Web Technologies and Programming

Lecture 19

Summary of Previous Lecture

- Dialog boxes in JavaScript
  - Alert box
  - Prompt box
  - Confirm box
- What is DOM?
- HTML DOM
- Retrieving HTML elements
- getElementById()
- innerHTML
- getAttribute()
- setAttribute()

Summary of Previous Lecture

- **HTML DOM Elements**
- **Finding HTML Elements**
    - **Find an element by element**
    - **Find elements by tag**
    - **Find elements by class name**

Today's Lecture Outline

- **Controlling the background dynamically**
- **Working with images**
- **Date Object**

1. Controlling the background

- The body tag has the following attributes
  - Bgcolor
    - It is Background Color
  - Background
    - It deals with the Background Image
  - Text
    - It is the text user sees in the browser

1.1 Setting the bgcolor

- **We can access the bgcolor by following methods:**
  - **document.body.bgColor**
  - **document.getElementById("id of the body tag").bgColor**

1.1 Setting the bgcolor…

```
<html>
<head>
    <title>BGcolor Setting</title>
    <script>
        function setBgcolor()
        {
            var bg = prompt("Enter bgcolor")

            document.getElementById("body").bgColor = bg
        }
    </script>
</head>

<body id="body" onload="setBgcolor()">
    <h1>Hello Dear!</h1>
</body>
</html>
```

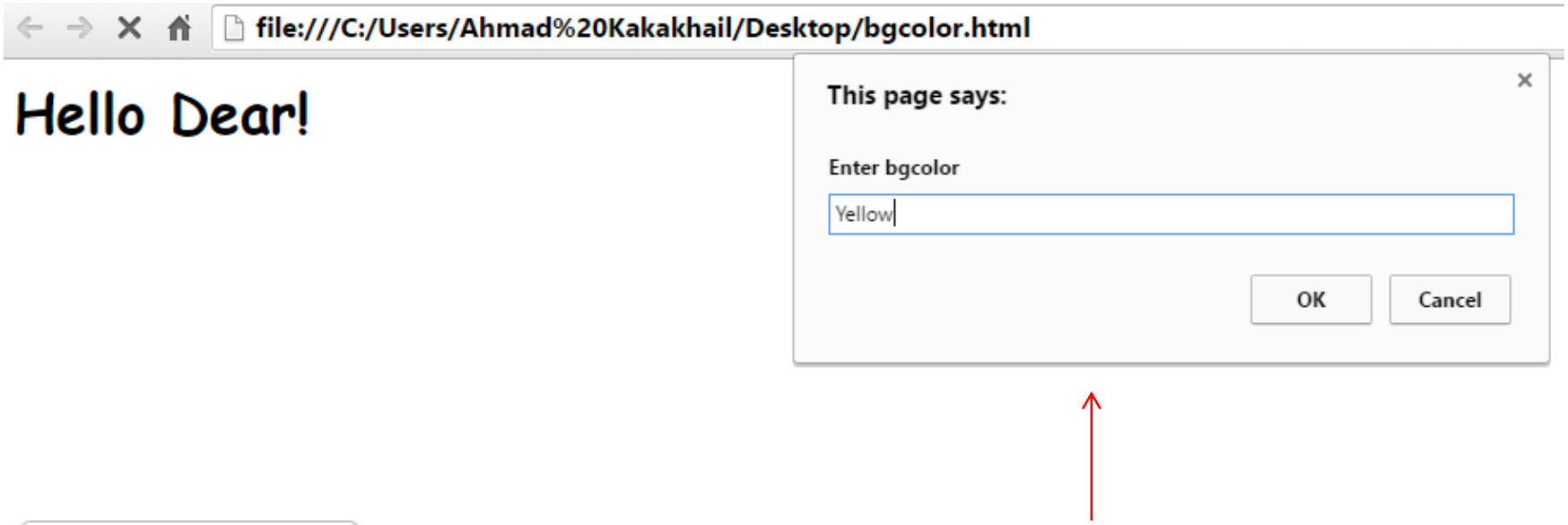
Starting Function

User Input

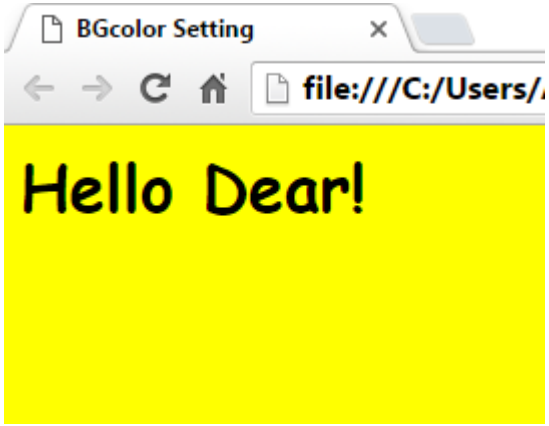
Setting bgcolor

Calling Function

1.1 Setting the bgcolor…



User Inputs bgcolor in Prompt Box



After Applying bgcolor

1.2 Setting the text color

- **Set a background color for a document:**
- **We can access the body text by following methods:**
  - **document.body.style.color**
  - **document.getElementById(“id of the body tag”).style.color**

