WEB PAGES DESIGN

Java Script

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Lecture 10.
Class 2.
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Java Script overview

What is JavaScript?

- JavaScript is the scripting language of the Web.
- JavaScript is used in millions of Web pages to improve the design, validate forms, detect browsers, create cookies, and much more.
- JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages.

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Java Script overview

- Scripts can be executed on client or the server.

Client Side Scripting	Server Side Scripting
Runs on the user's computer i.e. Browser interprets the script	Runs on the Web server
Visible to users if they view the HTML source	Not visible to user

- JavaScript is mainly used as a client side scripting language.
- JavaScript was initially called as Live Script.
- JavaScript is a lightweight, interpreted programming language.
- JavaScript is used to implement programming on client-side web documents.
- JavaScript is used for file handling and database connectivity on the server-side.
- JavaScript is used for validating user input on client-side.

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Java Script

Java script is object based oriented language:

- Inheritance is does not support in JavaScript, so it is called object based oriented language.

Java script is also called light weight programming language:

- because Java script is return with very simple syntax. Java script is containing executable code.

Java script is also called interpreted language:

- because script code can be executed without preliminary compilation.

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why we use Java Script

Why we Use JavaScript?

- Using HTML we can only design a web page but you can not run any logic on web browser like addition of two numbers, check any condition, looping statements (for, while), decision making statement (if-else) at client side. All these are not possible using HTML So for perform all these task at client side you need to use JavaScript.

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Java Script vs. Java

JavaScript

- Interpreted
- Mainly used for front-end
- client side language
- Needs more effect to enhance security
- The syntax is similar to python and C.
- Can be written in any text editor
- Mainly for web apps

Java

- Compiled
- Mainly used for back-end
- Server side language
- Allows better security
- The syntax is similar to C++ and C#.
- Requires Java Development Kit (JDK)
- Mainly for various apps

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Compiled vs. Interpreted

Compiled

- is converted into machine code so that the processor can execute it.
- The compiled programs run faster than interpreted programs.
- This language delivers better performance.

Interpreted

- is a language in which the implementations execute instructions directly without earlier compiling a program into machine language.
- The interpreted programs run slower than the compiled program.
- This language delivers slower performance.

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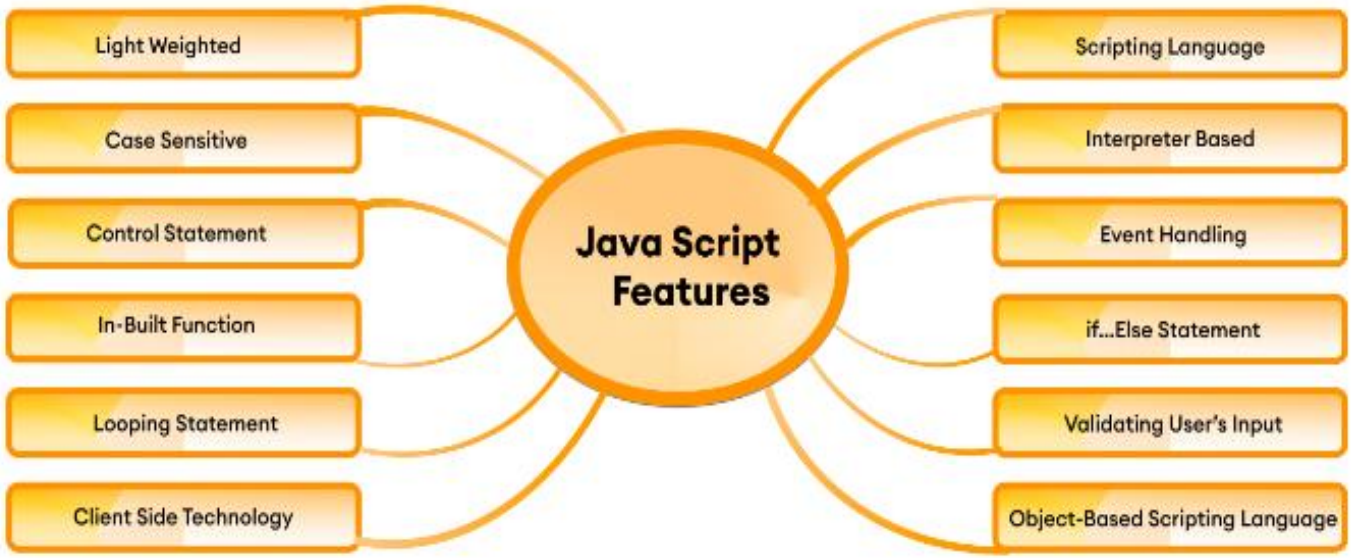
features of Java Script

