

CACS-205 Web Technology (BCA, TU)

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CSS3 Gradients

- let you display smooth transitions between two or more specified colors
- Earlier, you had to use images for these effects
- However, by using CSS3 gradients you can reduce download time and bandwidth usage
- In addition, elements with gradients look better when zoomed, because the gradient is generated by the browser

CSS3 Gradients: Linear Gradient

```
#grad1 {
    width:460px;
    height: 200px;
    background: red;
    background: -webkit-linear-gradient(red, yellow);
    /* For Safari 5.1 to 6.0 */
    background: -o-linear-gradient(red, yellow);
    /* For Opera 11.1 to 12.0 */
    background: -moz-linear-gradient(red, yellow);
    /* For Firefox 3.6 to 15 */
    background: linear-gradient(red, yellow);
}
```

Linear Gradient - Top to Bottom

This linear gradient starts at the top. It starts red, transitioning to yellow:



Note: Internet Explorer 9 and earlier versions do not support gradients.

CSS3 Gradients: Linear Gradient(left to right)

```
#grad1 {
    height: 200px;
    background: red;
    background: -webkit-linear-gradient(left, red , yellow);
    /* For Safari 5.1 to 6.0 */
    background: -o-linear-gradient(right, red, yellow);
    /* For Opera 11.1 to 12.0 */
    background: -moz-linear-gradient(right, red, yellow);
    /* For Firefox 3.6 to 15 */
    background: linear-gradient(to right, red , yellow);
    /* Standard syntax (must be last) */
}
```

Linear Gradient - Left to Right

This linear gradient starts at the left. It starts red, transitioning to yellow:

Note: Internet Explorer 9 and earlier versions do not support gradients.

CSS3 Shadow Effects

With CSS3 you can add shadow to text and to elements

Text-shadow

Text shadow effect!

Box-shadow

This is a yellow <div> element with a black box-shadow

CSS3 Text Shadow:example1

Text-shadow: horizontal-shadow vertical shadow

```
h1 {
    text-shadow: 2px 2px;
}
```

Text-shadow effect!

Note: Internet Explorer 9 and earlier versions, do not support the text-shadow property.

CSS3 Text Shadow:example2(with color)

Text-shadow: horizontal-shadow vertical shadow

```
h1 {
    text-shadow: 2px 2px red;
}
```

Text-shadow effect!

CSS3 Text Shadow:example3(with blur)

Text-shadow: horizontal-shadow vertical shadow

```
h1 {
    text-shadow: 2px 2px 8px red;
}
```

Text-shadow effect!

CSS3 Text Shadow:example4(multiple shadows)

```
h1 {
    text-shadow: 0 0 3px #FF0000, 0 0 5px #0000FF;
}
```

Text-shadow effect!

CSS3 Box Shadow: example

```
div {
    width: 300px;
    height: 100px;
    padding: 15px;
    background-color: yellow;
    box-shadow: 10px 10px;
}
```

This is a div element with a box-shadow

CSS3 Box Shadow: example(with color & blur)

```
<head>
<style>
#example1 {
  border: 1px solid;
  padding: 10px;
  box-shadow: 5px 10px 8px #888888;
#example2 {
  border: 1px solid;
  padding: 10px;
  box-shadow: 5px 10px 18px #888888;
#example3 {
  border: 1px solid;
  padding: 10px;
  box-shadow: 5px 10px 18px red;
</style>
</head>
```

box-shadow: 5px 10px 8px #888888:

The optional third value adds a blur effect to the shadow.

box-shadow: 5px 10px 18px #888888:

More blurred.

box-shadow: 5px 10px 18px red:

More blurred and red.

Activate Windows

Go to PC settings to activate Windows

CSS3 Box Shadow: example

```
<style>
div.card {
 width: 250px;
 box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2), 0 6px
20px 0 rgba(0, 0, 0, 0.19);
 text-align: center;
div.header {
    background-color: #4CAF50; color: white;
    padding: 10px;font-size: 40px;
div.container { padding: 10px; }
</style>
<h2>Cards</h2>
The box-shadow property can be used to create paper-
like cards:
<div class="card">
  <div class="header">
    <h1>1</h1>
 </div>
  <div class="container">
    January 1, 2016
  </div>
</div>
```

