

# **CHAPTER 4 – HTML PT3: FORMS**



# TOPICS TO BE COVERED

- » **HTML Forms**

Input data on the webpage.

- » **HTML Input Type**

Allows user to insert data to be processed and validated.

- » **HTML iFrame**

Creating sections on browser.

**More info on this topic can be found in e-books provided in LMS.**

Presentation slides made by Fifah S., M. Khalid.



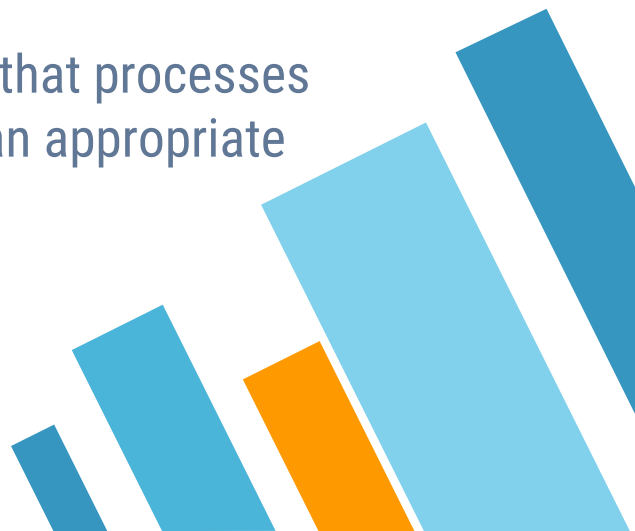
# HTML FORMS

Input data on the webpage.



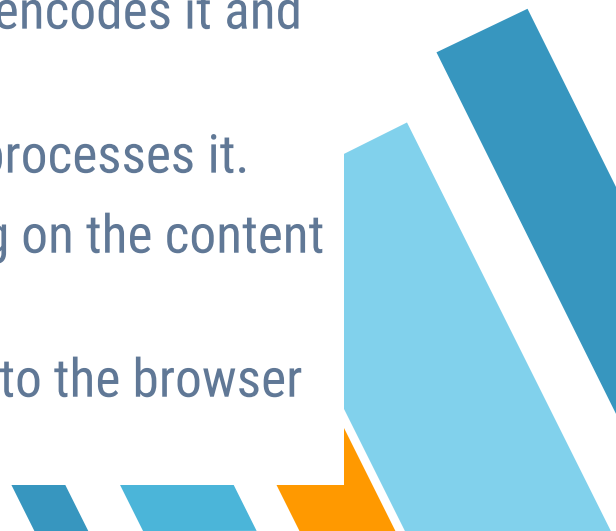


# FORMS

- » Forms are made up of buttons, input fields, and drop-down menus used to collect information from the user.
  - » It may also contain text and other elements.
  - » A web form is an application / script on the server that processes the information collected by the form and returns an appropriate response.
- 



# HOW DOES IT WORK?

- 1) User opens a page with a web form in the browser window. The browser sees the form control elements and renders them with the appropriate form controls on the page.
  - 2) User fills up the form and click submit button.
  - 3) The browser collects the information she entered, encodes it and send to the web application on the server.
  - 4) The web application accepts the information and processes it.
  - 5) The web application returns a response, depending on the content and purpose of the form.
  - 6) Server sends the web application's response back to the browser where it is displayed.
- 

Mailing List Signup

**MAILING LIST SIGNUP**

Get news about the band such as tour dates and special MP3 releases sent to your own in-box.

Name:

Email:

Done

Data

Name = Sally Strongarm  
Email = strongarm@example.com



Response  
(HTML)

Mailing List Signup

**THANKS**

You are now on the band mailing list. Can't wait to see you out at the shows.

[Go back to the main page](#)

Done


# THE METHOD AND ACTION ATTRIBUTES

- » The ***method*** attribute specifies the way that form data is sent to the server program.
- » The ***action*** attribute specifies a server program that processes the form data (often as a URL)
- » The method is optional and will default to GET if omitted.

```
<body>
  <form method="POST" action="comments.php">
    <h2>Tell us what you think</h2>
    <!-- etc -->
  </form>
</body>
```



# The POST method

- » When the method is set to POST, the browser sends a separate server request containing some special headers followed by the data.
  - » Only the server sees the content of this request, thus **it is the best method for sending secure information such as credit card or other personal information.**
  - » The POST method is also preferable for sending a lot of data, because there is no character limit as there is for GET.
- 