1.2 Setting the text color

- **Example**
- Set a background color of a specific element:
- document.getElementById("myDiv").style.backgroundColor = "lightblue";

1.2 Setting the text color

- **Example**
- Return the background color of a specific element:
- alert(document.getElementById("myDiv").style.backgroundColor);
- **Example**
- Return the background color of a document:
- alert(document.body.style.backgroundColor);

1.2 Setting the text color…

```
<html>
<head>
    <title>BGcolor setting</title>
    <script>
        function setText(txtcolor)
        {
            document.body.style.color = txtcolor
        }
    </script>
</head>

<body>
    <p onClick="setText('blue')"> Click the Text to Make All the text Blue </p>
    <p onClick="setText('red')"> Click the Text to Make All the text Red </p>
    <p onClick="setText('orange')"> Click the Text to Make All the text Orange </p>
</body>
</html>
```

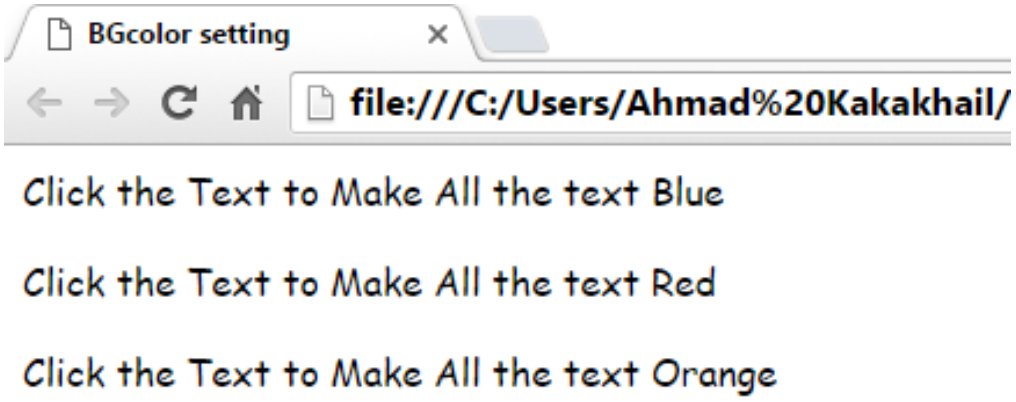
Set Text Function

Setting Color

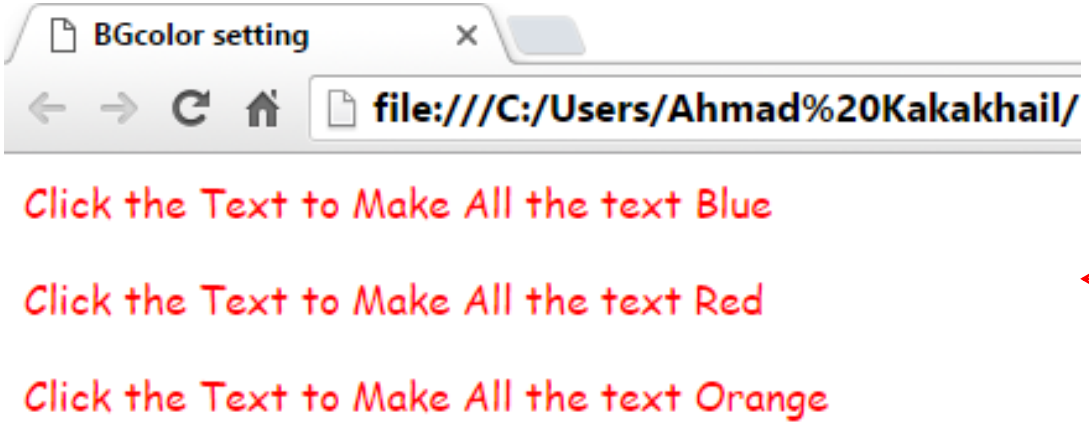
Calling Function

Passing Color as Parameter

1.2 Setting the text color…



Before Clicking on Text



After Clicking on Text for Red Color

1.3 Setting the background

- **The background property sets or returns up to eight separate background properties, in a shorthand form.**
- **With this property, you can set/return one or more of the following (in any order):**
- **background-color**
- **background-image**
- **background-repeat**
- **background-attachment**
- **background-position**
- **background-size**
- **background-origin**
- **background-clip**