Features of JavaScript:

- JavaScript is a client side technology, it is mainly used for gives client side validation, but it have lot of features which are given below.



Creating a Java Script

Creating a java script:

- html script tag is used to script code inside the html page.

<script> ……. </script>

The script is containing 2 attributes. They are:

1- Language attribute:

It represents name of scripting language such as JavaScript, VbScript.

<script language="JavaScript">

2- Type attribute:

It indicates MIME (multi purpose internet mail extension) type of scripting code. It sets to an alpha-numeric MIME type of code.

<script type="text / JavaScript">

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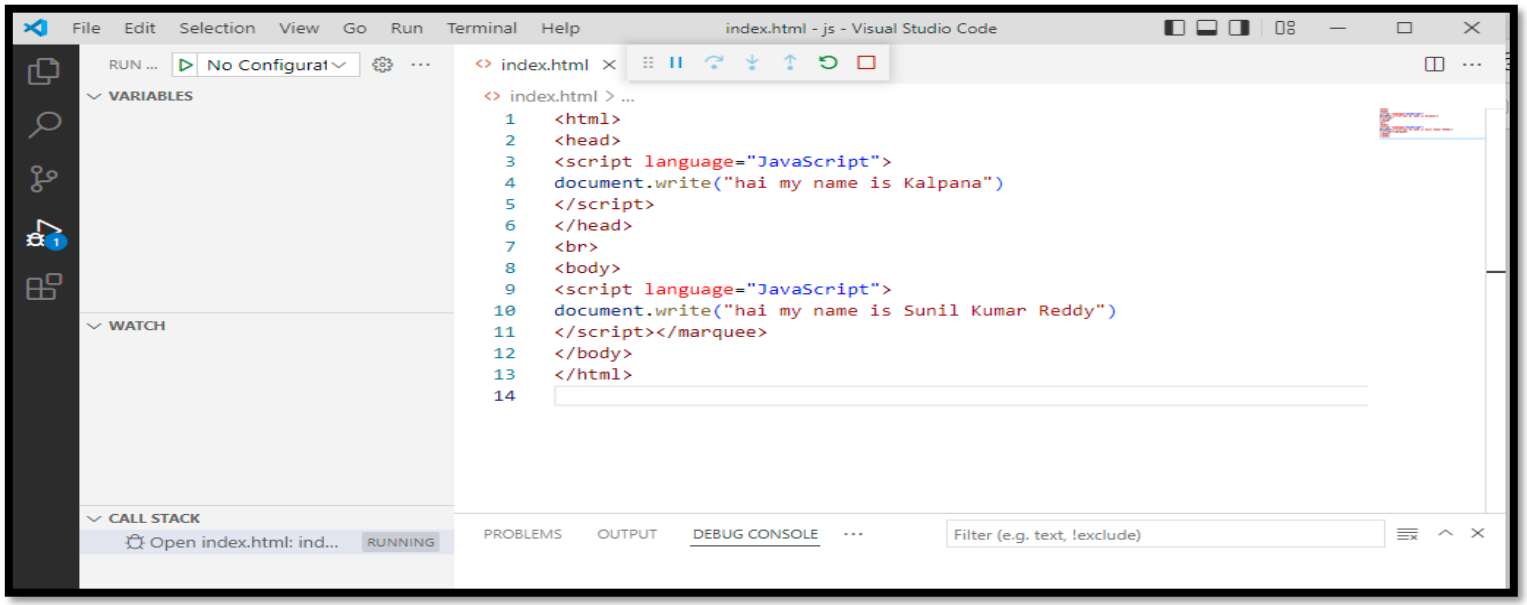
Creating a Java Script

