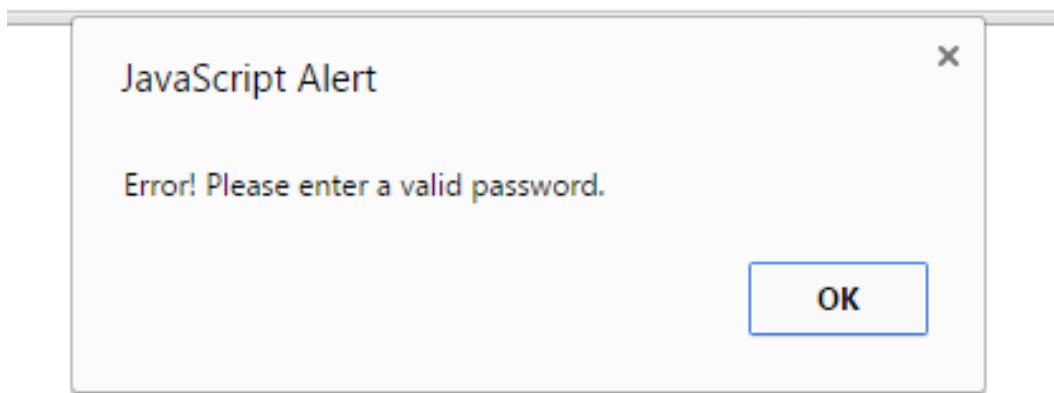


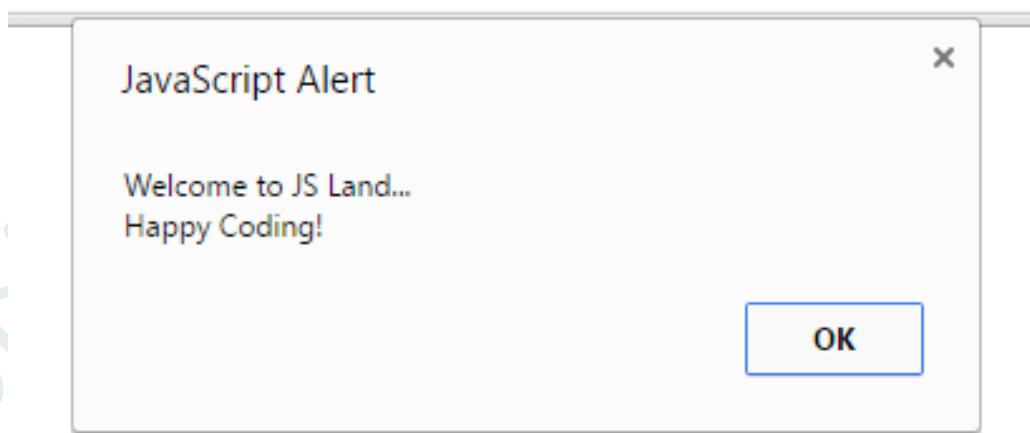
ALERTS

Assignment # 1
JAVASCRIPT

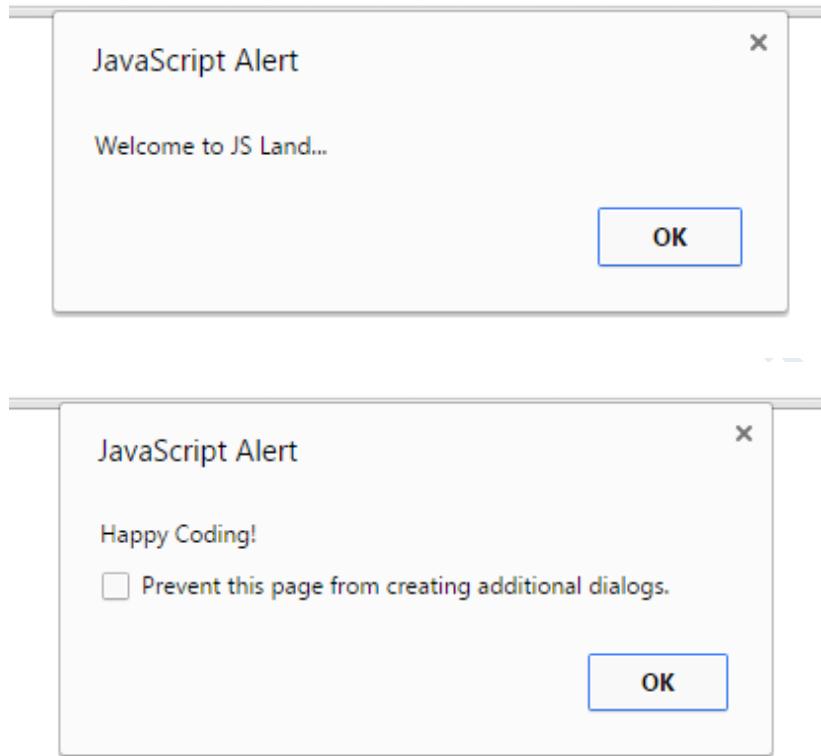
1. Write a script to greet your website visitor using JS alert box.
2. Write a script to display following message on your web page:



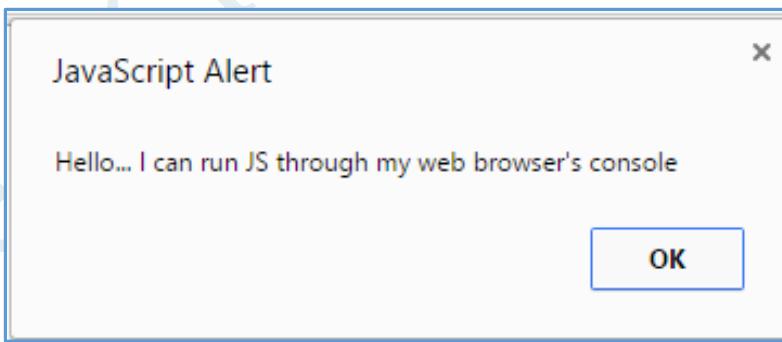
3. Write a script to display following message on your web page: (Hint : Use line break)



4. Write a script to display following messages in sequence:



5. Generate the following message through browser's developer console:



6. Make use of alerts in your new/existing HTML & CSS project.
7. Practice placement of <script></script> element in following sections of your project in exercise 6:
