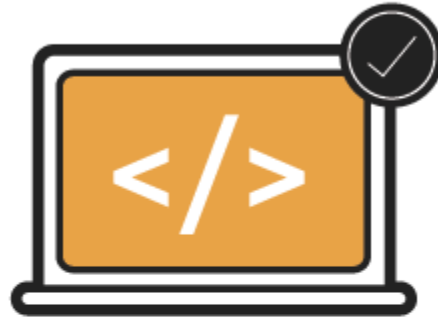


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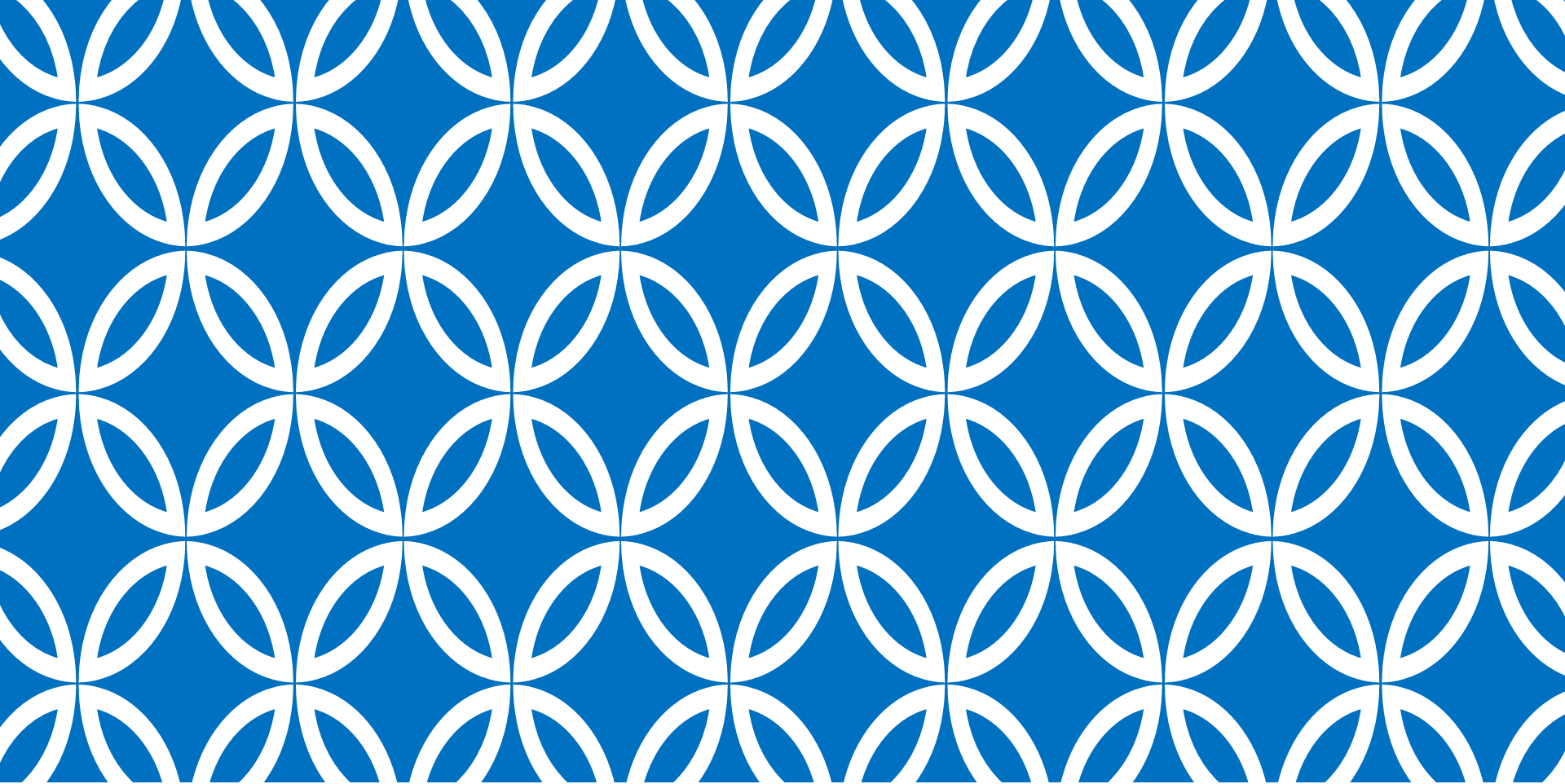
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Session 5 – JavaScript





Agenda – JavaScript

1. **What is JavaScript**
2. **Why Learn JavaScript**
3. **First JavaScript Program**
4. **Variable**
5. **Data Types**
6. **Example of Data Types**
7. **Operators**
8. **Where To Place JavaScript**
9. **JavaScript function**





What is JavaScript

- **JavaScript** is a full-fledged programming language that can be applied to an HTML document to create **dynamic interactivity on websites**.
- It was invented by **Brendan Eich**, co-founder of the Mozilla project, the Mozilla Foundation and the Mozilla Corporation.