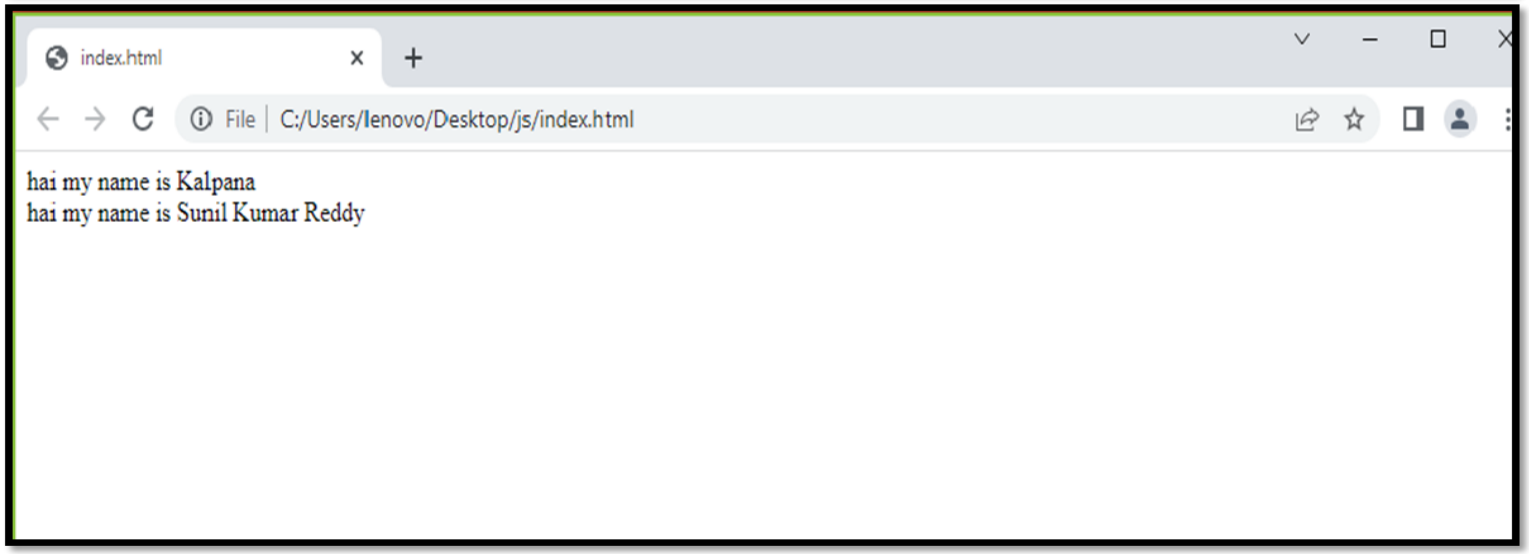
Scripting in both head & body section:

- we can create unlimited number of scripts inside the same page. So we can locate multiple scripts in both head & body section of page.

