

PERTEMUAN XVIII

FUNCTION DAN ARRAY

A. Tujuan Pembelajaran

Pada pertemuan ini akan dijelaskan penggunaan Function dan Array dalam Java Script. Anda harus mampu :

18.1 Menggunakan Function dalam Java Script

18.2 Menggunakan Array dalam Java Script

B. Uraian Materi

Tujuan Pembelajaran 18.1 :

Menggunakan Function dalam Java Script

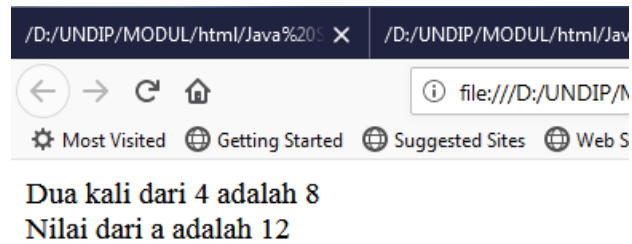
18.1 FUNCTIONS

```
function functionname(var1,var2,...,varX)  
{  
  some code  
}
```

Latihan 1.

```
<SCRIPT language="Javascript">  
<!--  
var a = 12;  
var b = 4;  
function PerkalianDengan2(b) {  
  var a = b * 2;  
  return a;  
}  
document.write("Dua kali dari ",b," adalah " ,PerkalianDengan2(b),"<br>");  
document.write("Nilai dari a adalah ",a);  
// -->  
</SCRIPT>
```

Output yang dihasilkan :



Gambar 60 Function Perkalian 2

Latihan 2.

```
<html>
<head>
<script type="text/javascript">
function product(a,b)
{
return a*b;
}
</script>
</head>

<body>
<script type="text/javascript">
document.write(product(4,3));
</script>

</body>
</html>
```

Output yang dihasilkan :

12

Latihan 3.

```
<html>
<head><title>Latihan Dengan Objek Radio</title></head>
<body>
<script language="JavaScript">
<!--
function radio_box(form)
{
var ket = "";
if (form.wanita.checked == true)
{
ket = "Wanita";
}
else if (form.pria.checked == true)
{
ket = "Pria";
}
else
{
ket = "Gak Jelas";
}
alert('Anda adalah seorang ' +ket);
//-->
</script>
<form>
<H1> Memasukkan Data Dengan Objek Radio</H1><hr>
<p><input type="radio" value="wanita" name="wanita">Wanita
<input type="radio" value="pria" name="pria">Pria</p>
<hr>
<p><input type="button" value="CONFIRM" onclick="radio_box(this.form)">
<input type="reset" value="RESET"></p>
</form>
</body>
</html>
```

Output yang dihasilkan :



The screenshot shows a web browser window with the address bar displaying a file path. The page title is "Memasukkan Data Dengan Objek Radio". Below the title, there are two radio buttons: "Wanita" (which is selected) and "Pria". At the bottom of the form, there are two buttons: "CONFIRM" and "RESET".

Gambar 61 Output memasukkan data menggunakan function

Latihan 4.

```
<html>
<body>

<p>Sum of all arguments:</p>
<p id="coba"></p>

<script>
function sumAll() {
  var i;
  var sum = 0;
  for(i = 0; i < arguments.length; i++) {
    sum += arguments[i];
  }
  return sum;
}
document.getElementById("coba").innerHTML = sumAll(10, 127, 400, 125, 34, 78);
</script>

</body>
</html>
```

Output yang dihasilkan :

Sum of all arguments:

774

Fungsi String dalam Java Script :

- g. Substring (mengambil karkater dari posisi tertentu sebanyak n karakter)

Contoh :

```
<html>
<body>

<p>Click the button to extract characters from the string.</p>

<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
    var str = "Hello world!";
    var res = str.substring(1, 5);
    document.getElementById("demo").innerHTML = res;
}
</script>

</body>
</html>
```

Tampilan yang dihasilkan :

Click the button to extract characters from the string.