1.3 Setting the background

- **Example**
- Set a background color for a document:
- document.body.style.backgroundColor = "red";
- **Example**
- Set a background image for a document:
- document.body.style.backgroundImage = "url('img_tree.png')";

1.3 Setting the background

- **Example**
- Set a background-image to no-repeat:
- document.body.style.backgroundRepeat = "repeat-y";
- **Example**
- Set the background-image to be fixed (will not scroll):
- document.body.style.backgroundAttachment = "fixed";

1.3 Setting the background

- **Example**
- Change the position of a background-image:
- document.body.style.backgroundPosition = "top right";

1.3 Setting the background

- **We can access the background by following methods:**
  - **document.body.background**
  - **document.getElementById("id of the body tag").background**

1.3 Setting background…

```
<html>
<head>
    <title>Background Setting</title>
    <script>
        function setBackground(bgSrc)
        {
            document.body.background=bgSrc
        }
    </script>
</head>

<body>
    <img src="bg1.jpg" onClick="setBackground('bg1.jpg')">
    <img src="bg3.jpg" onClick="setBackground('bg3.jpg')">
</body>
</html>
```

Function for Receiving Src

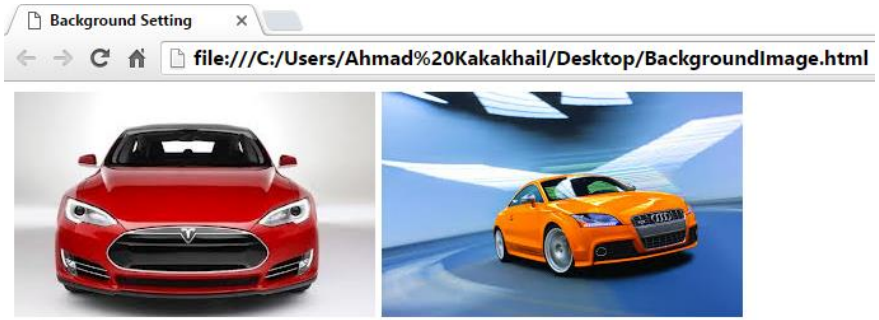
Setting Background

Image Added

Function Call

Src Passed

1.3 Setting background…



Before Clicking on Image

After Clicking on Image

2. Working with images

- JavaScript has a built-in object called Image
- The Image object allows you to create objects that represent images created using the <img> element
- Properties: name, border, height, width, hspace, vspace, src

2. Working with images…

- An image object can be created as
  - var objname= new image()
- The most important property of an image object is src
  - This designates the actual image file you will use as a source for your Image object
    - objname.src= “abc.jpg”
  - This property can be used to dynamically change an image on the webpage

2. Working with images….

- The primary use for an Image object is to download an image into the cache before it is actually needed for display
  - Instance of image object is created
  - Src property is set to the name of the image to be downloaded

2. Working with images….

- **Image Object**
- The Image object represents an HTML <img> element.
- **Access an Image Object**
- You can access an <img> element by using getElementById():

2.1 Image MouseMove and MouseOut Function

```
<html>
<head>
    <title>Image RollOver</title>
    <script language="javascript">
        function changePic(imgSrc)
        {
            document.getElementById("pic").src=imgSrc
        }
    </script>
</head>

<body bgcolor="Blue">
    <h1>Image Changing on Mouse Over and Mouse Out</h1>
    <img src="img6.jpg" id="pic" onmousemove="changePic('img7.jpg')" onmouseout="changePic('img6.jpg')">
</body>
</html>
```