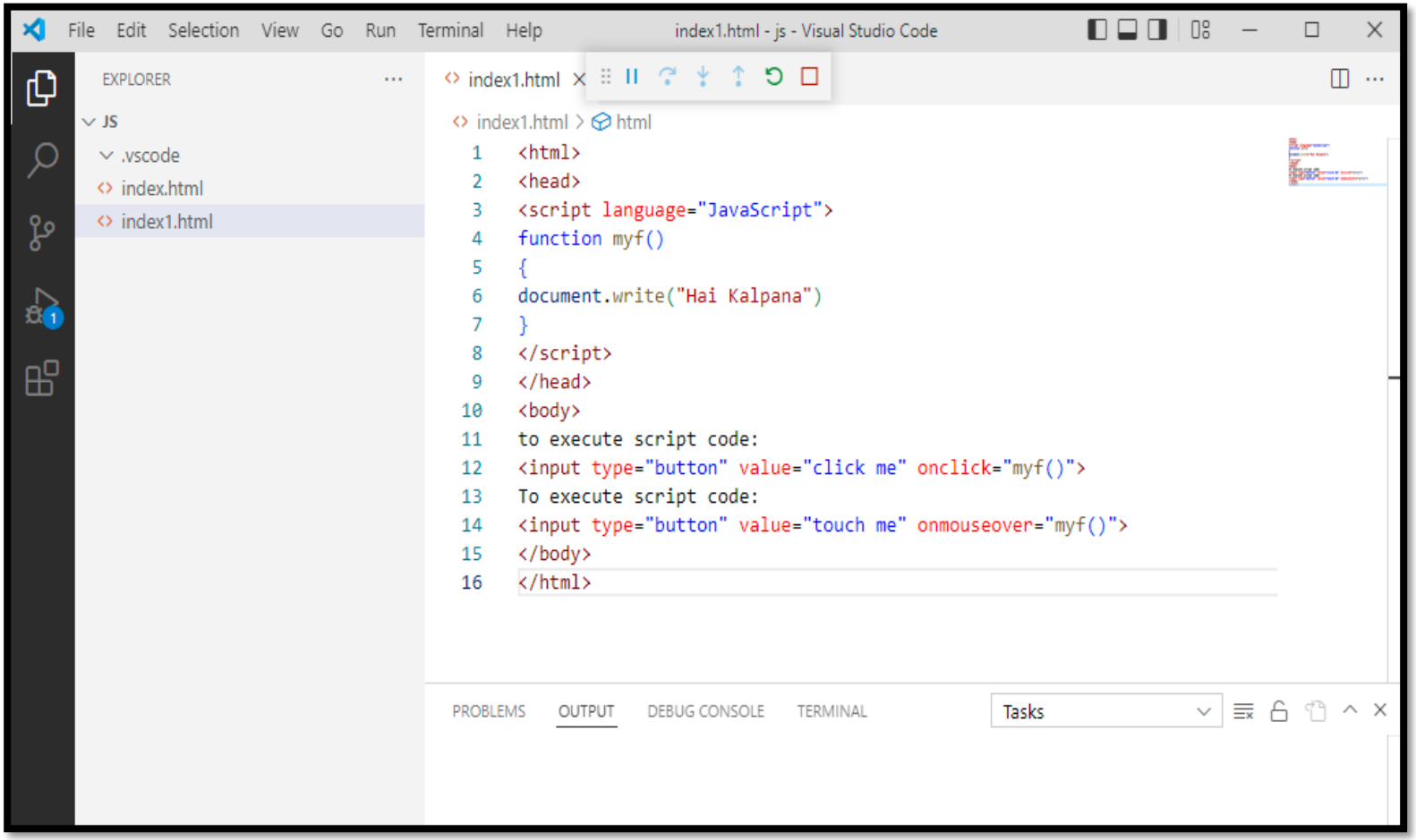
Ex: -
```
<html>
    <head>
    <script type="text / JavaScript">
        Script code here
    </script>
    </head>
    <body>
    <script type="text / JavaScript">
        Script code here
    </script>
    </body>
    </html>
```