 - a. Head
 - b. Body (before your page's HTML)

- c. Body (inside your page's HTML)
- d. Body (after your page's HTML)

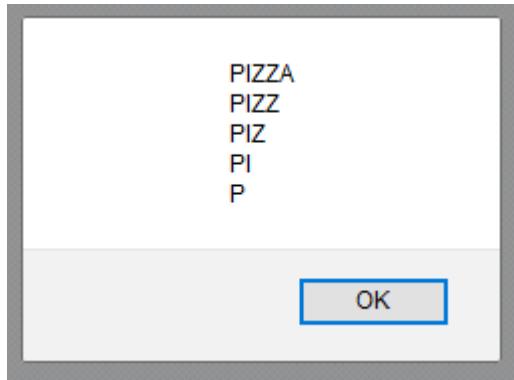
VARIABLES FOR STRINGS

Assignment # 2
JAVASCRIPT

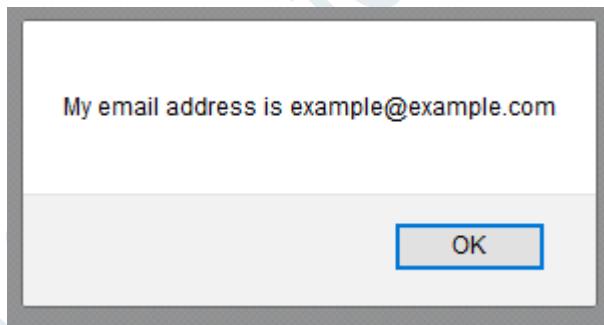
1. Declare a variable called **username**.
2. Declare a variable called **myName** & assign to it a string that represents your Full Name.
3. Write script to
 - a) Declare a JS variable, titled **message**.
 - b) Assign “**Hello World**” to variable **message**
 - c) Display the message in alert box.
4. Write a script to save student’s bio data in JS variables and show the data in alert boxes.