Function Start

Setting Image Src

Image Addition

Calling MouseOver Function

Calling MouseOut Function

2.1 Image MouseMove and MouseOut Function…

On MouseOut

On MouseOver

2.2 Image Preview

```
<body bgcolor="Violet">
    <h1>Image Preview</h1>
    <table width="711" border="0" align="center">
        <tr>
            <td height="297">
                <img src="img1.jpg" id="pic" height="400" width="700" border="2">
            </td>
        </tr>
        <tr>
            <td>
                <img src="img1.jpg" height="100" width="133" border="2" onclick="changePic('img1.jpg')">
                <img src="img2.jpg" height="100" width="133" border="2" onclick="changePic('img2.jpg')">
                <img src="img3.jpg" height="100" width="133" border="2" onclick="changePic('img3.jpg')">
                <img src="img4.jpg" height="100" width="133" border="2" onclick="changePic('img4.jpg')">
                <img src="img5.jpg" height="100" width="133" border="2" onclick="changePic('img5.jpg')">
            </td>
        </tr>
    </table>
</body>
```

Main Image

Image Src

Function Call

Src Passed

Small Images

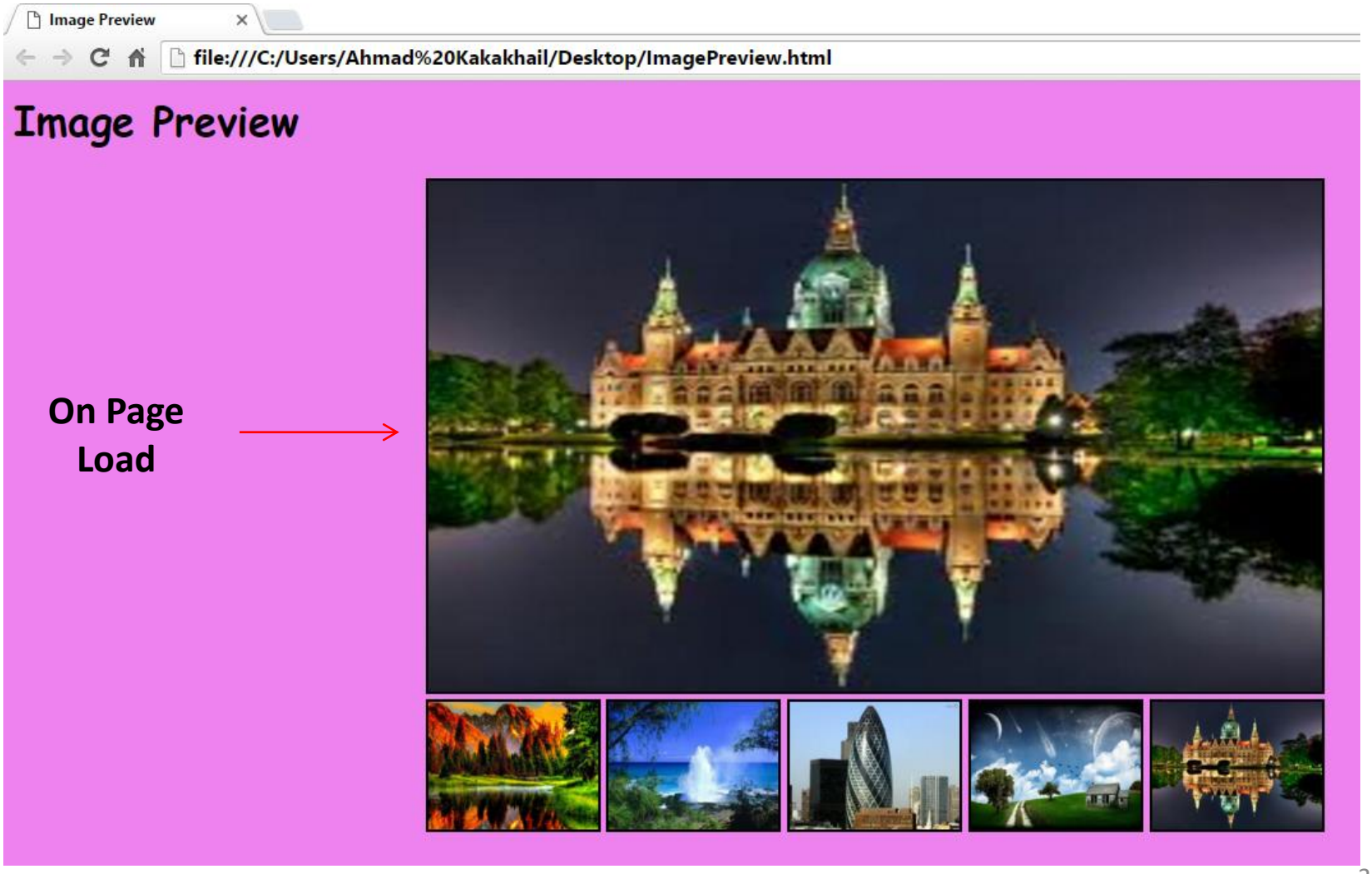
2.2 Image Preview…

```
<head>
    <title>Image Preview</title>
    <script language="javascript">
        function changePic(imgSrc)
        {
            document.getElementById("pic").src=imgSrc
        }
    </script>
</head>
```