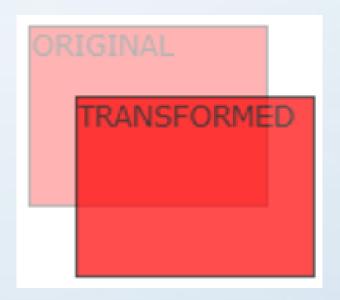


CSS3 2D Transforms

- allow you to translate, rotate, scale, and skew elements.
- is an effect that lets an element change shape, size and position.
- CSS3 supports 2D and 3D transformations
- following 2D transformation methods
 - Translate()
 - Rotate()
 - scale()
 - skewX()
 - skewY()
 - Matrix()

CSS3 2D Transforms(translate)

 moves an element from its current position (according to the parameters given for the X-axis and the Y-axis).



CSS3 2D Transforms(translate)

 moves an element from its current position (according to the parameters given for the X-axis and the Y-axis).

```
div {
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
    -ms-transform: translate(50px,100px); /* IE 9 */
    -webkit-transform: translate(50px,100px); /* Safari */
    transform: translate(50px,100px); /* Standard syntax */
}
```

The translate() method moves an element from its current position. This div element is moved 50 pixels to the right, and 100 pixels down from its current position.

CSS3 2D Transforms(rotate)

 The rotate() method rotates an element clockwise or counterclockwise according to a given degree

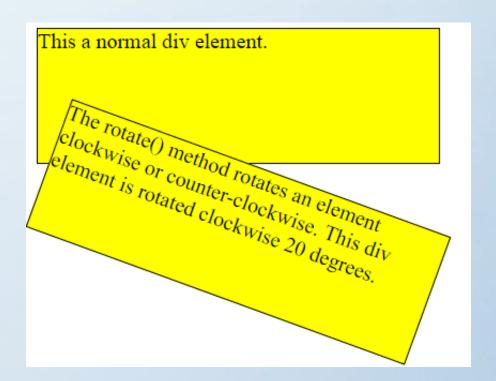


CSS3 2D Transforms(rotate clockwise)

 The rotate() method rotates an element clockwise or counterclockwise according to a given degree

```
div {
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
}

div#myDiv {
    -ms-transform: rotate(20deg); /* IE 9 */
    -webkit-transform: rotate(20deg); /* Safari */
    transform: rotate(20deg); /* Standard syntax */
}
```

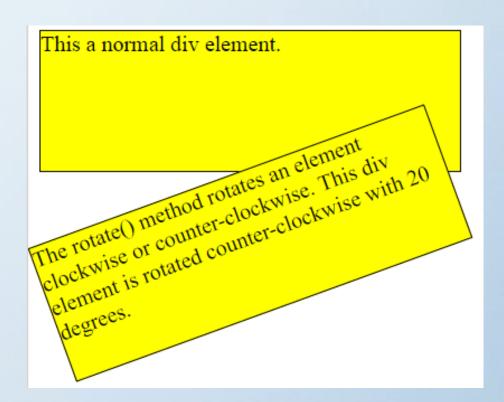


CSS3 2D Transforms(rotate anti-clockwise)

 The rotate() method rotates an element clockwise or counterclockwise according to a given degree

```
div {
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
}

div#myDiv {
    -ms-transform: rotate(-20deg); /* IE 9 */
    -webkit-transform: rotate(-20deg); /* Safari */
    transform: rotate(-20deg); /* Standard syntax */
}
```



CSS3 2D Transforms(scale)

• increases or decreases the size of an element (according to the parameters given for the width and height).



CSS3 2D Transforms(scale increase)

• increases or decreases the size of an element (according to the parameters given for the width and height).

```
div {
    margin: 150px;
    width: 200px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
    border: 1px solid black;
    -ms-transform: scale(2,3); /* IE 9 */
    -webkit-transform: scale(2,3); /* Safari */
    transform: scale(2,3); /* Standard syntax */
}
```

This div element is two times of its original width, and three times of its original height.

CSS3 2D Transforms(scale decrease)

 increases or decreases the size of an element (according to the parameters given for the width and height).

```
div {
    margin: 150px;
    width: 200px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
    border: 1px solid black;
    -ms-transform: scale(0.5,0.5); /* IE 9 */
    -webkit-transform: scale(0.5,0.5); /* Safari */
    transform: scale(0.5,0.5); /* Standard syntax */
}
```

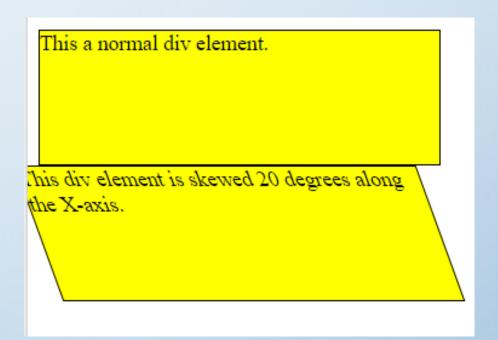
This div element is decreased to be half of its original width and height.