# The GET method

- » With the GET method, the encoded form data gets tacked right onto the URL sent to the server.
- » A question mark character separates the URL from the following data.

```
get http://www.bandname.com/cgi-bin/maillinglist.pl?name=Sally%20Strongarm&email=strongarm%40example.com
```

- » The GET method is appropriate if you want users to be able to bookmark the results of a form submission.
- 

# GET vs POST

	GET	POST
<b>BACK button/Reload</b>	Harmless	Data will be re-submitted (the browser should alert the user that the data are about to be re-submitted)
<b>Bookmarked</b>	Can be bookmarked	Cannot be bookmarked
<b>Cached</b>	Can be cached	Not cached
<b>Encoding type</b>	application/x-www-form-urlencoded	application/x-www-form-urlencoded or multipart/form-data. Use multipart encoding for binary data
<b>History</b>	Parameters remain in browser history	Parameters are not saved in browser history
<b>Restrictions on data length</b>	Yes, when sending data, the GET method adds the data to the URL; and the length of a URL is limited (maximum URL length is 2048 characters)	No restrictions
<b>Restrictions on data type</b>	Only ASCII characters allowed	No restrictions. Binary data is also allowed
<b>Security</b>	GET is less secure compared to POST because data sent is part of the URL	POST is a little safer than GET because the parameters are not stored in browser history or in web server logs
<b>Visibility</b>	Data is visible to everyone in the URL	Data is not displayed in the URL



# HTML INPUT TYPES

Allows user to insert data to be processed and validated.






# LABELS

- » Form labels are used to associate an explanatory text to a form field using the field's ID.

```
<label for="fn">First Name</label>  
<input type="text" id="fn" />
```

- » Clicking on a label focusses its associated field (checkbox are toggled, radio are checked).
  - » Labels are both a usability and accessibility feature are required in order to pass accessibility validation.
- 

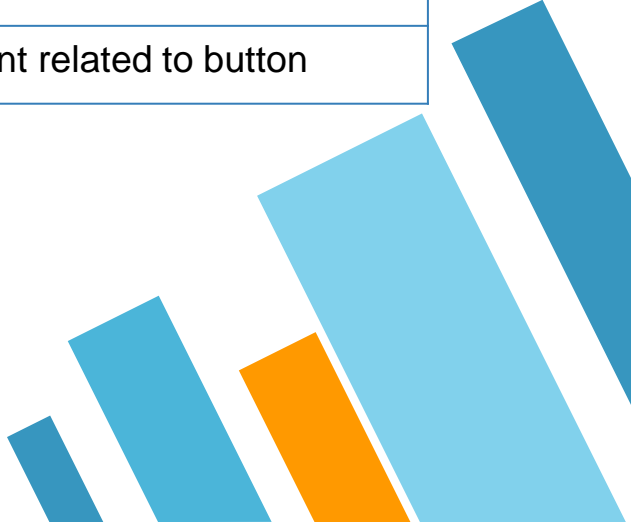
# THE INPUT ELEMENT IN HTML4

Type	Description
text	A free-form text field, nominally free of line breaks.
password	A free-form text field for sensitive information, nominally free
checkbox	A set of zero or more values from a predefined list
radio	An enumerated value
submit	A free form of button initiates form submission
file	An arbitrary file with a MIME type and optionally a file name
image	A coordinate, relative to a particular image's size, with extra semantic that it must be the last value selected and initiates form submission
hidden	An arbitrary string that is normally displayed to the user



# THE INPUT ELEMENT IN HTML4

Type	Description
select	An enumerated value, much like the radio type
textarea	A free-form text field, nominally with no line break restrictions
button	A free form of button which can initiates any event related to button

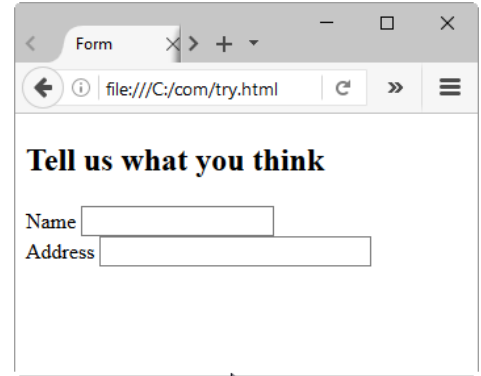


# TYPE="TEXT"

Allows any type of character.

`<input type = "text">`

- » The *type* attribute specifies the type of user input.
- » The *name* attribute gives an identifier to the input data.