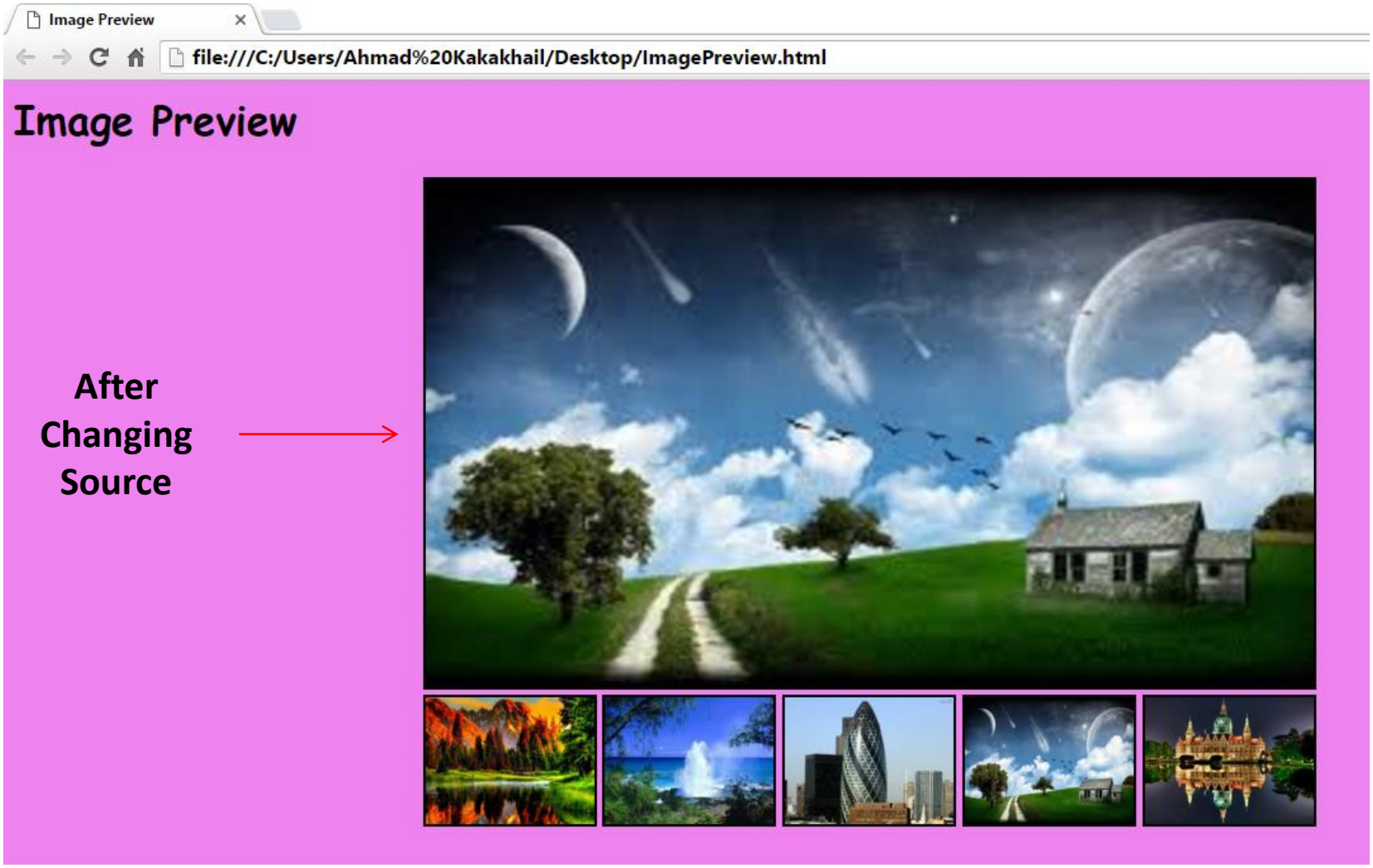
Function Gets Src

Main Image Src Changed

2.2 Image Preview…



2.2 Image Preview…



2.3 Slide Show

- **Array of images**
- **Main image**
- **Next and previous image buttons**
- **Next image and previous image functions**

