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# MODERN JAVASCRIPT PEMROGRAMAN FRAMEWORK

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PROGRAM STUDI D-IV TEKNIK INFORMATIKA

JURUSAN TEKNOLOGI INFORMASI

POLITEKNIK NEGERI MALANG



**“Make a practicum report containing screenshots of the results for each experiment.  
Provide an explanation of the results of the screenshots for each experiment based on  
your understanding supported from various reference sources”**

## Practicum

### 1. Creating a variable using const

```
index.html > html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-scale=1'>
8   <link rel='stylesheet' type='text/css' media='screen' href='main.css'>
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>
```

```
main.js > ...
1 const name = "Framework-based Programming"
2 alert(name);
```

This page says  
Framework-based Programming  
OK

**This javascript have function to give alert popup message when user open the website .**

### 2. Creating Variable using let

```
index.html > html > head > script
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-scale=1'>
8   <link rel='stylesheet' type='text/css' media='screen' href='main.css'>
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>
```

```
main.js > ...
1 if(true){
2   let name = "Framework Programming";
3   name="Politeknik Negeri Malang";
4   alert(name);
5 }
```

This page says  
Politeknik Negeri Malang  
OK

**This javascript give default value to variable ‘name’. then replace with new value  
“Politeknik Negeri Malang” . when open browser will show alert popup according to the  
latest value**



### 3. Create Template Strings

```
index.html > html > body
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-sc
8   <link rel='stylesheet' type='text/css' media='screen' href='m
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>
```

```
main.js > ...
1 let fname = 'Selena';
2 let lname = 'Gomez';
3 let age = prompt("Enter Selena Gomez Age");
4
5 let result = fname + ' ' + lname +
6 ' is ' + age + ' years old.';
7 alert(result);
```

This page says  
Selena Gomez is 12 years old.  
OK

The command prompt is used to request input from the user then it will be displayed in the result. The alert command is used to bring up a popup when the website is opened

### 4. Creating Default Parameter

```
index.html > html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-sc
8   <link rel='stylesheet' type='text/css' media='screen' href='m
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>
```

```
main.js > ...
10
11 function welcome(user = 'Girl',
12 message='Take Care your health'){
13   // alert('Hi ${user}, ${message}');
14   alert('Hi ' + user + ' ' + message);
15 }
16
17 welcome();
```

Create a new function called welcome . the function itself will be executed when "something" invokes it / call it. This function is similar to return and at the end the function is called and will execute "welcome();" "



## 5. Creating Arrow Function 1

```
index.html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-sc
8   <link rel='stylesheet' type='text/css' media='screen' href='m
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>

main.js
20
21 let greeting = message => alert(message +
22   ' Girl!');
23 greeting('Good Morning');
```

The purpose of the code above is the declaration of the greeting variable to indicate that its value / content is the same as message . arrow sign the value is the same as return,function then alert will display a popup when the website is opened.

## 6. Creating Arrow Function 2

```
index.html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-sc
8   <link rel='stylesheet' type='text/css' media='screen' href='m
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>

main.js
26
27 const func = (a,b) =>{
28   return a+b;
29 };
30 alert(func(8,3));
```

The function that was created to complete the addition of the value of the function takes it from the alert function then if the value has been obtained it will be returned back to be added and then the results are displayed.the arrow as function

## 7. Creating a Destructuring Object

```
index.html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-sc
8   <link rel='stylesheet' type='text/css' media='screen' href='m
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>

main.js
33
34 let student = ({name, university}) => alert(
35   name + ' from ' + university);
36
37 student({
38   name: 'Dewi',
39   university: 'Politeknik Malang'
40 })
```

Declare name and university variables then arrow as function . the value taken from the student who has been declared and has a value



## 8. Creating a Destructuring Array

```
index.html X
index.html > html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-sc
8   <link rel='stylesheet' type='text/css' media='screen' href='m
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>

main.js X
main.js > ...
41 })
42 */ //Praktikum 7
43
44 let [friends] = ['Ratna','Bunga','Tiara'];
45 alert(friends);
```

### Modify The Code

```
main.js X
main.js > ...
41 })
42 */ //Praktikum 7
43
44 let [,friends] = ['Ratna','Bunga','Tiara'];
45 alert(friends);
```

The comma function is to Jump 2X in front so that the output is on the third line. there is only one output because there is no looping, if you want to display all arrays you have to use looping

## 9. Creating a Restructuring

```
index.html X
index.html > html > body
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-sc
8   <link rel='stylesheet' type='text/css' media='screen' href='m
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>

main.js X
main.js > ...
46 alert(friends);
47 */ //Praktikum 8
48
49 var footballplayer={
50   name: 'Gerrad',
51   height:'182',
52
53   output(){
54     alert('Mr.' + this.name + ' is ' +
55       this.height +'cm tall')
56   }
57 };
58 footballplayer.output();
```

Declaring a new class called football then creating a new variable in it name , height . create the constructor as output. And at the end class.output is called.



## 10. Creating Spread and Rest Operators

### Creating Spread

```
index.html > html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-scale=1'>
8   <link rel='stylesheet' type='text/css' media='screen' href='main.css'>
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>

main.js > ...
61
62 var mountains = ['Semeru','Bromo','Merapi'];
63 var mountainsfromjapan = ['Fuji'];
64
65 var allmount = [...mountains,...mountainsfromjapan];
66 alert (allmount);
67
68
```

The above code runs by creating 2 mountain variables, then they are put back together in one array '...' functions to call all values in the array.

### Rest Operators

```
index.html > html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset='utf-8'>
5   <meta http-equiv='X-UA-Compatible' content='IE=edge'>
6   <title>Learning Modern JavaScript</title>
7   <meta name='viewport' content='width=device-width, initial-scale=1'>
8   <link rel='stylesheet' type='text/css' media='screen' href='main.css'>
9   <script src='main.js'></script>
10 </head>
11 <body>
12
13 </body>
14 </html>

main.js > ...
69
70 var rivers = ['ciliwung','brantas','bengawan'];
71 var[first, ...rest] = rivers;
72
73 alert (rest);
74
```

First create a new variable rivers then in the second variable declared first belongs to ciliwung then the rest belongs to rest because it outputs only to array 1,2 because array 0 belongs to first .



## 11. Creating Constructor and Super Classes

```
75  */ //Praktikum 10
76
77  class Holiday{
78      constructor(destination,days){
79          this.destination=destination;
80          this.days=days;
81      }
82
83      info(){
84          alert(this.destination + ' will take ' +
85              this.days + ' days.');
```

Constructor is a method that gives initial value to an object

```
86      }
87  }
88  }
89
90  class Expedition extends Holiday{
91      constructor(destination,days,gear){
92          super(destination,days);
93          this.gear=gear;
94      }
95
96      info(){
97          super.info();
98          alert('Bring your ' + this.gear.join(' and your'));
99      }
100  }
101  }
102
103  const tripwithgear=new Expedition('semeru',10,['Sunglasses','flags','camera']);
104  tripwithgear.info();
105
```

This is a constructor function to display popup and words in the first time

The constructor is a method that gives initial value to an object. This class extends from holiday and allows to get value from class holiday

This is a constructor function to display popup and words

Output

Declaring the contents of each object that has been declared in the constructor above. the output will follow from what we declared

This page says

Semeru will take 10 days

OK

Click the OK button, the next page will appear

This page says

Bring your Sunglasses and your Flags and your Camera

OK