DATASOFT
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website: www.datasoftinstitute.com, **email:** datasoftinstitute@gmail.com

Module – JavaScript (JS)

JavaScript is a scripting language used to create interactive features on websites, such as animations, form validation, and dynamic content updates.

Why JavaScript is Important?

Without JavaScript:

- Web pages are **static &** No interactivity

With JavaScript:

- Buttons respond, Forms validate automatically, Content updates without page reload, Pop-ups, sliders & animations
- Where is JavaScript Used: Web Browsers, websites, Mobile Apps, Serve & Games.
- Scripts can be placed in the <body>, or in the <head> section of an HTML page, or in both.
- Variables = Container, Modern JS uses – let or const. var was used with older JS. Ex. Let x=5;

Data Types: String, Number, Bigint, Boolean, Object, Undefined, Null & Symbol.

Operators

- Arithmetic : + - * / % ** (Exponentiation)
- Assignment : = += -= *= /= %=
- Comparison : < > <= >= == !=
- Logical : && || !
- Unary : ++ --

Conditional Statement: if, if…else, if…else if…else, switch & Ternary (?:)

Loops: for, while, do – while.

Break & Continue statements.

Array : declare array variable, assign value on index. Ex : const a=[3,5,4,12,45] or const a=new Array (3,6,4,12);

Event based Program: JavaScript supports a variety of event types. Common categories include.

- **Mouse Events:** click, dblclick, mousemove, mouseover, mouseout
- **Keyboard Events:** keydown, keypress, keyup
- **Form Events:** submit, change, focus, blur
- **Window Events:** load, resize, scroll

```
<! Onmouse click event>
<html>
<body>
 <button onclick="skt()">Click me</button>
<script>
  function skt()
          {
          alert("Hello");
          }
</script>
</body>
</html>
```

```
<! Onmouseover event>
<html>
<head>
   <title>onmouseover Event Example</title> </head>
<body>
<h2 onmouseover="changeText()">Move Mouse Over Me</h2>
<script>
function changeText()
{
   document.querySelector("h2").innerHTML = "Mouse is Over
the Text!";
}
</script> </body> </html>
```

```
<! Onkeypress event>
<html> <head>
   <title>KeyPress Event Example</title> </head>
<body>
<h2>Press any key</h2>
<input type="text" onkeypress="keyPressed()">     <p id="msg"></p>
<script>
function keyPressed() {
   document.getElementById("msg").innerHTML = "A key is pressed!";  }
</script></body></html>
```