A screenshot of a web browser window. The title bar says 'Form'. The address bar shows 'file:///C:/com/try.html'. The page content has a heading 'Tell us what you think' followed by two text input fields. The first field is labeled 'Name' and the second is labeled 'Address'.

```
<form method="POST" action="comments.php">
  <h2>Tell us what you think</h2>
  Name <input name="name" type="text" size="20"><br>
  Address <input name="address" type="text" size="30">
</form>
```



# TYPE="PASSWORD"

- » `<input type="password" />`
    - ◇ Similar to **type="text"** except that the input is masked with asterisks (not visible).
- 



# TYPE="CHECKBOX"

- » The ***name*** attribute is used to define a set of checkboxes.
- » The ***value*** attribute identifies the individual checkbox.
- » If the ***checked*** attribute to set the box (initially checked).

```
How did you hear about this web site?<br>
```

```
A friend
```

```
<input type="checkbox" name="hearfrom" value="friend"><br>
```

```
Search engine
```

```
<input type="checkbox" name="hearfrom" value="engine"><br>
```

## TYPE="RADIO"

- » Radio buttons are similar to checkboxes, but only **one** can be selected.
- » To select a button by default, use the *checked* attribute (for one button only)

```
How did you hear about this web site?<br>
```

```
A friend
```

```
<input type="radio" name="name" value="friend"><br>
```

```
Search engine
```

```
<input type="radio" name="name" value="engine"><br>
```

```
<!-- etc -->
```

## TYPE="SUBMIT" / TYPE="RESET"

- » `<input type="submit"/>`
  - ◇ Clicking this button sends the form data to the program (URL) specified in the action attribute of the form.
- » `<input type="reset" />`
  - ◇ Clicking this button clears all data entered so far.

```
Thank you<br>  
<input type="submit" name="send" value="Send">  
<input type="reset" name="clear" value="Clear"><br>
```

# TYPE="FILE"

## » `<input type="file" />`

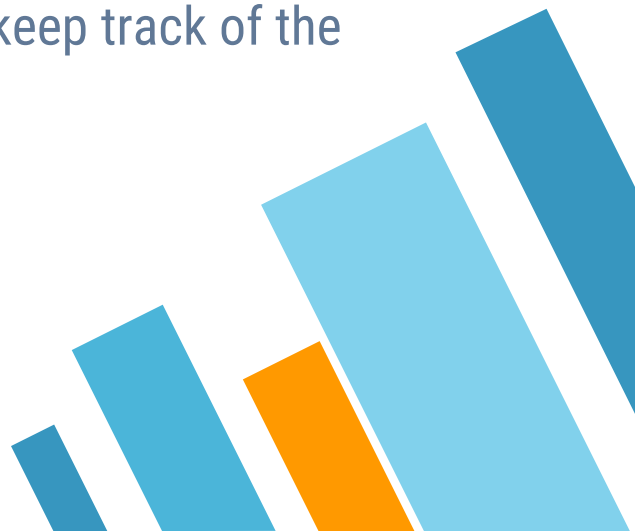
- ◇ Provides a file dialogue box to specify a file that is sent to the server.
- ◇ When used, it requires the form element to have a specific attribute:

```
•<form enctype="multipart/form-data">  
•<input type="file" name="photo" />  
•</form>
```



# TYPE="HIDDEN"

» `<input type="hidden" />`


- ◇ Similar to **text** input, but the **value attribute** is used to specify data that is to be sent to the server. Nothing appears on the screen.
  - ◇ The data might be set by a server program to keep track of the details of a particular transaction.
- 



# SELECT ELEMENT

- » The select element provides a menu of options.
- » An option can be selected by default using the **selected** attribute (otherwise the first in the list is initially selected).

```
How do you rate this site?<br>
<select name="rating">
  <option>Good</option>
  <option selected>Bad</option>
  <option>Ugly</option>
</select>
```



# DATALIST

- » Specifies a list of pre-defined options for an `<input>` element.
- » The `<datalist>` is used to provide an “autocomplete” feature on `<input>` elements.
- » Users will see a drop down list of pre-defined options as they input data.

```
Skills: <input type="text" list="skills" />
<datalist id="skills">
  <option value="HTML"></option>
  <option value="CSS"></option>
  <option value="Javascript"></option>
  <option value="Node"></option>
</datalist>
```

# TEXTAREA ELEMENT

- » Used for multi-line text input.
- » The size of the input area is specifies with the **cols** and **rows** attributes.
- » Any text placed inside the element appears in the input area (this can be deleted).

```
Please write your comments:<br>
<textarea name="comments"
  rows="5" cols="20">
  put text here
</textarea>
```