Try it

ello

Gambar 62 Tampilan hasil Substring

- h. toLocaleLowerCase (mengubah string menjadi huruf kecil semua)

```
<html>
<body>

<p>Click the button to convert the string to lowercase letters.</p>

<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
    var str = "HELLO WORD";
    var res = str.toLocaleLowerCase();
    document.getElementById("demo").innerHTML = res;
}
</script>

</body>
</html>
```

Tampilan yang dihasilkan :

Click the button to convert the string to lowercase letters.

Try it

hello word

Gambar 63 Tampilan locale lowercase

i. toLowerCase

```
<html>
<body>

<p>Click the button to convert the string to lowercase letters.</p>

<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
    var str = "SELAMAT DATANG";
    var res = str.toLowerCase();
    document.getElementById("demo").innerHTML = res;
}
</script>

</body>
</html>
```

Tampilan yang dihasilkan :

Click the button to convert the string to lowercase letters.

selamat datang

Gambar 64 Tampilan toLowerCase

- j. toLocaleUpperCase (mengubah string menjadi huruf besar)

```
<html>
<body>

<p>Click the button to convert the string to uppercase letters.</p>

<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
  var str = "Hai Apakabar";
  var res = str.toLocaleUpperCase();
  document.getElementById("demo").innerHTML = res;
}
</script>

</body>
</html>
```

Tampilan toLowerCase

Click the button to convert the string to uppercase letters.

HAI APAKABAR

Gambar 65 Tampilan toLowerCase

k. toUpperCase

```
<html>
<body>

<p>Click the button to convert the string to uppercase letters.</p>

<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
  var str = "pemrograman web 1";
  var res = str.toUpperCase();
  document.getElementById("demo").innerHTML = res;
}
</script>

</body>
</html>
```

Tampilan toUpperCase

Click the button to convert the string to uppercase letters.

Try it

PEMROGRAMAN WEB 1

Gambar 66 Tampilan toUpperCase

l. Length (menghitung panjang string)

```
<html>
<body>

<p>Click the button to return the number of characters in the string "Hello
World!".</p>

<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
  var str = "Teknik Informatika Universitas Pamulang";
  var n = str.length;
  document.getElementById("demo").innerHTML = n;
}
</script>

</body>
</html>
```

Tampilan

Click the button to return the number of characters in the string "Teknik Informatika Universitas Pamulang".

Try it

39

Gambar 67 Tampilan fuction length

m. Date

```
var d = new Date();
var d = new Date(milliseconds);
var d = new Date(dateString);
var d = new Date(year, month, day, hours, minutes, seconds, milliseconds);
```

Contoh penggunaan date

```

<html>
<body>

<h2>JavaScript new Date()</h2>

<p>new Date() creates a new date object with the current date and time:</p>

<p id="demo"></p>

<script>
var d = new Date();
document.getElementById("demo").innerHTML = d;
</script>

</body>
</html>

```

Tampilan fungsi date

JavaScript new Date()

new Date() creates a new date object with the current date and time:

Sat Nov 30 2019 03:41:51 GMT+0700 (Indochina Time)

Gambar 68 Tampilan fungsi date

Tabel 4 Method date

Method	Deskripsi
getDate()	Tanggal (dari 1-31)
getDay()	Hari dalam seminggu (dari 0-6)
getFullYear()	tahun
getHours()	Jam (dari 0-23)
getMilliseconds()	milliseconds (dari 0-999)
getMinutes()	minutes (dari 0-59)
getMonth()	month (dari 0-11)
getSeconds()	seconds (dari 0-59)
getTime()	number dalam milliseconds dari midnight Jan 1 1970,
getTimezoneOffset()	Perbedaan waktu between UTC time dan local time, dalam minutes
getUTCDate()	Hari dalam sebulan, menurut universal time (dari 1-31)
getUTCDay()	Hari dalam seminggu, according to universal time

	(dari 0-6)
getUTCFullYear()	year, menurut universal time

n. Fungsi getday

```
<html>
<body>

<p>Click the button to display todays day of the week.</p>

<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
  var d = new Date();
  var n = d.getDay()
  document.getElementById("demo").innerHTML = n;
}
</script>

</body>
</html>
```

Dijalankan ketika tanggal dari system komputer Sabtu, 30 November 2019

Tampilan :

Click the button to display todays day of the week.