Why Learn JavaScript

- **JavaScript** is one of the **3 languages** all web developers **must** learn:
 - **HTML** to define the structure/content of web pages
 - **CSS** to specify the layout/design of web pages
 - **JavaScript** to program the behavior of web pages
- It's free and easy to set up.
- It's easy to debug.
- It's powerful.
- It's execution speed is fast.
- Is widely used.
- In Demand and Thriving User Community.





First JavaScript Program

- **JavaScript** is written in html file inside a script tag.
- alert is a function to display popup message to user.
- The plus (+) operator is used to concatenate strings.

```
<html>
  <head>
    <script type = text/javascript">
      Var name = "Smith";
      Var age = 29;
      alert("The name is "+name + "And age is "+age);
    </script>
  </head>
  <body> </body>
</html>
```





Variable

- **Variables** are containers that you can store values in.
- Declaring a variable with the var keyword, followed by any name you want to call it:

Syntax : `var variableName;`

- **Rule :** They must begin with a letter or the underscore character.
- **JavaScript** is an **un-typed programming language**.
- Semicolons in JavaScript terminates a statement.





Data Types

- JavaScript allows the same variable to contain different types of data values.
- **Primitive data types:**
 - **Number:** integer & floating-point numbers
 - **Boolean:** logical values “true” or “false”
 - **String:** a sequence of alphanumeric characters
- **Composite data types (or Complex data types):**
 - **Object:** a named collection of data
 - **Array:** a sequence of values
- **Special data types:**
 - **Null:** an initial value is assigned
 - **Undefined:** the variable has been created but not yet assigned a value





Examples of Data Types

Variable Data Types	Explanation	Example
String	A string of text. To signify that the variable is a string, you should enclose it in quote marks.	<code>var myVariable = 'Bob';</code>
Number	A number. Numbers don't have quotes around them.	<code>var myVariable = 10;</code>
Boolean	A True/False value. true/false are special keywords in JS, and don't need quotes.	<code>var myVariable = true;</code>
Array	A structure that allows you to store multiple values in one single reference.	<code>var myVariable = [1,'Bob','Steve',10];</code> Call each member of the array like this: <code>myVariable[0],myVariable[1], etc.</code>
Object	Everything in JavaScript is an object, and can be stored in a variable.	<code>var myVariable = document.querySelector('h1');</code> Note : All of the above examples too.





Operators

- **An operator** is basically a mathematical symbol that can act on two values (or variables) and produce a result.

Arithmetic operators	<code>+</code> , <code>-</code> , <code>/</code> , <code>*</code> , <code>%</code>
Logical operators	<code>&&</code> , <code> </code> , <code>!</code>
Comparison operators	<code>==</code> , <code>===</code> , <code>>=</code> , <code><=</code>
String operators	<code>+</code>
Bit-wise operators	<code>&</code> , <code>!</code> , <code>>></code> , <code><<</code>
Assignment operators	<code>+=</code> , <code>-=</code> , <code>/=</code> , <code>*=</code>





Where to Place JavaScript

- Scripts can be placed in 3 places in Web page:

- In the <head> section of an HTML page

```
<head>  
  <script>  
    alert("Hello");  
  </script>  
</head>
```

- In the <body> section of an HTML page

```
<body>  
  <script>  
    alert("Hello");  
  </script>  
</body>
```

- Import as an external file

```
<script src="Path_to_JavaScript_File"></script>
```





JavaScript function

- A **JavaScript** function is a block of code designed to perform a particular task.
- A **JavaScript** function is executed when "something" invokes it (calls it).

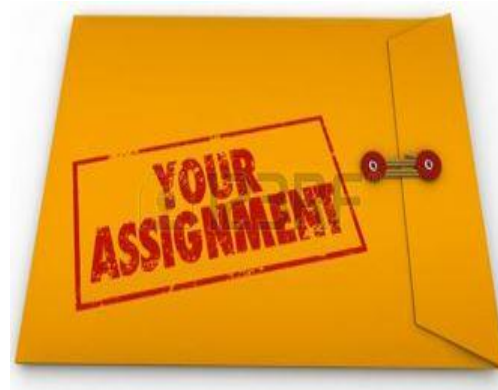
Syntax:

```
function name(parameter1, parameter2, parameter3) {  
    code to be executed  
}
```





Lets Discuss Assignments



Assignment