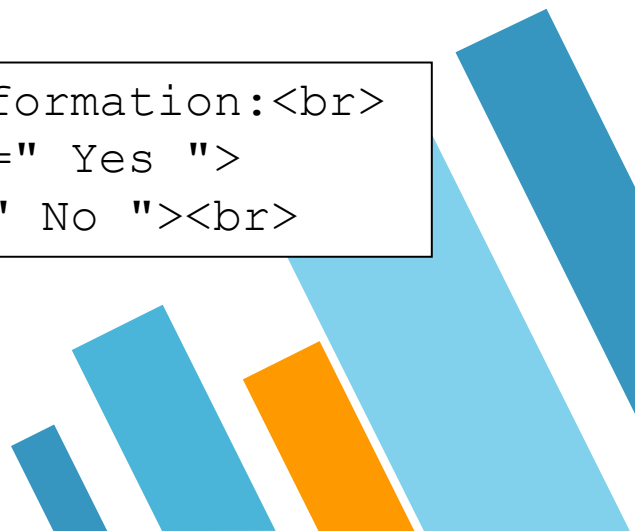




## TYPE="BUTTON"

- » The ***name*** attribute uniquely identifies a button.
- » The ***value*** attribute gives a label to the button.
- » Actions can be associated with buttons using JavaScript.

```
Do you want to receive any further information:<br>  
<input type="button" name="yes" value=" Yes ">  
<input type="button" name="no" value=" No "><br>
```

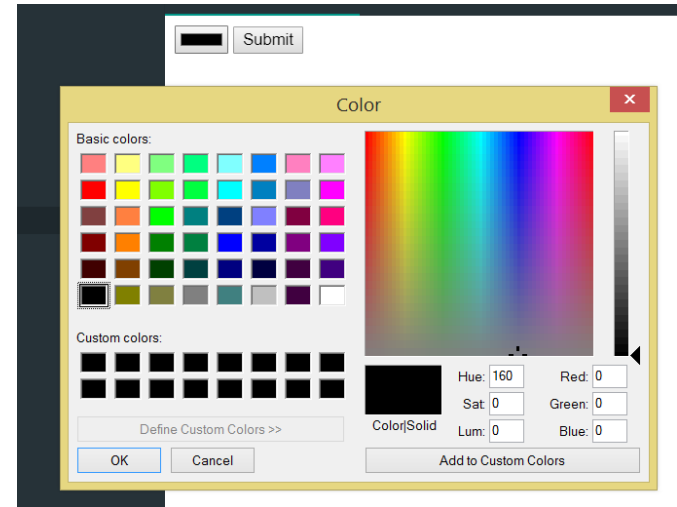


# TYPE="COLOR"

» `<input type="color">`

- ◇ Provides the facility to get the color value from the user.
- ◇ The color type collects RGB color with 8-bit red, green and blue components through color wheel.
- ◇ Default selected color is black.

```
Select your color: <input type="color"/>
<br />
<input type="submit" />
```



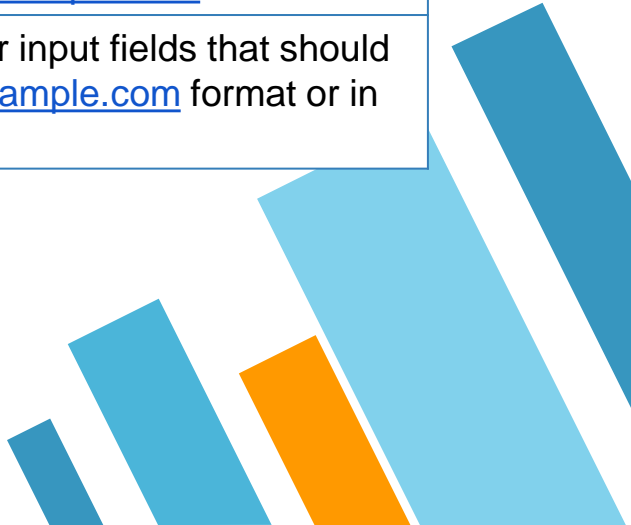
# THE INPUT ELEMENT IN HTML5

Type	Description
datetime	A date and time ( <i>year, month, day, hour, minute, second, fractions of a second</i> ) encoded with the time zone set to UTC.
datetime-local	A date and time ( <i>year, month, day, hour, minute, second, fractions of a second</i> ) encoded with no time zone information.
date	A date ( <i>year, month, day</i> ).
month	A date consisting of a year and a month.
week	A date consisting of a year and a week number.
time	A time ( <i>hour, minute, seconds, fractional seconds</i> ).
number	It only accepts numerical value. The step attributes specifies the precision, defaulting to 1.
range	For input fields that should contain a value from a range of numbers.