CSS3 2D Transforms (skewX)

skews an element along the X-axis by the given angle

```
div {
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
}

div#myDiv {
    -ms-transform: skewX(20deg); /* IE 9 */
    -webkit-transform: skewX(20deg); /* Safari */
    transform: skewX(20deg); /* Standard syntax */
}
```

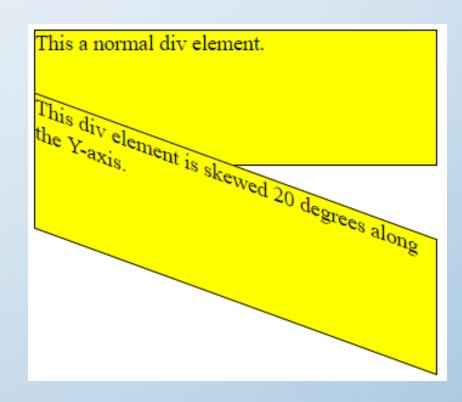


CSS3 2D Transforms (skewY)

skews an element along the Y-axis by the given angle

```
div {
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
}

div#myDiv {
    -ms-transform: skewY(20deg); /* IE 9 */
    -webkit-transform: skewY(20deg); /* Safari */
    transform: skewY(20deg); /* Standard syntax */
}
```



CSS3 2D Transforms (skew)

 The skew() method skews an element along the X and Y-axis by the given angles

```
div {
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
}

div#myDiv {
    -ms-transform: skew(20deg,10deg); /* IE 9 */
    -webkit-transform: skew(20deg,10deg); /* Safari */
    transform: skew(20deg,10deg); /* Standard syntax */
}
```

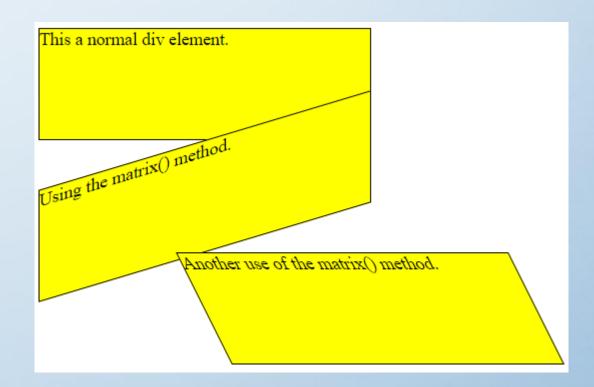
```
This a normal div element.
This div element is skewed 20 degrees along
the X-axis, and 10 degrees along the Y-axis.
```

CSS3 2D Transforms (matrix)

- combines all the 2D transform methods into one
- takes six parameters, containing mathematic functions, which allows you to rotate, scale, move (translate), and skew elements
- The parameters are as follow: matrix(scaleX(),skewY(),skewX(),scaleY(),translateX(),rotate()):

CSS3 2D Transforms (matrix)

```
div {
    width: 300px;
    height: 100px;
    background-color: yellow;
    border: 1px solid black;
div#myDiv1 {
    -ms-transform: matrix(1, -0.3, 0, 1, 0, 0); /* IE 9 */
    -webkit-transform: matrix(1, -0.3, 0, 1, 0, 0); /* Safari */
    transform: matrix(1, -0.3, 0, 1, 0, 0); /* Standard syntax */
div#myDiv2 {
    -ms-transform: matrix(1, 0, 0.5, 1, 150, 0); /* IE 9 */
    -webkit-transform: matrix(1, 0, 0.5, 1, 150, 0); /* Safari */
    transform: matrix(1, 0, 0.5, 1, 150, 0); /* Standard syntax */
```



- allows you to change property values smoothly (from one value to another), over a given duration.
- To create a transition effect, you must specify two things
 - the CSS property you want to add an effect to
 - the duration of the effect
- Note: If the duration part is not specified, the transition will have no effect, because the default value is 0

```
div {
    width: 100px;
    height: 100px;
    background: red;
    -webkit-transition: width 2s; /* For Safari 3.1 to 6.0 */
    transition: width 2s;
}

div:hover {
    width: 300px;
}
```