2.3 Slide Show…

```
<head>
    <title>Slide Show</title>
    <script language="javascript">
        pics=new Array("img1.jpg","img2.jpg","img3.jpg","img4.jpg","img5.jpg")
        count=0
        pcount=pics.length

        function npic()
        {
            count++
            if(count < pcount)
                document.pic.src=pics[count]
            else
            {
                count=0
                document.pic.src=pics[count]
            }
        }
```

Array of Images

Length of Pics Array

Increases Pics Index

Checks for Last Image

Next Pic

Set count to zero incase of last image

Changes the Image

2.3 Slide Show…

```
        function ppic()
        {
            count--
            if(count>-1)
                document.pic.src=pics[count]
            else
            {
                count=pcount-1
                document.pic.src=pics[count]
            }
        }
    </script>
</head>
```

Count Decrement

Checks for First Image

Changes The Image

Sets Count incase of First Image

2.3 Slide Show…

```
<body bgcolor="violet">
    <table width="200" border="0" align="center">
        <tr>
            <td>
                <img src="img1.jpg" border="2" name="pic" height="250" width="700"/>
            </td>
        </tr>
        <tr>
            <td align="center">
                <img src="img6.jpg" onclick="ppic()" height="50" width="50"/>
                <img src="img7.jpg" onclick="npic()" height="50" width="50"/>
            </td>
        </tr>
    </table>
</body>
```