# THE INPUT ELEMENT IN HTML5

Type	Description
email	It accepts only email value. This type is used for input fields that should contain an e-mail address. If you try to submit a simple text, it forces to enter only email address in <a href="mailto:email@example.com">email@example.com</a> format.
url	It accepts only URL value This type is used for input fields that should contain a URL address either in <a href="http://www.example.com">http://www.example.com</a> format or in <a href="http://example.com">http://example.com</a> format.



# TYPE= “DATETIME” /“DATETIME-LOCAL”

- » `<input type="datetime">`
- » `<input type="datetime-local">`
  - ◇ Provides the facility to get the required date and time value from the user.
  - ◇ Collects *year, month, day, hour, minute and second* without any time zone.

Select Date and Time:

October 2018 ▼

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3

# TYPE="DATE"

## » `<input type="date">`

- ◇ Provides the facility to get the required date value from the user.
- ◇ The date type collects *year*, *month* and *day* without any time zones.

Select Date:

October 2018 ▾

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3

# TYPE="MONTH"

## » `<input type="month">`

- ◇ Provides the facility to get the required month value from the user.
- ◇ The month type collects *year and month* without any time zones.

Month:  2020

January 2020 ▾

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1

# TYPE="WEEK"

## » `<input type="week">`

- ◇ Provides the facility to get the required week value from the user.
- ◇ The week type collects *year and week* without any time zones.

Week:

January 2020 ▾

Week	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	29	30	31	1	2	3	4
2	5	6	7	8	9	10	11
3	12	13	14	15	16	17	18
4	19	20	21	22	23	24	25
5	26	27	28	29	30	31	1



# TYPE="NUMBER"

» `<input type="number">`

- ◇ Provides the facility to get the required number from the user.
- ◇ Collects only *numerical value*.

Your choosen number:

# TYPE="RANGE"

## » `<input type="range">`

- ◇ Provides the facility to get the required numerical value from the user where the exact number is not important.
- ◇ The number selection is made through a slider, and can be controlled by **min** and **max** attributes.
- ◇ Minimum value is 0 and maximum value is 100.

```
Enter the range: <input type="range" id="myRange"/>  
<input type="button" id="myButton" value="Get the Value" />
```

Enter the range:

# TYPE="EMAIL"

» `<input type="email">`

- ◇ Provides the facility to get the email address from the user with proper validation.

Email Address:



Please include an '@' in the email address. 'hello' is missing an '@'.

# INPUT ATTRIBUTES

- » Ensuring the user inputs are in the correct format before submitting for further validation.
- » List of HTML Form input attributes:


◦ name	◦ list	◦ pattern
◦ value	◦ max	◦ placeholder
◦ maxlength	◦ min	◦ Step
◦ Autocomplete	◦ multiple	
◦ autofocus	◦ required	



# NAME ATTRIBUTE


- » Required for indicating the variable name

```
<form autocomplete="on">  
  First name: <input type="text" name="fname" /><br/>  
  <input type="submit" />  
</form>
```





# VALUE ATTRIBUTE

- » Specifies default text that appears in the field when the form is loaded. When you reset a form, it returns to this value.
- 

# AUTOCOMPLETE ATTRIBUTE

- » Specifies whether a form or input field should have autocomplete on or off.
- » If it is on, the browser will automatically complete the input values based on value user had entered before.
- » Works with: *text, search, url, tel, email, password, datepickers, range and colors.*

```
<form autocomplete="on">  
  First name: <input type="text" name="fname" /><br/>  
  <input type="submit" />  
</form>
```

# AUTOFOCUS ATTRIBUTE

- » Specifies that the input field should automatically get focus when the page loads.

```
First name: <input type="text" name="fname" autofocus/><br/>  
Last name: <input type="text" name="lname"></input>
```

---

First name:

Last name:



# MIN + MAX ATTRIBUTE

- » Specifies the minimum and maximum values for an `<input>` element.
- » Works with: *number, range, date, datetime-local, month, time* and *week*.

```
Select a number between 1 to 5: <input type="number" min="1" max="5" />  
<input type="submit" />
```

Select a number between 1 to 5:

# MULTIPLE ATTRIBUTE

- » Specifies that the user is allowed to enter more than one value in the `<input>` element.
- » Works with: *email and file*.

```
Select images: <input type="file" name="img" multiple />  
<input type="submit" />
```


Select images:  5 files

# REQUIRED ATTRIBUTE

- » Specifies that an input field must be filled out before submitting a form.
- » Works with: *text, search, url, tel, email, password, date pickers, number, checkbox, radio and file.*

```
<form>
  Username: <input type="text" name="username" required />
  <input type="submit" />
</form>
```

Username:

 Please fill out this field.