 The following example adds a transition effect for both the width and height property, with a duration of 2 seconds for the width and 4 seconds for the height:

```
div {
    width: 100px;
    height: 100px;
    background: red;
    -webkit-transition: width 2s, height 4s; /* For Safari 3.1 to 6.0

*/
    transition: width 2s, height 4s;
}

div:hover {
    width: 300px;
    height: 300px;
}
```

- Specify the Speed Curve of the Transition
- The transition-timing-function property specifies the speed curve of the transition effect
 - ease specifies a transition effect with a slow start, then fast, then end slowly (this is default)
 - linear specifies a transition effect with the same speed from start to end
 - ease-in specifies a transition effect with a slow start
 - ease-out specifies a transition effect with a slow end
 - ease-in-out specifies a transition effect with a slow start and end
 - cubic-bezier(n,n,n,n) lets you define your own values in a cubic-bezier function

- Delay the transition effect
- The transition-delay property specifies a delay (in seconds) for the transition effect

```
div {
    width: 100px;
    height: 100px;
    background: red;
    -webkit-transition: width 3s; /* Safari */
    -webkit-transition-delay: 1s; /* Safari */
    transition: width 3s;
    transition-delay: 1s;
}
```

- Transition + Transformation
- The following example also adds a transformation to the transition effect

```
div {
    width: 300px;
    height: 300px;
    background: red;
    -webkit-transition: width 2s, height 2s, -webkit-transform 2s; /*
Safari */
    transition: width 2s, height 2s, transform 2s;
}

div:hover {
    width: 350px;
    height: 350px;
    -webkit-transform: rotate(180deg); /* Safari */
    transform: rotate(180deg);
}
```

- CSS3 animations allows animation of most HTML elements without using JavaScript or Flash!
- An animation lets an element gradually change from one style to another.
- You can change as many CSS properties you want, as many times you want.
- To use CSS3 animation, you must first specify some keyframes for the animation.
- Keyframes hold what styles the element will have at certain times
- When you specify CSS styles inside the @keyframes rule, the animation will gradually change from the current style to the new style at certain times.
- To get an animation to work, you must bind the animation to an element.

The following example binds the "example" animation to the <div> element. The animation will last for 4 seconds, and it will gradually change the background-color of the <div> element from "red" to "yellow"

```
div {
    width: 100px;
    height: 100px;
    background-color: red:
    -webkit-animation-name: example; /* Safari 4.0 - 8.0 */
    -webkit-animation-duration: 4s; /* Safari 4.0 - 8.0 */
    animation-name: example;
    animation-duration: 4s;
/* Safari 4.0 - 8.0 */
@-webkit-keyframes example {
   from {background-color: red;}
   to {background-color: yellow;}
/* Standard syntax */
@keyframes example {
    from {background-color: red;}
    to {background-color: yellow;}
```

• The following example will change the background-color of the <div> element when the animation is 25% complete, 50% complete, and again when the

animation is 100% complete:

```
div {
    width: 100px;
    height: 100px;
    background-color: red;
    -webkit-animation-name: example; /* Safari 4.0 - 8.0 */
    -webkit-animation-duration: 4s; /* Safari 4.0 - 8.0 */
    animation-name: example;
    animation-duration: 4s;
/* Safari 4.0 - 8.0 */
@-webkit-keyframes example {
    0% {background-color: red;}
    25% {background-color: yellow;}
    50% {background-color: blue;}
    100% {background-color: green;}
/* Standard syntax */
@keyframes example {
    0% {background-color: red;}
    25% {background-color: yellow;}
    50% {background-color: blue;}
    100% {background-color: green;}
```

 The following example will change both the background-color and the position of the <div> element when the animation is 25% complete, 50% complete, and again when the animation is 100% complete

```
div {
   width: 100px;
    height: 100px;
    background-color: red;
    position: relative;
    -webkit-animation-name: example; /* Safari 4.0 - 8.0 */
    -webkit-animation-duration: 4s; /* Safari 4.0 - 8.0 */
    animation-name: example;
    animation-duration: 4s;
/* Standard syntax */
@keyframes example {
    0% {background-color:red; left:0px; top:0px;}
    25% {background-color:yellow; left:200px; top:0px;}
    50% {background-color:blue; left:200px; top:200px;}
   75% {background-color:green; left:0px; top:200px;}
    100% {background-color:red; left:0px; top:0px;}
```