Try it

6

Gambar 69 Tampilan fungsi getday

o. Format date

```
<html>
<body>

<h2>JavaScript ISO Dates</h2>

<p id="latihan"></p>

<script>
var d = new Date("2019-11-30");
document.getElementById("latihan").innerHTML = d;
</script>

</body>
</html>
```

Pemrogr: </html>

Tampilan browser

JavaScript ISO Dates

Sat Nov 30 2019 07:00:00 GMT+0700 (Indochina Time)

p. Fungsi Matematik

- o Math.round : Math.round(x)

```
<html>
<body>

<h2>JavaScript Math.round()</h2>

<p>Math.round(x) returns the value of x rounded to its nearest integer:</p>

<p id="latihan"></p>

<script>
document.getElementById("latihan").innerHTML = Math.round(4.4);
</script>

</body>
</html>
```

Tampilan browser

JavaScript Math.round()

Math.round(x) returns the value of x rounded to its nearest integer:

4

q. Math.pow : math.pow(x, y)

```
<html>
<body>

<h2>JavaScript Math.pow()</h2>

<p>Math.pow(x,y) returns the value of x to the power of y:</p>

<p id="latihan"></p>

<script>
document.getElementById("latihan").innerHTML = Math.pow(8,3);
</script>

</body>
</html>
```

Tampilan browser :

JavaScript Math.pow()

Math.pow(x,y) returns the value of x to the power of y:

512

r. Math.sqrt : Math.sqrt(x)

```
<html>
<body>

<h2>JavaScript Math.sqrt()</h2>

<p>Math.sqrt(x) returns the square root of x:</p>

<p id="latihan"></p>

<script>
document.getElementById("latihan").innerHTML = Math.sqrt(64);
</script>

</body>
</html>
```

Tampilan browser

JavaScript Math.sqrt()

Math.sqrt(x) returns the square root of x:

8

s. Math.abs : Math.abs(x)

```
<html>
<body>

<h2>JavaScript Math.abs()</h2>

<p>Math.abs(x) returns the absolute (positive) value of x:</p>

<p id="latihan"></p>

<script>
document.getElementById("latihan").innerHTML = Math.abs(-4.4);
</script>

</body>
</html>
```

Tampilan browser :

JavaScript Math.abs()

Math.abs(x) returns the absolute (positive) value of x:

4.4

t. Math.ceil : Math.ceil(x)

```
<html>
<body>

<h2>JavaScript Math.ceil()</h2>

<p>Math.ceil() rounds a number <strong>up</strong> to its nearest integer:</p>

<p id="latihan"></p>

<script>
document.getElementById("latihan").innerHTML = Math.ceil(5.4);
</script>

</body>
</html>
```

Tampilan browser

JavaScript Math.ceil()

Math.ceil() rounds a number **up** to its nearest integer:

5

u. Math.floor : Math.floor(x)

```
<html>
<body>

<h2>JavaScript Math.floor()</h2>

<p>Math.floor(x) returns the value of x rounded <strong>down</strong> to its
nearest integer:</p>

<p id="latihan"></p>

<script>
document.getElementById("latihan").innerHTML = Math.floor(4.7);
</script>

</body>
</html>
```

Tampilan browser :

JavaScript Math.floor()

Math.floor(x) returns the value of x rounded **down** to its nearest integer:

4

Tujuan Pembelajaran 18.2 :

Menggunakan Array dalam Java Script

18.2 Penggunaan Array dalam Java Script

Definisi Array sebagai berikut:

