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11

QUARTER

2

Computer Programming

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Quarter 2 – Module 13: JavaScript Events and Strings
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Development Team of the Module

Writer : Dan Reinnier C. Amigo
Editor : Ma. Lerma I. Cantanero
Reviewer : Rowena O. Dimagiba
Illustrator:
Layout Artist:
Management Team: Ma. Evalou Concepcion A. Agustin
OIC-Schools Division Superintendent
Dr. Aurelio G. Alfonso
OIC-Assistant Schools Division Superintendent
Dr. Victor Javena
OIC – Chief Curriculum Implementation Division

Education Program Supervisors

Librada L. Agon EdD (EPP/TLE/TVL/TVE)
Liza A. Alvarez (Science/STEM/SSP)
Bernard R. Balitao (AP/HUMSS)
Joselito E. Calios (English/SPFL/GAS)
Norlyn D. Conde EdD (MAPEH/SPA/SPS/HOPE/A&D/Sports)
Wilma Q. Del Rosario (LRMS/ADM)
Ma. Teresita E. Herrera EdD (Filipino/GAS/Piling Larang)
Perlita M. Ignacio PhD (EsP)
Dulce O. Santos PhD (Kindergarten/MTB-MLE)
Teresita P. Tagulao EdD (Mathematics/ABM)

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Department of Education – Division of Pasig City

Office Address: Caruncho Avenue, San Nicolas, Pasig City
Telefax: 641-88-85 / 682-2819
E-mail Address: divisionofpasig@gmail.com

Computer Programming

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QUARTER 2

MODULE 13

JavaScript Events and Strings

Writer : Dan Reinnier C. Amigo
Editor : Ma. Lerma I. Cantanero
Validator/Reviewer : Rowena O. Dimagiba

Introductory Message

For the Facilitator:

Welcome to the Computer Programming for the ICT Module on JavaScript Events and Strings!

This module was collaboratively designed, developed and reviewed by educators from Schools Division Office of Pasig City headed by its Officer-In-Charge Schools Division Superintendent, Ma. Evalou Concepcion A. Agustin in partnership with the Local Government of Pasig through its mayor, Honorable Victor Ma. Regis N. Sotto. The writers utilized the standards set by the K to 12 Curriculum using the Most Essential Learning Competencies (MELC) while overcoming their personal, social, and economic constraints in schooling.

This learning material hopes to engage the learners into guided and independent learning activities at their own pace and time. Further, this also aims to help learners acquire the needed 21st century skills especially the 5 Cs namely: Communication, Collaboration, Creativity, Critical Thinking and Character while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

As a facilitator you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Moreover, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the Learner:

Welcome to the Computer Programming for the ICT Module on JavaScript Events and Strings!

The hand is one of the most symbolized part of the human body. It is often used to depict skill, action and purpose. Through our hands we may learn, create and accomplish. Hence, the hand in this learning resource signifies that you as a learner is capable and empowered to successfully achieve the relevant competencies and skills at your own pace and time. Your academic success lies in your own hands!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning material while being an active learner.

This module has the following parts and corresponding icons:

Expectation - These are what you will be able to know after completing the lessons in the module

Pre-test - This will measure your prior knowledge and the concepts to be mastered throughout the lesson.

Recap - This section will measure what learnings and skills that you understand from the previous lesson.

Lesson- This section will discuss the topic for this module.

Activities - This is a set of activities you will perform.

Wrap Up- This section summarizes the concepts and applications of the lessons.

Valuing-this part will check the integration of values in the learning competency.

Post-test - This will measure how much you have learned from the entire module. Ito po ang parts ng module.

EXPECTATIONS

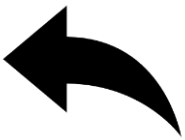
At the end of the module the learner will be able to:

1. understand JavaScript Events and Strings;
2. realize the importance of using events and strings;
3. realize the importance of having organized codes instead of long line;
4. create an executable code using strings.