CSS3 Animations

- The animation-delay property specifies a delay for the start of an animation
- The following example has a 2 seconds delay before starting the animation:

```
div {
    width: 100px;
    height: 100px;
    background-color: red;
    position: relative;
    -webkit-animation-name: example; /* Safari 4.0 - 8.0 */
    -webkit-animation-duration: 4s; /* Safari 4.0 - 8.0 */
    -webkit-animation-delay: 2s; /* Safari 4.0 - 8.0 */
    animation-name: example;
    animation-duration: 4s;
    animation-delay: 2s;
/* Standard syntax */
@keyframes example {
    0% {background-color:red; left:0px; top:0px;}
    25% {background-color:yellow; left:200px; top:0px;}
        {background-color:blue; left:200px; top:200px;}
        {background-color:green; left:0px; top:200px;}
    100% {background-color:red; left:0px; top:0px;}
```

CSS3 Animations

- The animation-iteration-count property specifies the number of times an animation should run.
- The following example will run the animation 3 times before it stops:

```
div {
    width: 100px;
   height: 100px;
   background-color: red;
    position: relative;
    -webkit-animation-name: example; /* Safari 4.0 - 8.0 */
    -webkit-animation-duration: 4s; /* Safari 4.0 - 8.0 */
    -webkit-animation-iteration-count: 3; /* Safari 4.0 - 8.0 */
    animation-name: example;
    animation-duration: 4s;
    animation-iteration-count: 3;
/* Standard syntax */
@keyframes example {
    0% {background-color:red; left:0px; top:0px;}
    25% {background-color:yellow; left:200px; top:0px;}
    50% {background-color:blue; left:200px; top:200px;}
    75% {background-color:green; left:0px; top:200px;}
    100% {background-color:red; left:0px; top:0px;}
```

Introduction to Forms

- The HTML <form> element defines a form that is used to collect user input:
- Used to create a GUI that helps to get user information and sent to the server
- An HTML form contains form elements
- Form elements are different types of input elements, like text fields, checkboxes, radio buttons, submit buttons, and more

First name:	
Tom	
Last name:	_
Cruise	
Submit	_
Submit	

The <input> Element

- The <input> element is the most important form element
- can be displayed in several ways, depending on the type attribute.

Туре	Description
<input type="text"/>	Defines a one-line text input field
<input type="radio"/>	Defines a radio button (for selecting one of many choices)
<input type="submit"/>	Defines a submit button (for submitting the form)

Text Input

<input type="text"> defines a one-line input field for text input

```
<form>
  First name:<br>
  <input type="text" name="firstname">
  <br>
  Last name:<br>
  <input type="text" name="lastname">
  </form>
```

First name:	
Last name:	

Radio Button Input

- <input type="radio"> defines a radio button.
- Radio buttons let a user select ONE of a limited number of choices:

```
<form>
| condition | cond
```

Male

Female

Other

Password Input

<input type="password"> defines a password field:

```
<form>
  User name:<br>
  <input type="text" name="username"><br>
  User password:<br>
  <input type="password" name="psw">
  </form>
```

User name:	
admin	
User password:	
•••••	

Input Type Submit

- <input type="submit"> defines a button for submitting form data to a form-handler
- The form-handler is typically a server page with a script for processing input data
- The form-handler is specified in the form's **action** attribute

```
<form action="/action_page.php">
  First name:<br>
    <input type="text" name="firstname" value="Mickey"><br>
    Last name:<br>
    <input type="text" name="lastname" value="Mouse"><br>
    <input type="submit" value="Submit">
    </form>
```

First name:	
Tom	
Last name:	
Cruise	
Submit	

Input Type Reset

<input type="reset"> defines a reset button that will reset all form values to their default values

```
<form action="/action_page.php"
First name:<br>
<input type="text" name="firstn"
<br>
Last name:<br>
<input type="text" name="lastname"
<br>
<input type="submit" value="Submit" value="Submit"
<input type="reset">
</form>
```

First name:
Tom
Last name:
Cruise
Submit Reset
First name:
rust name.
Last name:
Submit Reset

Input Type Checkbox

- <input type="checkbox"> defines a checkbox
- Checkboxes let a user select ZERO or MORE options of a limited number of choices

Input Type Button

<input type="button"> defines a button

```
<input type="button" onclick="alert('Hello World!')" value="Click Me!">
```

Click Me!

