

Week 3 Lab 1

Introduction to Javascript

A) Variables

1. Numerical data

- a. Create a new html file and name it 'variables.html' using a code editor of your choice.
- b. In variables.html, fill in HTML5 doctype declaration, html, head, title and body elements.
- c. Write a script element, <script> </script> between head element opening and closing tags.
- d. Between script element opening and closing tags, write the following Javascript code:

```
var x = 100;
```

```
document.write(x);
```

- e. Save variables.html and open the file in your internet browser.

2. String data & the concatenation operator

- a. Delete the following Javascript code in variables.html

```
document.write(x);
```

- b. Add the following Javascript code

```
var text = "Value of x is";
```

```
Document.write(text + " " + x);
```

- c. Save variables.html and open the file in your internet browser.

3. Operations on data

- a. Delete all Javascript code in variables.html
- b. Write the following Javascript code

```
var x = 100;  
var y = 50;  
var text = "Value of x + y is";  
document.write("The value of x is" + " " + x + "<br>");  
document.write("The value of y is" + " " + y + "<br>");  
document.write(text + " " + (x+y));
```

- c. Save variables.html and open the file in your internet browser.
- d. In the following lines codes,

```
var text = "Value of x + y is";  
document.write(text + " " + (x+y));
```

change the addition operator (+) to each of the following arithmetic operators, save variables.html, open the file in your internet browser and observe the result.

1. Subtraction (-)
2. Division (/)
3. Multiplication (*)
4. Modulus (%)

B) Input - Processing - Output

1. Buttons using inline Javascript

- a. Create a new html file and name it 'io.html' using a code editor of your choice.
- b. In io.html, fill in HTML5 doctype declaration, html, head, title and body elements.
- c. Write the following Javascript code in between body element opening and closing tags

```
<input type="button" id="myButton" value="Hi there!"  
onclick="document.write('Hello!');">
```

- d. Save io.html and open the file in your internet browser.

2. Prompts

- a. Delete Javascript code in io.html body element.
- b. Write a script element, <script> </script> between head element opening and closing tags.
- c. Between script element opening and closing tags, write the following Javascript code:

```
var name = prompt("Please enter your name:", "Firstname Lastname");  
var greeting = "Hello, " + name;  
document.write(greeting);
```

- d. Save io.html and open the file in your internet browser.

3. Calculating values with prompts

- a. Delete all Javascript code in io.html
- b. Write the following Javascript code in between script element opening and closing tags

```
var x = prompt("First value:", "Enter a number");  
var y = prompt("Second value:", "Enter another number");  
var result = parseInt(x) + parseInt(y);  
document.write(result);
```

- c. Save io.html and open the file in your internet browser.
- d. In the following line code,

```
var result = parseInt(x) + parseInt(y);
```

change the addition operator (+) to each of the following arithmetic operators, save io.html, open the file in your internet browser and observe the result.

5. Subtraction (-)
6. Division (/)
7. Multiplication (*)
8. Modulus (%)

C) Functions

1. *alert()* function

- a. Create a new html file and name it 'functions.html' using a code editor of your choice.
- b. In functions.html, fill in HTML5 doctype declaration, html, head, title and body elements.
- c. Write a script element, <script> </script> between head element opening and closing tags.
- d. Between script element opening and closing tags, write the following Javascript alert() function:

```
alert("Welcome!");
```

- e. Save functions.html and open the file in your internet browser.

2. Creating a *welcome()* function

- a. Delete the previous *alert()* function code
- b. Between script element opening and closing tags in functions.html, write the following code

```
function welcome(){  
    alert("Welcome!");  
}
```

- c. Between body element opening and closing tags, write the following code

```
<input type="button" id="myButton" value="Click me"  
onclick="welcome();">
```

- d. Save functions.html and open the file in your browser

3. Calculating values with prompts and buttons

- a. Delete the previous *welcome()* function code
- b. Between script element opening and closing tags, write the following code

```
var x = 0;
```

```
var y = 0;  
function enterNumbers(){  
    x = prompt("First number", "1,2,3...");  
    y = prompt("Second number", "1,2,3...");  
}  
function calculate(){  
    var result = parseInt(x) + parseInt(y);  
    document.write(result);  
}
```

- c. Between body element opening and closing tags, write

```
<input type="button" id="button1" value="Enter numbers"  
onclick="enterNumbers();">  
<input type="button" id="button2" value="Calculate" onclick="calculate();">
```

- d. Save functions.html and open the file in your browser

D) Methods

1. Get element by Id
 - a. Create a new html file and name it 'methods.html' using a code editor of your choice.
 - b. In methods.html, fill in HTML5 doctype declaration, html, head, title and body elements.
 - c. Write the following code in between body element opening and closing tags

```
<p id="myHeader" onclick="getValue()"> pasta. </p>
```

- d. Between script element opening and closing tags, write the following code

```
function getValue(){  
    var titlename = document.getElementById("myHeader");  
    document.write("I like to eat ");  
    document.write(titlename.innerHTML);  
}
```

- e. Save methods.html and open the file in your browser. Click on the text "pasta." and observe the outcome.

2. Open & close window

- a. Delete previous code between script element and body element.
- b. Write the following code in between body element opening and closing tags

```
<input type="button" value="open a small window" onclick="openWindow()">  
<input type="button" value="close window" onclick="closeWindow()">
```

- c. Between script element opening and closing tags, write the following code

```
function openWindow(){  
    smallWindow = window.open("", "", "width=100, height=100");  
    smallWindow.document.write("<p>Hello there!</p>");  
}  
function closeWindow(){  
    SmallWindow.close();  
}
```

- f. Save methods.html and open the file in your browser. Click on the text “pasta.” and observe the outcome.