Main Image

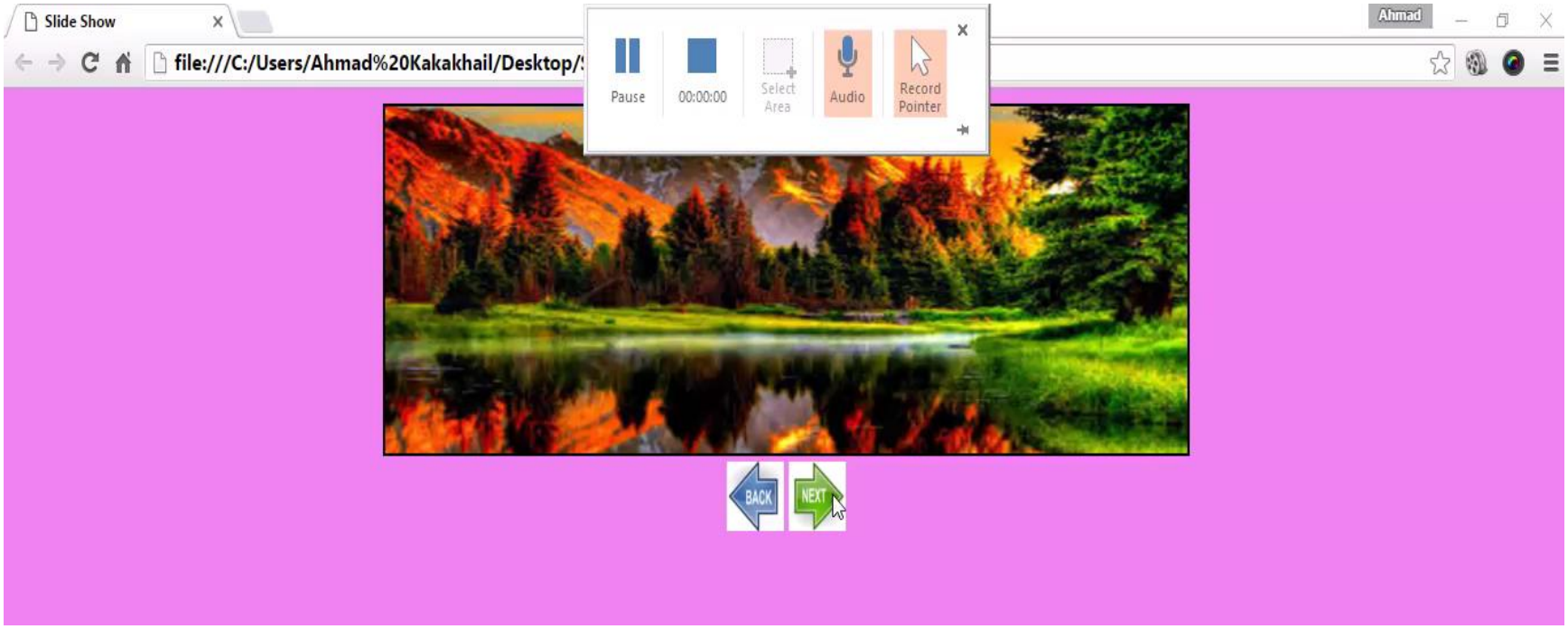
Back Image

Next Image

Call to Previous Pic Function

Call to Next Pic Function

2.3 Slide Show…



2.4 Slide Show (with Self Changing Images)

- **Array of images**
- **Main image**
- **Next image function**

2.4 Slide Show (with Self Changing Images)…

```
<head>
    <title>Slide Show with Self Changing Images</title>
    <script language="javascript">
        pics=new Array("img1.jpg","img2.jpg","img3.jpg","img4.jpg","img5.jpg")
        count=0
        pcount=pics.length

        function npic()
        {
            count++
            if(count<pcount)
                document.pic.src=pics[count]
            else
            {
                count=0
                document.pic.src=pics[count]
            }

            setTimeout("npic()",2000)
        }
</script>
</head>
```

Image Array

Increment the count

Checks for the last image

Image changes

Set Count to Zero incase of Last Image

Time Based Function Call

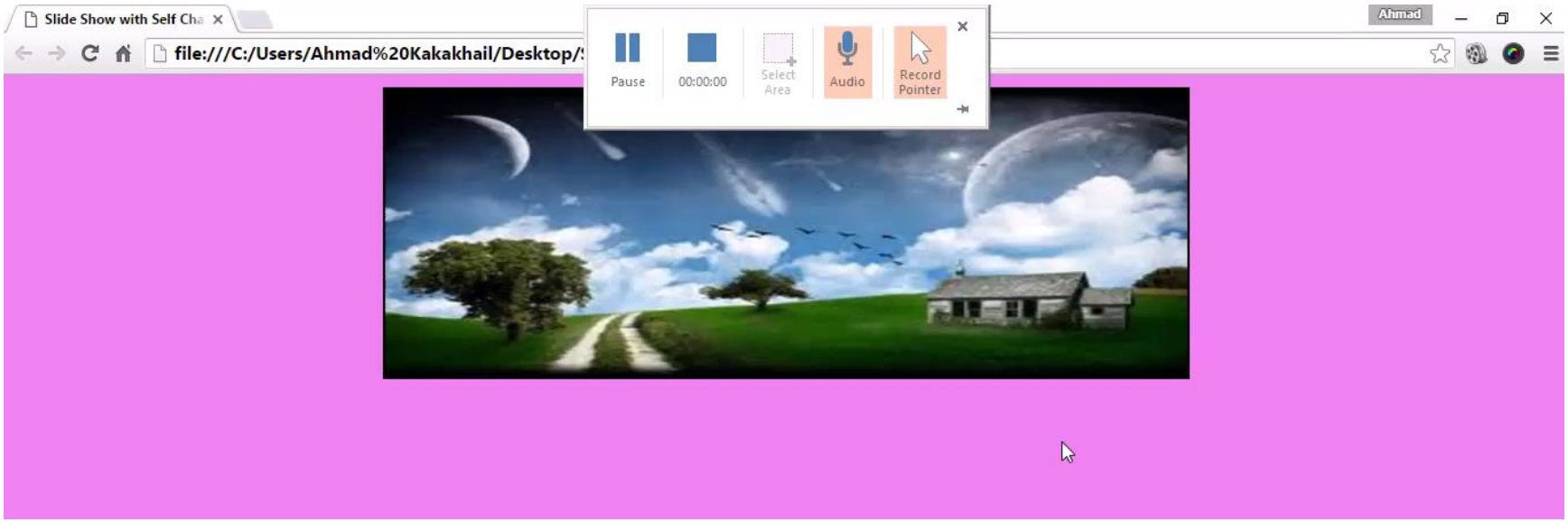
2.4 Slide Show (with Self Changing Images)…

Next Pic Function Call

```
<body bgcolor="violet" onload="npic()">
    <table width="200" border="0" align="center">
        <tr>
            <td>
                <img src="img1.jpg" border="2" name="pic" height="250" width="700"/>
            </td>
        </tr>
    </table>
</body>
```

Main Image

2.4 Slide Show (with Self Changing Images)…



3. Working with date object

- The Date Object is used to work with dates and times
- It can be used to find the Current Time and Date
- Many time based tasks can be performed
- Date objects are created as
  - var today=new Date()

3. Working with date object…

- **Date object methods:**
  - **getDate():**
    - **Returns the day of the month (from 1-31)**
  - **getDay():**
    - **Returns the day of the week (from 0-6)**
  - **getFullYear():**
    - **Returns the year (four digits)**
  - **getMonth():**
    - **Returns the month (from 0-11)**

