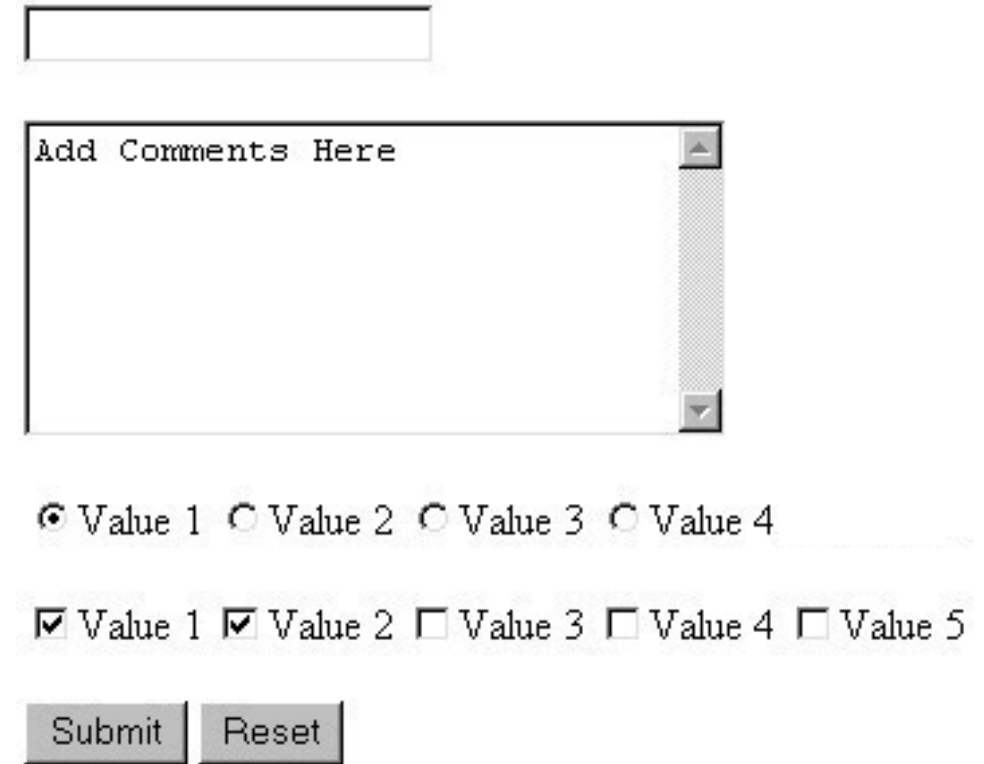


# HTML Forms

# HTML forms

- Form: a group of UI controls that accepts information from the user and sends the information to a web server
- JavaScript can be used to create interactive controls
- We can have multiple forms on a single webpage, but forms CANNOT be nested.



The image shows a web form with the following elements:

- A single-line text input field at the top.
- A multi-line text area below it with the placeholder text "Add Comments Here".
- A row of four radio buttons labeled "Value 1", "Value 2", "Value 3", and "Value 4". The "Value 1" radio button is selected.
- A row of five checkboxes labeled "Value 1", "Value 2", "Value 3", "Value 4", and "Value 5". The "Value 1" and "Value 2" checkboxes are checked.
- At the bottom, two buttons: "Submit" and "Reset".

# HTML form: <form>

The <**form**> tag is used to create an HTML form for user input.

The <**form**> element can contain one or more of the following form elements:

<**input**>, <**textarea**>, <**button**>, <**select**>, <**option**>, <**optgroup**>, <**fieldset**>, <**label**>

```
<form>
```

```
    form controls
```

```
</form>
```

# Form Attributes

- The **action** attribute defines the action to be performed when the form is submitted.
- The **method** attribute specifies the HTTP method to be used when submitting the form data.
- The form-data can be sent as URL variables (with method="get") or as HTTP post transaction (with method="post").
- The default HTTP method when submitting form data is GET.

# Form Validation

- `<form name="myForm" action="/action_page.php" onsubmit="return validateForm()" method="post">`  
Name: `<input type="text" name="fname">`  
`<input type="submit" value="Submit">`  
`</form>`

```
function validateForm() {  
  let x = document.forms["myForm"]["fname"].value;  
  if (x == "") {  
    alert("Name must be filled out");  
    return false;  
  }  
}
```

# Constraint Validation Input Attributes

Attribute	Description
disabled	Specifies that the input element should be disabled
max	Specifies the maximum value of an input element
min	Specifies the minimum value of an input element
pattern	Specifies the value pattern of an input element
required	Specifies that the input field requires an element
type	Specifies the type of an input element

# <input />

**input** element is used to create inline input element and MUST be self-closed

- **name** attribute specifies name of query parameter to pass to server
- **type** attribute can be button, checkbox, color, date, datetime, datetime-local, email, file, hidden, image, month, number, password, radio, range, reset, search, submit, tel, text, time, url, week
- **value** attribute specifies control's initial text
- **required** (HTML5) if the input field must be filled out before submitting the form
- **placeholder** (HTML5) a short hint that describes the expected value of an <input> element
- **pattern** (HTML5) a regular expression that an <input> element's value is checked against
- **size** the width, in characters, of an <input> element
- **maxlength** the maximum number of characters allowed in an <input> element
- **readonly**

# <textarea>

- The **<textarea>** tag defines a multi-line text input control.
- A textarea can hold an unlimited number of characters, and the text renders in a fixed-width font (usually Courier).
- The size of a textarea can be specified by the **cols** and **rows** attributes, or even better; through CSS' **height** and **width** properties.

```
<textarea rows="4" cols="20">  
    Type your comments here.  
</textarea>
```

A rendered multi-line text input control (textarea) with a light blue border and a vertical scrollbar on the right. The text "Type your comments here" is displayed inside in a fixed-width font.