Example 1

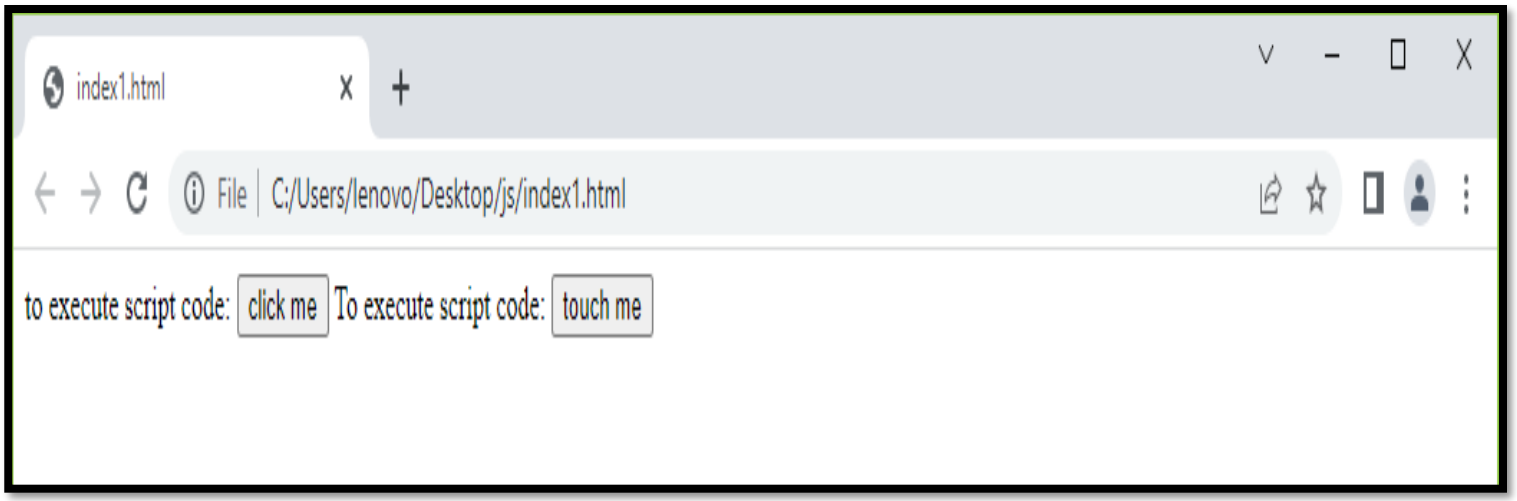

File Edit Selection View Go Run Terminal Help
index.html - js - Visual Studio Code
RUN ...
No Configurat
VARIABLES
WATCH
CALL STACK
Open index.html: ind...
RUNNING
index.html
index.html > ...
1 <html>
2 <head>
3 <script language="JavaScript">
4 document.write("hai my name is Kalpana")
5 </script>
6 </head>
7
8 <body>
9 <script language="JavaScript">
10 document.write("hai my name is Sunil Kumar Reddy")
11 </script></marquee>
12 </body>
13 </html>
14
PROBLEMS
OUTPUT
DEBUG CONSOLE
Filter (e.g. text, !exclude)

