the content using CSS(we will discuss about CSS in the next section)

Example:

```
<div>

    <p>This is a paragraph</p>

</div>
```

Tag

Span tag is similar to div tag but it's a inline tag which means the content will not go to next line if we classify it using span tag. The main use of span tag is to add properties to a content using CSS.