PRETEST

Directions: Match Column A with Column B to identify what JavaScript Event. being asked in each statement. Write the letter of your answer before each number.

A	B
1. The user pushes a keyboard key	A. onchange
2. The user clicks an HTML element	B. onclick
3. An HTML element has been changed	C. onmouseover
4. The browser has finished loading the page	D. onmouseout
5. The user moves the mouse away from an HTML element	E. onkeydown
	F. onload



RECAP

The previous module discussed the JavaScript Objects, properties and methods. Using a Venn Diagram, compare and contrast **variable, function** and **object**.

LESSON

JavaScript Events

HTML events are "**things**" that happen to HTML elements. When JavaScript is used in HTML pages, JavaScript can "**react**" on these events.

HTML and JavaScript Events

An HTML event can be something the browser does, or something a user does. Here are some examples of HTML events:

- An HTML web page has finished loading
- An HTML input field was changed
- An HTML button was clicked

JavaScript's interaction with HTML is handled through events that occur when the user or the browser manipulates a page. When the page loads, it is called an **event**. When the user clicks a button, that click too is an event. Other examples include events like pressing any key, closing a window, resizing a window, etc.

Developers can use these events to execute JavaScript coded responses, which cause buttons to close windows, messages to be displayed to users, data to be validated, and virtually any other type of response imaginable. Often, when events happen, you may want to do something. JavaScript lets you execute code when events are detected. HTML allows event handler attributes, **with JavaScript code**, to be added to HTML elements.

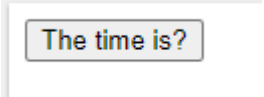
With single quote: <*element event*='***some JavaScript***'>
With double quotes: <*element event*="***some JavaScript***">

In this example, an **onlick** attribute is added to a **button** element:
Syntax:

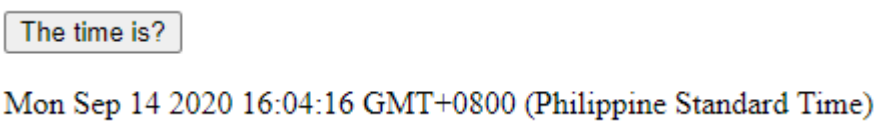
```
<button
onclick="document.getElementById('demo').innerHTML=Date()">The
time is?</button>

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

Output:



On Click Output:

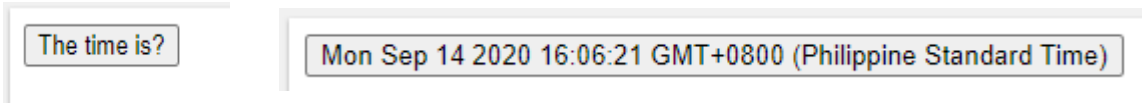


The JavaScript code changes the content of the element with id="demo".

In the next example, the code changes the content of its own element (using **this.innerHTML**):