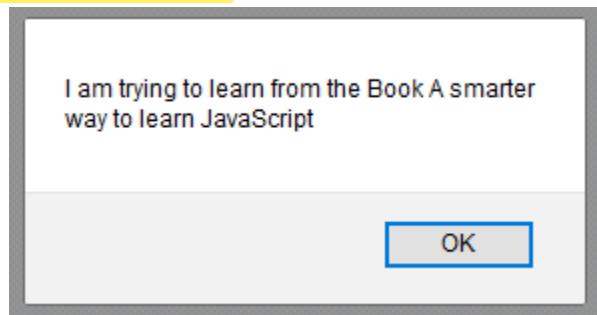
5. Write a script to display the following alert using one JS variable:



6. Declare a variable called ***email*** and assign to it a string that represents your Email Address(e.g. example@example.com). Show the blow mentioned message in an alert box.(Hint: use string concatenation)



7. Declare a variable called book & give it the value “**A smarter way to learn JavaScript**”. Display the following message in an alert box:



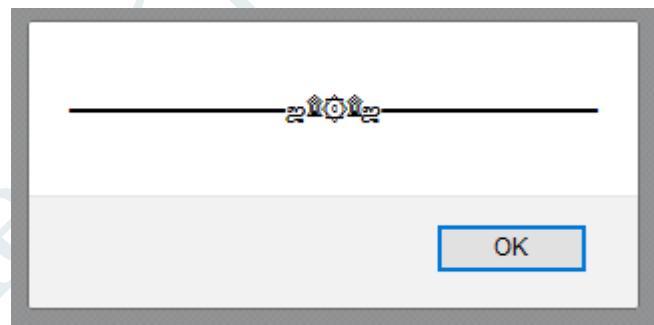
8. Write a script to display this in browser through JS



Yah! I can write HTML content through JavaScript

9. Store following string in a variable and show in alert and browser through JS

“——————ڙ۽ڳ—————”

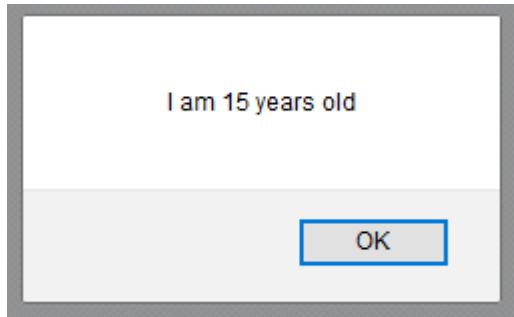


-- END --

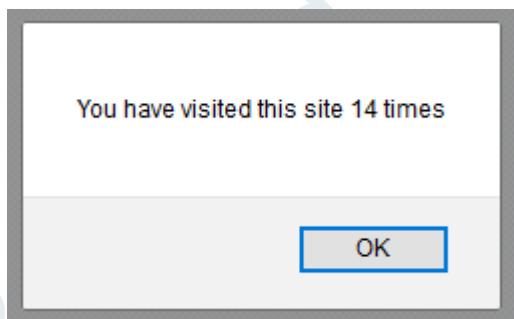
VARIABLES FOR NUMBERS

Assignment # 3
JAVASCRIPT

1. Declare a variable called ***age*** & assign to it your age. Show your age in an alert box.



2. Declare & initialize a variable to keep track of how many times a visitor has visited a web page. Show his/her number of visits on your web page. For example: “You have visited this site N times”.