# Activity!

## Try it out

You are a web designer in charge of creating the entry form for the Forcefield Sneakers “Pimp My Shoes!” Contest. The copy editor has handed you a sketch of the form’s content, complete with notes of how some controls should work. There are sticky notes from the programmer with information about the script and variable names you need to use.

Turn the sketch into a functional online form. Name the document as **contest\_entry.html**.



## "Pimp My Shoes" Contest Entry Form

Want to trade in your old sneakers for a custom pair of Forcefields? Make a case for why your shoes have got to go and you may be one of ten lucky winners.

Contest Entry Information

Name:

Email:

Phone:

*This form should be sent to <http://www.learningwebdesign.com/contest.php> via the POST method.*

*Name the text fields "name", "email", "phone", and "story", respectively.*

My shoes are SO old...

No more than 300 characters long

*Add placeholder text*

### Design your custom Forcefields:

Custom shoe design

Color (choose one):

- ☐ Red
- ☐ Blue
- ☐ Black
- ☐ Silver

*Name the controls in this section "color", "features[]", and "size", respectively. Note that the brackets ([]) after "features" are required in order for the script to process it correctly.*

Features (choose as many as you want):

- ☐ Sparkley laces
- ☒ Metallic logo *Make sure metallic logo is selected by default*
- ☐ Light-up heels
- ☐ MP3-enabled

Size

(Sizes reflect standard men's sizing):

*Pull-down menu with sizes 5 through 13*

**Pimp My Shoes!**

**Reset**

*Change the Submit button text*

## THANK YOU

Thank you for entering the Forcefield Sneaker "Pimp My Shoe" contest. We have received the following information with your entry:

### About you:

**Name:** Jennifer Robbins

**Email Address:** [jen@oreilly.com](mailto:jen@oreilly.com)

**Telephone Number:** 555.555.1212

**Sad shoe story:** My shoes have no soul.

### Your shoe design (if you win)

Sorry, we did not receive your information.

# PATTERN ATTRIBUTE

- » Specifies a regular expression that the <input> element's value is checked against.
- » Works with: *text, search, url, tel, email and password*.

Pattern	Description
[abc]	Find any character between the brackets
[^abc]	Find any character NOT between the brackets.
[0-9]	Find any character between the brackets (digit).
[^0-9]	Find any character NOT between the brackets (any non-digits).
(x y)	Find any of the alternative specified.

## PATTERN ATTRIBUTE - cont

Pattern	Description
.	Find a single character, except newline or line terminator.
\w	Find a word character (i.e. from a-z, A-Z, 0-9, including the _ character).
\W	Find NON-WORD character.
\d	Find a digit.
\D	Find a NON-DIGIT
*	0 or more
+	1 or more
?	0 or 1

# PATTERN ATTRIBUTE - cont

- » For example, user input the country code. The requirements are:
  - ◇ Has word character (A-Z and a-z).
  - ◇ Limited only to 3 characters.

```
Country code: <input type="text" name="country_code" pattern="[A-Za-z]{3}"  
title="Three letter country code" />  
<input type="submit" />
```

Country code:



Please match the  
requested format.  
Three letter country code



# EXERCISE + DO TOGETHER

Create a pattern for:

- **Full Name** – no digits, 5 to 100 characters only.
- **Phone number** – start with digit 6/7/8/9 then followed by 6 digits.
- **IC number** – XX-YYYYYY, where XX is either 0 or 1 then followed by 6 digits.