```
<button onclick="this.innerHTML=Date()">The time is?</button>
```

Output:



On Click Output:

JavaScript code is often several lines long. It is more common to see event attributes calling functions.

Common HTML Events

Event	Description
onchange	An HTML element has been changed
onclick	The user clicks an HTML element
onmouseover	The user moves the mouse over an HTML element
onmouseout	The user moves the mouse away from an HTML element
onkeydown	The user pushes a keyboard key
onload	The browser has finished loading the page

What can JavaScript Do?

Event handlers can be used to handle, and verify, user input, user actions, and browser actions: (please add a period after each sentence).

- Things that should be done every time a page loads.
- Things that should be done when the page is closed.
- Action that should be performed when a user clicks a button.
- Content that should be verified when a user inputs data.

Many different methods can be used to let JavaScript work with events:

- HTML event attributes can execute JavaScript code directly.
- HTML event attributes can call JavaScript functions.
- You can assign your own event handler functions to HTML elements.
- You can prevent events from being sent or being handled.

JavaScript String

JavaScript strings are used for storing and manipulating text. Strings are values made up of text and can contain letters, numbers, symbols, punctuation, and even emoji.

Escape Character

Strings are contained within a pair of either single quotation marks '' or double quotation marks "". Since strings must be written within quotes, JavaScript will misunderstand this string: ***var x = "The output says "Hello World!" ";***

Backslash escape character can be used to write strings within codes. The backslash (\) escape character turns special characters into string characters:

Code	Result	Description	Syntax
\'	'	Single quote	var x = "It\'s 12 o\'clock.";
\"	"	Double quote	var x = "Leonidas said \"SPARTA!\" ";
\\	\	Backslash	var x = "Double backslash \\\ is used in Java for comments";

Other escape sequences are valid in JavaScript are:

Code	Result
\b	Backspace
\f	Form Feed
\n	New Line
\r	Carriage Return
\t	Horizontal Tabulator
\v	Vertical Tabulator

In addition to escape character when using quotation marks inside a string, you can use the opposite quotation marks inside and outside. That means strings containing single quotes need to use double quotes and strings containing double quotes need to use single quotes.

Example:

```
var x = "It's six o'clock.";
var y = 'Remember to say "please" and "thank you."';
```

String Properties and Methods

Strings have their own built-in variables and functions, also known as properties and methods. Here are some of the most common ones:

- Length – a property that keeps track of how many characters a string has

```
<script>
var x = " J o s e  R i z a l ";
var y = x.length;
document.getElementById("demo").innerHTML = y;
</script>
```

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- toLowerCase() – a method that returns a copy of the string with its letters converted to lowercase

```
<script>
var x = " J o s e  R i z a l ";
var y = x.toLowerCase();
document.getElementById("demo").innerHTML = y;
```

joserizal

- toUpperCase() – a method that returns a copy of the string with its letters converted to capitals

```
<script>
var x = " J o s e  R i z a l ";
var y = x.toUpperCase();
document.getElementById("demo").innerHTML = y;
</script>
```

JOSERIZAL

- trim() - returns a copy of the string with beginning and ending whitespace characters removed