HTML5 Input Types

- HTML5 added several new input types:
 - color
 - date
 - datetime-local
 - email
 - month
 - number
 - range
 - search
 - tel
 - time
 - url
 - week

Input type Color

- The <input type="color"> is used for input fields that should contain a color
- Depending on browser support, a color picker can show up in the input field

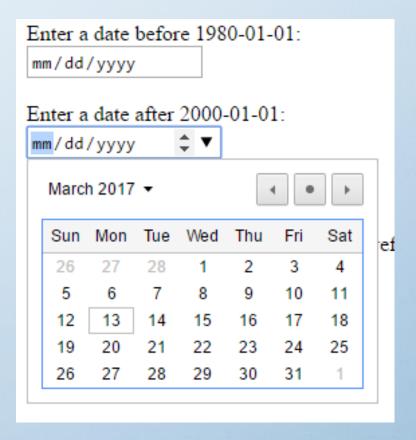
Submit

Select your favorite color:

Input type Date

- The **<input type=''date''>** is used for input fields that should contain a date
- Depending on browser support, a date picker can show up in the input field

```
<form action="/action_page.php">
   Enter a date before 1980-01-01:<br>
   <input type="date" name="bday" max="1979-12-31"><br>
   <input type="date" name="bday" max="1979-12-31"><br>
        Enter a date after 2000-01-01:<br>
        <input type="date" name="bday" min="2000-01-02"><br>
        <input type="submit"></form>
```



Input type Number

- The <input type="number"> defines a numeric input field
- You can also set restrictions on what numbers are accepted.

```
<form action="/action_page.php">
  Quantity (between 1 and 5):
    <input type="number" name="quantity" min="1" max="5">
     <input type="submit">
  </form>
```

Numeric restrictions will apply in the input field:

Quantity (between 1 and 5): 5 Submit

Note: type="number" is not supported in IE9 and earlier.

Input type Time

The <input type="time"> allows the user to select a time.

The Action Attribute

- The action attribute defines the action to be performed when the form is submitted.
- Normally, the form data is sent to a web page on the server when the user clicks on the submit button

```
<form action="/action_page.php">
```

The Method Attribute

- The method attribute specifies the HTTP method (GET or POST) to be used when submitting the form data
- The default method when submitting form data is GET.
- However, when GET is used, the submitted form data will be visible in the page address field

```
<form action="/action_page.php" method="get">
```

/action_page.php?firstname=Mickey&lastname=Mouse

The Method Attribute

- Always use POST if the form data contains sensitive or personal information
- The POST method does not display the submitted form data in the page address field
- POST has no size limitations, and can be used to send large amounts of data

The Name Attribute

- Each input field must have a name attribute to be submitted.
- If the name attribute is omitted, the data of that input field will not be sent at all
- This example will only submit the "Last name" input field:

```
<form action="/action_page.php">
  First name:<br>
    <input type="text" value="Mickey"><br>
    Last name:<br>
    <input type="text" name="lastname" value="Mouse"><br>
    <input type="submit" value="Submit">
    </form>
```

Grouping Form Data with <fieldset>

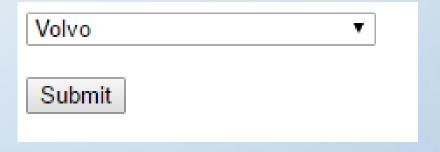
- The <fieldset> element is used to group related data in a form.
- The <legend> element defines a caption for the <fieldset> element.

Personal information:		
First name:		
Mickey		
Last name:		
Mouse		
Submit		

The Select Element

- The <select> element defines a drop-down list:
- The <option> elements defines an option that can be selected.
- By default, the first item in the drop-down list is selected.
- To define a pre-selected option, add the selected attribute to the option:

```
<form action="/action_page.php">
    <select name="cars" style="width:200px">
        <option value="volvo">Volvo</option>
        <option value="saab">Saab</option>
        <option value="fiat">Fiat</option>
        <option value="audi">Audi</option>
        </select>
        <br>
        <br>
        <input type="submit">
</form>
```



The Textarea Element

The <textarea> element defines a multi-line input field (a text area):

```
The cat was playing in the garden.

Submit
```