3. Working with date object…

- **getHours():**
  - **Returns the hour (from 0-23)**
- **getMilliseconds():**
  - **Returns the milliseconds (from 0-999)**
- **getMinutes():**
  - **Returns the minutes (from 0-59)**
- **getSeconds():**
  - **Returns the seconds (from 0-59)**

3.1 Digital clock

```
<script>
    function startTime()
    {
        var today = new Date();
        var h = today.getHours();
        var m = today.getMinutes();
        var s = today.getSeconds();
        m = checkTime(m);
        s = checkTime(s);
        document.getElementById('txt').innerHTML = h+":"+m+":"+s;
        var t = setTimeout(function(){startTime()}, 500);
    }
```

Date Object is Created

Gets Hours

Gets Minutes

Gets Seconds

Calls Check-Time Function

Self Function Call

Writes Time on txt Div

3. Working with date object…

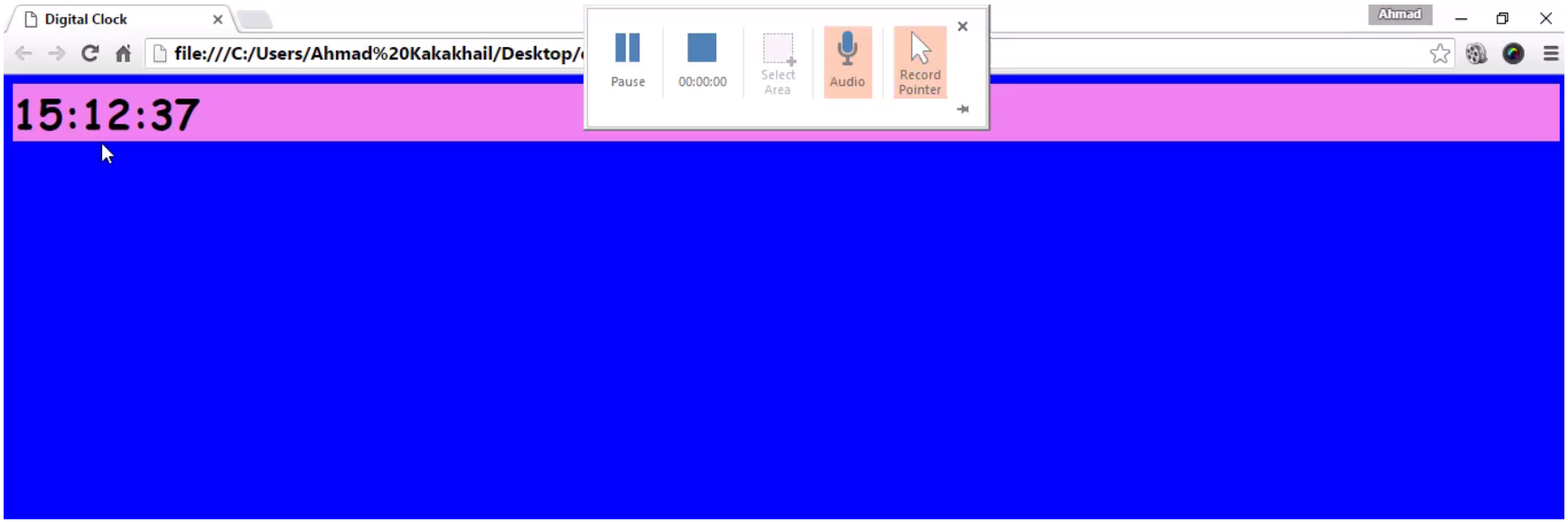
```
        function checkTime(i)
        {
            if (i<10)
                {i = "0" + i};

            return i;
        }
    </script>
</head>

<body bgcolor="blue" onload="startTime()">
    <div id="txt" style="font-size:36px; font-weight:bold; background-color:violet"> </div>
</body>
```

Concatenate ‘0’ If Time is Less Than 10

Start Time Function Call

Empty div to Display Time

3. Working with date object…



Summary of Today's Lecture

- **Controlling the background dynamically**
  - **Bgcolor**
    - **SET For a document**
    - **SET For a specific **
    - **SET the Text Color**
    - **Return background color of a specific element**
    - **Return background color of a document:**
  - **Background**
    - **background color for a document**
    - **background image for a document**
    - **Set a background-image to no-repeat**
    - **Set the background-image to be fixed**
    - Change the position of a background-image

Summary of Today's Lecture

- **Working with images**
  - Access an Image Object
  - On MouseOut
  - On MouseOver
  - Image Rollover
  - Image Preview
  - Image Slide Show

- **Date object**
  - Digital Clock

THANK YOU