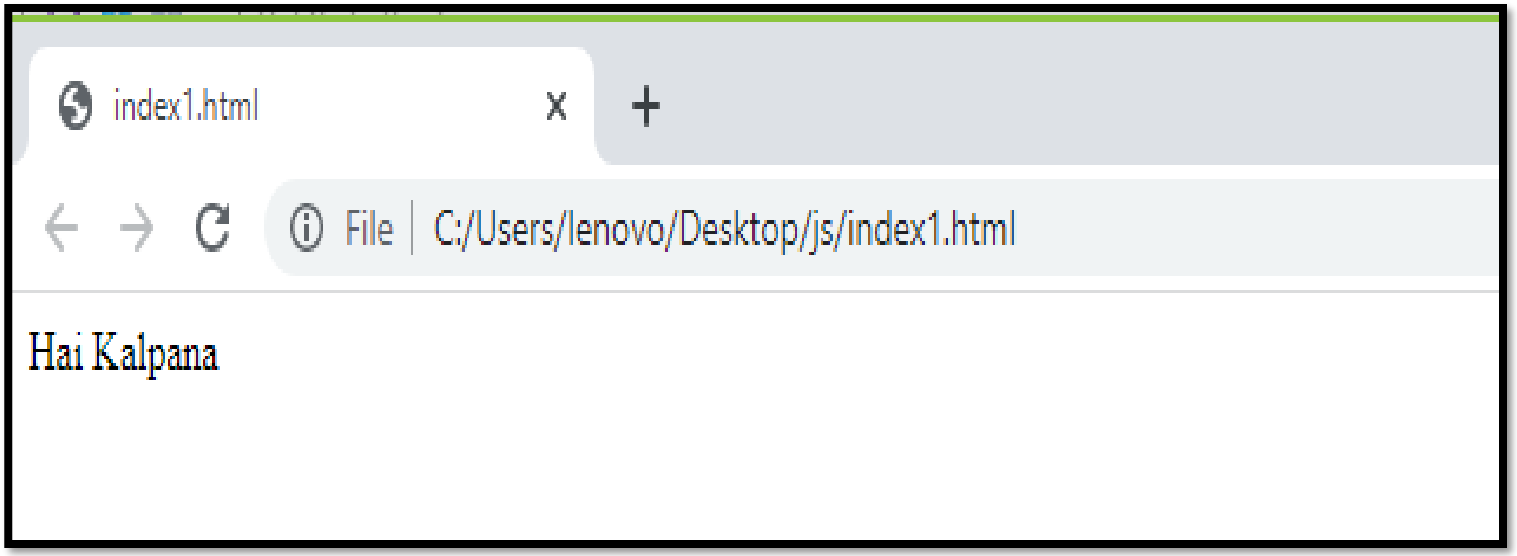

index.html
File | C:/Users/lenovo/Desktop/js/index.html
hai my name is Kalpana
hai my name is Sunil Kumar Reddy

Example 2


File Edit Selection View Go Run Terminal Help
index1.html - js - Visual Studio Code
EXPLORER
JS
.vscode
index.html
index1.html
index1.html
index1.html > html
1 <html>
2 <head>
3 <script language="JavaScript">
4 function myf()
5 {
6 document.write("Hai Kalpana")
7 }
8 </script>
9 </head>
10 <body>
11 to execute script code:
12 <input type="button" value="click me" onclick="myf()">
13 To execute script code:
14 <input type="button" value="touch me" onmouseover="myf()">
15 </body>
16 </html>
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Tasks

Output


index1.html
File C:/Users/lenovo/Desktop/js/index1.html
to execute script code: click me To execute script code: touch me


index1.html
File C:/Users/lenovo/Desktop/js/index1.html
Hai Kalpana

Java Script syntax rules

JavaScript syntax rules:

- JavaScript is case sensitive language. In this upper case lower case letters are differentiated (not same).

ex:

a=20; A=20;

Those the variable name “a” is different from the variable named “A”.

ex:

myf( ) // correct

myF( ) // incorrect

; is optional in general JavaScript.

ex:

a=20 //valid

b=30 //valid

A=10; b=40; // valid

However it is required when you put multiple statements in the same line.

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Comment lines & Declaring variables

Comment lines:

- comments lines are not executable. // single line comment

/* this is multi line comment */

Declaring variable:

- variable is a memory location where data can be stored. In java script variables with any type of data are declared by using the keyword _var‘. All keywords are small letters only.

vara; a=20;

varstr; str= “Sunil”;

varc; c=“a“;

vard; d=30.7;

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Example

```
<html>
<body>
<script type="text/javascript">
var firstname;
firstname="Welcome";
document.write(firstname);
document.write("<br />");
firstname="XYZ";
document.write(firstname);
</script>
<p>The script above declares a variable, assigns a value to it, displays the value, change the value, and displays the value again.</p>
</body>
</html>
```

Output :

Welcome

XYZ

The script above declares a variable, assigns a value to it, displays the value, change the value, and displays the value again

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The end