3. Declare a variable called ***birthYear*** & assign to it your birth year. Show the following message in your browser:



My birth year is 1990
Data type of my declared variable is number

4. A visitor visits an online clothing store

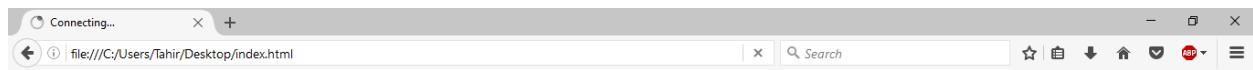
www.xyzClothing.com . Write a script to store in variables the following information:

a. Visitor's name

b. Product title

c. Quantity i.e. how many products a visitor wants to order

Show the following message in your browser: “John Doe ordered 5 T-shirt(s) on XYZ Clothing store”.



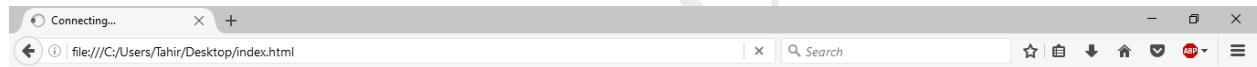
John Doe ordered 5 T-shirt(s) on XYZ Clothing store

-- END --

VARIABLE NAMES: LEGAL & ILLEGAL

Assignment # 4
JAVASCRIPT

1. Declare 3 variables in one statement.
2. Declare 5 legal & 5 illegal variable names.
3. Display this in your browser
 - a) A heading stating “Rules for naming JS variables”
 - b) Variable names can only contain _____, _____, _____ and _____.
For example **\$my_1stVariable**
 - c) Variables must begin with a _____, _____ or _____. For example **\$name, _name or name**
 - d) Variable names are case _____
 - e) Variable names should not be JS _____



Rules for naming JS variables

Variable names can only contain , numbers, \$ and _ . For example : \$my_1stVariable

Variable must begin with a letter, \$ or _ . For example : \$name, _name or name

Variable names are case sensitive

Variable names should not be JS keywords

[index.html - Visual Studio Code]

-- END --

MATH EXPRESSIONS

Assignment # 5
JAVASCRIPT

1. Write a program that take two numbers & add them in a new variable. Show the result in your browser.



Sum of 3 and 5 is 8

2. Repeat task1 for subtraction, multiplication, division & modulus.
3. Do the following using JS Mathematic Expressions
 - a. Declare a variable.
 - b. Show the value of variable in your browser like “Value after variable declaration is: ???”.
 - c. Initialize the variable with some number.
 - d. Show the value of variable in your browser like “Initial value: 5”.
 - e. Increment the variable.
 - f. Show the value of variable in your browser like “Value after increment is: 6”.
 - g. Add 7 to the variable.
 - h. Show the value of variable in your browser like “Value

after addition is: 13”.

i. Decrement the variable.

j. Show the value of variable in your browser like “Value after decrement is: 12”.

k. Show the remainder after dividing the variable’s value by 3.

l. Output : “The remainder is : 0”.



Value after variable declaration is undefined

Initial value: 5

Value after increment is: 6

Value after addition is: 13

Value after decrement is: 12

The remainder is: 0

4. Cost of one movie ticket is 600 PKR. Write a script to store

ticket price in a variable & calculate the cost of buying 5 tickets

to a movie. Example output:



Total cost to buy 5 tickets to a movie is 3000PKR

5. Write a script to display multiplication table of any number in your browser. E.g



Table of 4

$4 \times 1 = 4$

$4 \times 2 = 8$

$4 \times 3 = 12$

$4 \times 4 = 16$

$4 \times 5 = 20$

$4 \times 6 = 24$

$4 \times 7 = 28$

$4 \times 8 = 32$

$4 \times 9 = 36$

$4 \times 10 = 40$

6. The Temperature Converter: It's hot out! Let's make a converter based on the steps here.

- a. Store a Celsius temperature into a variable.
- b. Convert it to Fahrenheit & output "NN_oC is NN_oF".
- c. Now store a Fahrenheit temperature into a variable.
- d. Convert it to Celsius & output "NN_oF is NN_oC".