```
<script>
var x = " J o s e     R i    z a l      ";
var y = x.trim();
document.getElementById("demo").innerHTML = y;
</script>
```

JoseRizal

Breaking Long Code Lines

For best readability, programmers often like to avoid code lines longer than 80 characters. If a JavaScript statement does not fit on one line, the best place to break it is after an operator. A safer way to break up a string, is to use string addition.

ACTIVITIES

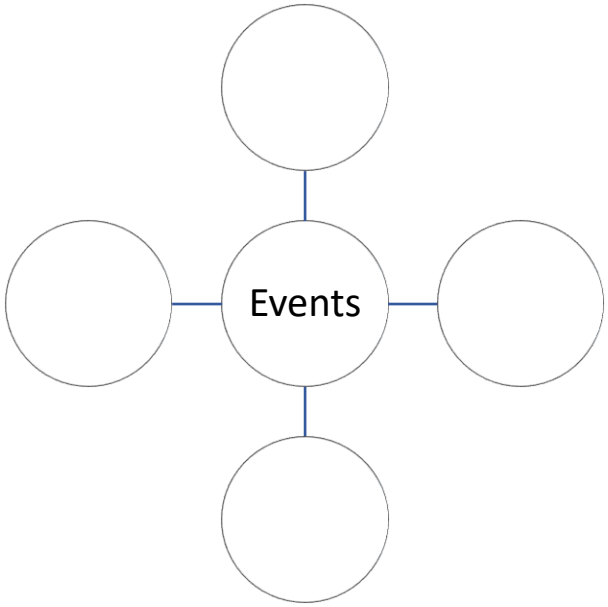
Creating Syntax: Using string property and method, create an executable code that shows basic information about yourself. Use the rubrics that follows as guide for scoring.

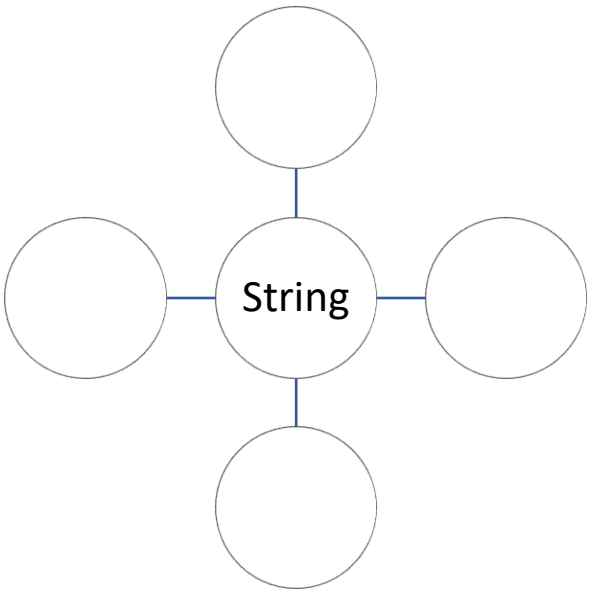
Rubrics

This guide serves as basis for scoring.				
	Needs work	**Developing**	**Meets Standard**	**Score**
Content	Properties and methods used are less than two	Properties and methods used are total of three	All properties and methods discussed in this module are used	
	10 points	15 points	20 points	
Code	With syntax and logical errors.	Syntax is correct but with logical errors.	There are no logical and syntax errors.	
	10 points	20 points	30 points	
			Total	**/50**

WRAP–UP

This module discussed the JavaScript Events and Strings. Using a Radial Cluster, fill in the empty circle with words or phrase that relates to the word inside the middle circle. You can add more circles if you need to. Then provide a brief description on your radial cluster.





This guide serves as basis for scoring. Use for both Radial Clusters.				
	Needs work	**Meets Standard**	**Exceed Expectation**	**Score**
Content of Radial Cluster	Less than four words are related to the main word	Properties and methods used are total of three	All properties and methods discussed in this module are used	
	10 points	15 points	25 points	
Content of description	Description is loosely relevant to the chart	Description is somewhat relevant to the chart	Description is closely relevant to the chart	
	10 points	15 points	25 points	
			Total	**/50**

VALUING

Directions: Read carefully and answer the following questions.

1. Why is it necessary to identify events and strings in programming?

   _____
   _____
   _____

2. How can you relate JavaScript Events with real life events? Cite an example.

   _____
   _____
   _____

3. Why do we need to break long lines of codes?

   _____
   _____
   _____

POST TEST

Directions: Identify what is being asked in each statement.

Strings: Use the given string below for reference.

var x = " Hello World! ";

1. The String method if the output is: “HELLO WORLD!”
2. The String method if the output is: “hello world!”
3. The String method if the output is: “Hello World!”

Events: What event is described in each statement?

4. The element should turn red when someone moves the mouse over it.
5. The <button> element should do something when someone clicks on it.

KEY TO CORRECTION

Pre-test:	Post-test:
1. E	1. toUpperCase()
2. B	2. toLowerCase()
3. A	3. trim()
4. F	4. onmouseover
5. D	5. onclick

References

- "JavaScript Events". Accessed September 14, 2020 10:00am. https://www.w3schools.com/js/js_events.asp
- "JavaScript – Events". Accessed September 14, 2020 10:05am. https://www.tutorialspoint.com/javascript/javascript_events.htm
- "JavaScript Strings". Accessed September 15, 2020 9:57am. https://www.w3schools.com/js/js_strings.asp
- "Strings". Accessed September 15, 2020 10:03am. https://www.javascript.com/learn/strings
- "JavaScript - The Strings Object". Accessed September 15, 2020 10:12am. https://www.tutorialspoint.com/javascript/javascript_strings_object.htm