# PLACEHOLDER ATTRIBUTE

- » Specifies a hint that describes the expected value of an input field.
- » Hint is displayed in the input field before the user enters a value.
- » Works with: *text, search, url, tel, email and password*.

```
Password: <input type="password" name="password" placeholder="Enter your password." />  
<input type="submit" />
```

Password:

# STEP ATTRIBUTE

- » Specifies the legal number intervals for an `<input>` element.
- » Example: if `step="3"`, numbers would be -3, 0, 3, 6...
- » Works with: *number, range, date, datetime-local, month, time, week*.

```
<input type="number" name="points" step="5" />  
<input type="submit" />
```

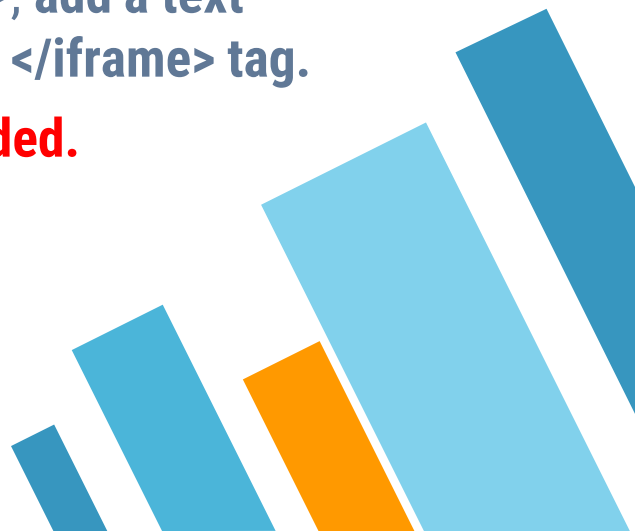
# HTML IFRAMES

Creating sections on a webpage.





# IFRAME

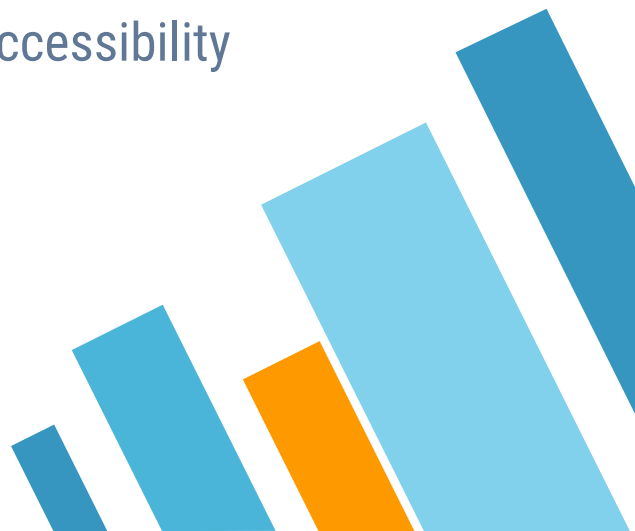
- » The `<iframe>` tag specifies an **inline** frame.
  - » *An inline frame is used to embed another document within the current HTML document.*
  - » To deal with browsers that do not support `<iframe>`, **add a text between the opening `<iframe>` tag and the closing `</iframe>` tag.**
  - » **For `<iframe>` formatting, CSS is highly recommended.**
- 

# SUPPORTED <iframe> ATTRIBUTES

name	text	Specifies the name of an <iframe>
sandbox	allow-forms allow-pointer-lock allow-popups allow-same-origin allow-scripts allow-top-navigation	Enables an extra set of restrictions for the content in an <iframe>
src	URL	Specifies the address of the document to embed in the <iframe>
srcdoc	HTML_code	Specifies the HTML content of the page to show in the <iframe>
width	pixels	Specifies the width of an <iframe>
height	pixels	Specifies the height of an <iframe>



# IFRAME

- » The `<iframe>` element does not replace the body of a page.
    - ◇ It acts as a means to include a new browsing context embedded within a block of content.
    - ◇ It does not suffer from the same usability or accessibility problems as the frameset model.
- 



# IFRAME SYNTAX

- » An HTML iframe is defined with the **<iframe>** tag:


```
<iframe src="URL"></iframe>
```

- » The *src* attribute specifies the URL (web address) of the inline frame page.
- 






# IFRAME – HEIGHT & WIDTH

- » Use the **height** and **width** attributes to specify the size of the iframe.
  - » The attribute values are specified in *pixels* by default, but they can also be in percent (e.g. 80%).
- 



# IFRAME – TARGET FOR A LINK

- » An iframe can be used as the target frame for a link.
  - » The **target** attribute of the link must refer to the **name** attribute of the iframe:
- 



```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<iframe height="300px" width="100%" src="index.html"
name="iframe_a"></iframe>
```

```
<p>
```

```
<a href=http://www.w3schools.com
target="iframe_a">W3Schools.com</a></p>
```

```
<p>When the target of a link matches the name of an
iframe, the link will open in the iframe.</p>
```

```
</body>
```