# Checkboxes

yes/no choices that can be checked and unchecked

- none, 1, or many checkboxes can be checked at same time
- Use the **checked** attribute in HTML to initially check the box

```
<input type="checkbox" name="lettuce" /> Lettuce  
<input type="checkbox" name="tomato" checked /> Tomato  
<input type="checkbox" name="pickles" checked /> Pickles
```

☐ Lettuce ☒ Tomato ☒ Pickles

# Radio buttons

Sets of mutually exclusive choices (**inline**)

- Grouped by **name** attribute (only one can be checked at a time)
- Must specify a **value** for each one or else it will be sent as value **on**

```
<input type="radio" name="cc" value="visa" checked /> Visa  
<input type="radio" name="cc" value="mastercard" /> MasterCard  
<input type="radio" name="cc" value="amex" /> American Express
```

☒ Visa ☐ MasterCard ☐ American Express

# Text labels: <label>

- Associates nearby text with control, so you can **click text to activate control**
- Can be used with **checkboxes** or **radio** buttons
- **label** element can be targeted by CSS style rules

```
<label><input type="radio" name="cc" value="visa" checked="checked" /> Visa</label>  
<label><input type="radio" name="cc" value="mastercard" /> MasterCard</label>  
<label><input type="radio" name="cc" value="amex" /> American Express</label>
```

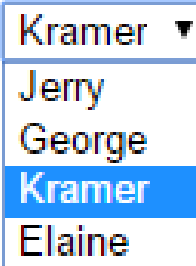
☒ Visa ☐ MasterCard ☐ American Express

# Drop-down list <select> and <option>

Menus of choices that collapse and expand (inline)

- **option** element represents each choice
- **select** optional attributes: **disabled**, **multiple**, **size**
- optional **selected** attribute sets which one is initially chosen

```
<select name="favoritecharacter">  
  <option>Jerry</option>  
  <option>George</option>  
  <option selected>Kramer</option>  
  <option>Elaine</option>  
</select>
```

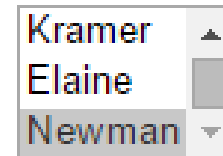


Kramer ▼
Jerry
George
Kramer
Elaine

# Multiple Selection

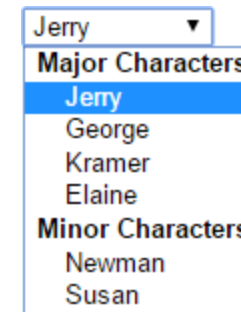
- optional **multiple** attribute allows selecting multiple items with shift- or ctrl-click
- **option** tags can be set to be initially **selected**

```
<select name="favoritecharacter" size="3" multiple>  
  <option>Jerry</option>  
  <option>George</option>  
  <option>Kramer</option>  
  <option>Elaine</option>  
  <option selected>Newman</option>  
</select>
```



# Option groups: <optgroup>

```
<select name="favoritecharacter">
  <optgroup label="Major Characters">
    <option>Jerry</option>
    <option>George</option>
    <option>Kramer</option>
    <option>Elaine</option>
  </optgroup>
  <optgroup label="Minor Characters">
    <option>Newman</option>
    <option>Susan</option>
  </optgroup>
</select>
```



Jerry ▼
<b>Major Characters</b>
Jerry
George
Kramer
Elaine
<b>Minor Characters</b>
Newman
Susan

# Reset and Submit buttons

- When we click **reset** button, it returns all form controls to their initial values
- When we click **submit** buttons, it sends all data with the specified **method** (Get/Post) to the **action** page in the form
- Specify custom text on the button by setting its **value** attribute

```
<input type="reset" />  
<input type="submit" />
```



Reset Submit

# Grouping <fieldset>, <legend>

Groups of input fields with optional caption (block)

```
<fieldset>
  <legend>Credit cards:</legend>
  <input type="radio" name="cc" value="visa" checked="checked" /> Visa
  <input type="radio" name="cc" value="mastercard" /> MasterCard
  <input type="radio" name="cc" value="amex" /> American Express
</fieldset>
```

Credit cards:

☒ Visa ☐ MasterCard ☐ American Express



# Styling form controls

Because most input element are created using input tag, we target each group of elements using this CSS selector:

```
element[attribute="value"] {  
    property : value;  
    ...  
}
```

```
input[type="text"] {  
    background-color: yellow;  
    font-weight: bold;  
}
```



CS472

```
input[type="button"] {  
    width: 120px;  
    display: block;  
}
```

# Main Point

- HTML provides many different types of input widgets, including text fields, text areas, check boxes, radio buttons, and dropdown lists, this is also an area HTML 5 is expanding to make form filling more efficient and effortless.
- *Nature supports the growth of things that are efficient. Do less and accomplish more.*

# Readings

- [HTML Forms \(w3schools.com\)](#)
- [HTML Form Attributes \(w3schools.com\)](#)
- [HTML Form Elements \(w3schools.com\)](#)
- [HTML Input Types \(w3schools.com\)](#)
- [HTML Input Attributes \(w3schools.com\)](#)
- [HTML Input form\\* Attributes \(w3schools.com\)](#)