

CSE326

Internet Programming Laboratory Lecture #12

Dr. Navneet Kaur

Outline

- Functions
- Events
- Form Validation

Functions

- Functions are one of the fundamental building blocks in JavaScript.
- A function in JavaScript is set of statements that performs a task or calculates a value.
- It should take some input and return an output where there is some obvious relationship between the input and the output.

Defining functions

- A function definition (also called a function declaration, or function statement) consists of the function keyword, followed by:
 - The name of the function.
 - A list of parameters to the function, enclosed in parentheses and separated by commas.
 - The JavaScript statements that define the function, enclosed in curly braces, { /* ... */ }.

```
function square(number) {  
    return number * number;  
}
```

Calling functions

- Defining a function does not execute it.
- Defining it names the function and specifies what to do when the function is called.
- Calling the function actually performs the specified actions with the indicated parameters.
- For example, if you define the function square, you could call it as follows:

square(5);

Function hoisting

- Hoisting is a concept or behavior in JavaScript where the declaration of a function, variable, or class goes to the top of the scope they were defined in.

```
console.log(square(5)); // 25  
function square(n) {  
    return n * n;  
}
```

Function scope

- Variables defined inside a function cannot be accessed from anywhere outside the function, because the variable is defined only in the scope of the function.

Events

- Events are things that happen in the system you are programming — the system produces (or "fires") a signal of some kind when an event occurs, and provides a mechanism by which an action can be automatically taken (that is, some code running) when the event occurs.
 - Mouse events
 - Keyboard events
 - Form based events

Mouse Events

- **onclick** - A user clicks on an element
- **oncontextmenu** - A user right-clicks on an element
- **ondblclick** - A user double-clicks on an element
- **onmousedown** - A mouse button is pressed over an element
- **onmouseenter** - The mouse pointer moves into an element
- **onmouseleave** - The mouse pointer moves out of an element
- **onmousemove** - The mouse pointer moves over an element
- **onmouseout** - The mouse pointer moves out of an element

Mouse Events

- **onmouseover** - The mouse pointer moves onto an element
- **onmouseup** - A mouse button is released over an element

Keyboard Events

- **onkeydown** - A user presses a key
- **onkeypress** - A user presses a key
- **onkeyup** - A user releases a key

Form Events

- **onblur** – This event fires when an element has lost focus.
- **onchange** – This event occurs when the value of form element is changed.
- **onfocus** – This event occurs when an element gets focus.
- **onselect** – This fires after some text has been selected in an element.
- **onsubmit** – This event occurs when a form is submitted.
- **onreset** - This event occurs when a form is reset.

Form Validation

- When you enter data, the browser and/or the web server will check to see that the data is in the correct format and within the constraints set by the application

References

- https://www.w3schools.com/jsref/obj_mouseevent.asp
- https://www.w3schools.com/jsref/obj_keyboardevent.asp
- https://www.w3schools.com/jsref/event_onblur.asp
- https://www.w3schools.com/jsref/event_onchange.asp
- https://www.w3schools.com/jsref/event_onfocus.asp
- https://www.w3schools.com/jsref/event_onselect.asp
- https://www.w3schools.com/jsref/event_onsubmit.asp
- https://www.w3schools.com/jsref/event_onreset.asp
- https://www.w3schools.com/js/js_validation.asp

Program link

- <https://onlinegdb.com/LrjtRgUN2>
- <https://onlinegdb.com/YEiYqkQcD>
- <https://onlinegdb.com/hl4jk4Qxyl>

Thank you