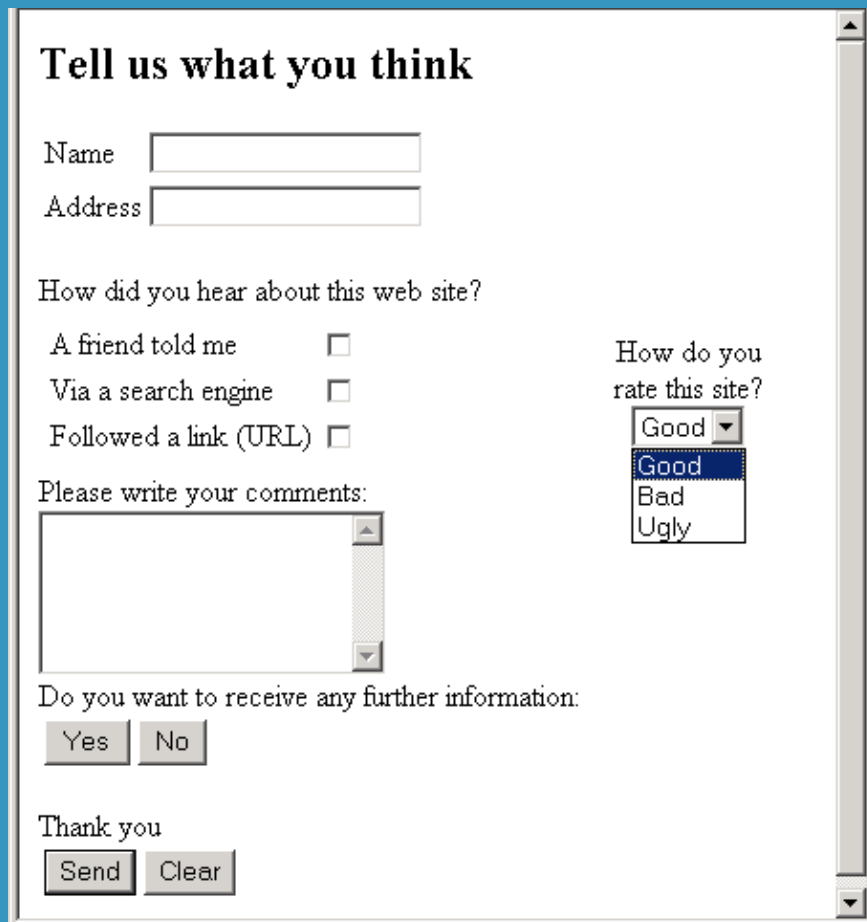
```
</html>
```



# EXERCISE

Create a web page as per the picture using the following:

- text
- checkbox
- radio (buttons)
- select (options)
- textarea
- password
- button
- submit
- reset
- hidden
- file
- image



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# EXERCISE

Create a web page as shown in the following:  
Website Title: animal.html

## Interesting facts about animals

### Updated Weekly!


This week we have:

- [Camelids](#)
- [Lions](#)

## Camelids

The four llamas and two camels are camelids. Camelids tend to be large and are strictly herbivorous. Camelids differ from ruminants in several ways. They have a three-chambered rather than a four-chambered digestive tract; an upper lip that is split in two with each part separately mobile; and an isolated incisor in the upper jaw. They have long legs that, because they lack tensor skin to bridge between thigh and body, look longer still. (from Wikipedia)

A table comparing Camels and Llamas

		<b>Camelid comparison</b>		
	# of Humps	Indigenous region	Spits?	Produces Wool?
Camels (bactrian)	2	Africa/Asia	Llama	Llama
Llamas	1	Andes Mountains		

## Lions

Figure 1: View of web page when first opened


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Website Title: animal.html

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## Lions

The lion (*Panthera leo*) is a mammal of the family Felidae and one of four "big cats" in the genus *Panthera*. The lion is the second largest feline species, after the tiger. The male lion, easily recognized by his mane, weighs between 150-250 kg (330-550 lb). Females range 120-150 kg (260-330 lb). In the wild, lions live for around 10-14 years, while in captivity they can live over 20 years. (from Wikipedia)



Figure 2: Camelids section

				
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Choose which animal you would like to learn about next week

☒ Elephant
 ☐ Giraffe
 ☐ Hippopotamus
 ☐ Ostrich

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Figure 3: Lions section and multiple-choice section