- ❑ `var a=new Array();` // opsional menambahkan bilangan bulat
`a[0]="Saab";` // untuk mengecek ukuran array
`a[1]="Volvo";`
`a[2]="BMW";`
- ❑ `var a=new Array("Saab","Volvo","BMW");` // condensed array
- ❑ `var a=["Saab","Volvo","BMW"];` // literal array

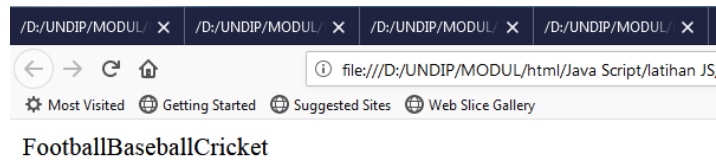
Latihan 5.

```
<html>
<head><title>Penggunaan Array</title></head>
<body>
<script type="text/javascript">
<!--
var myArray = new Array();

myArray[0] = "Football";
myArray[1] = "Baseball";
myArray[2] = "Cricket";

document.write(myArray[0] + myArray[1] + myArray[2]);
//-->
</script>
</body>
</html>
```


Output :



Gambar 70 Output myArray

Latihan 6.

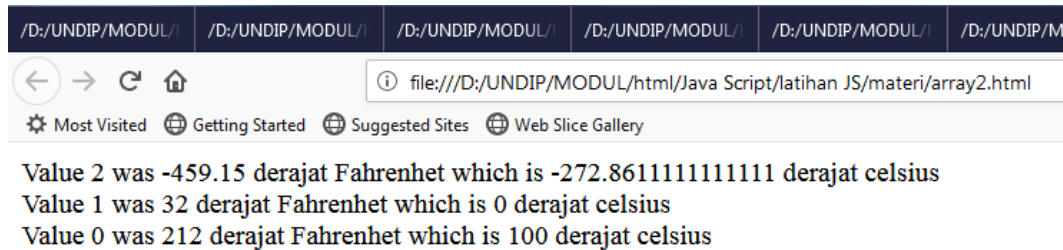
```
<html>
<body onLoad="window.defaultStatus='selamat belajar java script'">
<script language="JavaScript" type="text/javascript">
function konversi(F)
{
var C;
C = 5/9 * (F - 32);
return C;
}
var F = new Array(212, 32, -459.15);
var C = new Array();
var Counter;
for (Counter = 0; Counter <= 2; Counter++)
{
C[Counter] = konversi(F[Counter]);
}
for (Counter = 2; Counter >= 0; Counter--)
{
document.write("Value " + Counter + " was " + F[Counter] +
" derajat Fahrenheit");
document.write(" which is " + C[Counter] +
" derajat celsius<br>");
}
}
```

```

</script>
</body>
</html>

```

Output conversi suhu :



Gambar 71 Output conversi suhu dalam Array

Latihan 7

```

<html>
<body>
<script type="text/javascript">
var parents = ["Jani", "Tove"];
var children = ["Cecilie", "Lone"];
var family = parents.concat(children);
document.write(family);
</script>
</body>
</html>

```

Latihan 8

```

<html>
<body>
<script type="text/javascript">
var parents = ["Jani", "Tove"];
var brothers = ["Stale", "Kai Jim", "Borge"];
var children = ["Cecilie", "Lone"];
var family = parents.concat(brothers, children);
document.write(family);
</script>

```

```
</body>
```

```
</html>
```

C. Soal Latihan/Tugas

Buatlah halaman website untuk menampilkan menu sebagai berikut :

Menu Pilihan :

[1] Menghitung Kalkulator

[2] Menghitung Luas Trapesium

[3] Menghitung Deret

Pilihan Anda :....

Ketentuan :

Jika memilih angka 1, maka tampilkanlah perhitungan kalkulator (latihan yang pernah anda buat sebelumnya), begitu juga jika memilih angka 2, tampilkan luas trapesium dan jika memilih angka 3 tampilkan deret bilangan.

Maksimalkan penggunaan Function

D. Referensi

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