Conversion Formulae:

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5 / 9$$

$$^{\circ}\text{F} = (^{\circ}\text{C} \times 9 / 5) + 32$$



25⁰C is 77⁰F

70⁰F is 21.11111111111111⁰C

7. Write a program to implement checkout process of a shopping cart system for an e-commerce website. Store the following in variables

- a. Price of item 1
- b. Price of item 2
- c. Ordered quantity of item 1
- d. Ordered Quantity of item 2
- e. Shipping charges

Compute the total cost & show the receipt in your browser.



Shopping Cart

Price of item 1 is 650

Quantity of item 1 is 3

Price of item 2 is 100

Quantity of item 2 is 7

Shipping Charges 100

Total cost of your order is 2750

8. Store total marks & marks obtained by a student in 2 variables. Compute the percentage & show the result in your browser



Marks Sheet

Total marks: 980

Marks obtained: 804

Percentage: 82.0408163265306%

9. Assume we have 10 US dollars & 25 Saudi Riyals. Write a script to convert the total currency to Pakistani Rupees. Perform all calculations in a single expression.
(Exchange rates : 1 US Dollar = 104.80 Pakistani Rupee and 1 Saudi Riyal = 28 Pakistani Rupee)



Total Currency in PKR: 1748

10. Write a program to initialize a variable with some number and do arithmetic in following sequence:

- Add 5
- Multiply by 10
- Divide the result by 2

Perform all calculations in a single expression

11. The Age Calculator: Forgot how old someone is?

Calculate it!

- Store the current year in a variable.
- Store their birth year in a variable.
- Calculate their 2 possible ages based on the stored values.

Output them to the screen like so: “They are either NN or NN years old”.



Age Calculator

Current Year: 2016

Birth Year: 1992

Your Age is: 24

12. The Geometrizer: Calculate properties of a circle.

- Store a radius into a variable.

- b. Calculate the circumference based on the radius, and output “The circumference is NN”.

(Hint : Circumference of a circle = $2 \pi r$, $\pi = 3.142$)

- Calculate the area based on the radius, and output “The area is NN”. (Hint : Area of a circle = πr^2 , $\pi = 3.142$)



The Geometrizer

Radius of a circle: 20

The circumference is: 125.67999999999999

The area is: 1256.8

- 13. The Lifetime Supply Calculator:** Ever wonder how much a “lifetime supply” of your favorite snack is?

Wonder no more.

- Store your favorite snack into a variable
- Store your current age into a variable.
- Store a maximum age into a variable.
- Store an estimated amount per day (as a number).
- Calculate how many would you eat total for the rest of your life.

Output the result to the screen like so: “You will need NNNN to last you until the ripe old age of NN”.



The Lifetime Supply Calculator

Favourite Snack: chocolate chip

Current age: 15

Estimated Maximum Age: 65

Amount of snacks per day: 3

You will need 150 chocolate chip to last you until the ripe old age of 65

Mobile & Cloud Computing

MATH EXPRESSIONS

Assignment # 6
JAVASCRIPT

1. Write a program to take a number in a variable, do the required arithmetic to display the following result in your browser:



Result:

The value of a is: 10

.....

The value of ++a is: 11
Now the value of a is: 11

The value of a++ is: 11
Now the value of a is: 12

The value of --a is: 11
Now the value of a is: 11

The value of a-- is: 11
Now the value of a is: 10



2. What will be the output in variables *a*, *b* & *result* after execution of the following script:

```
var a = 2, b = 1;
var result = --a - -b + ++b + b--;
```

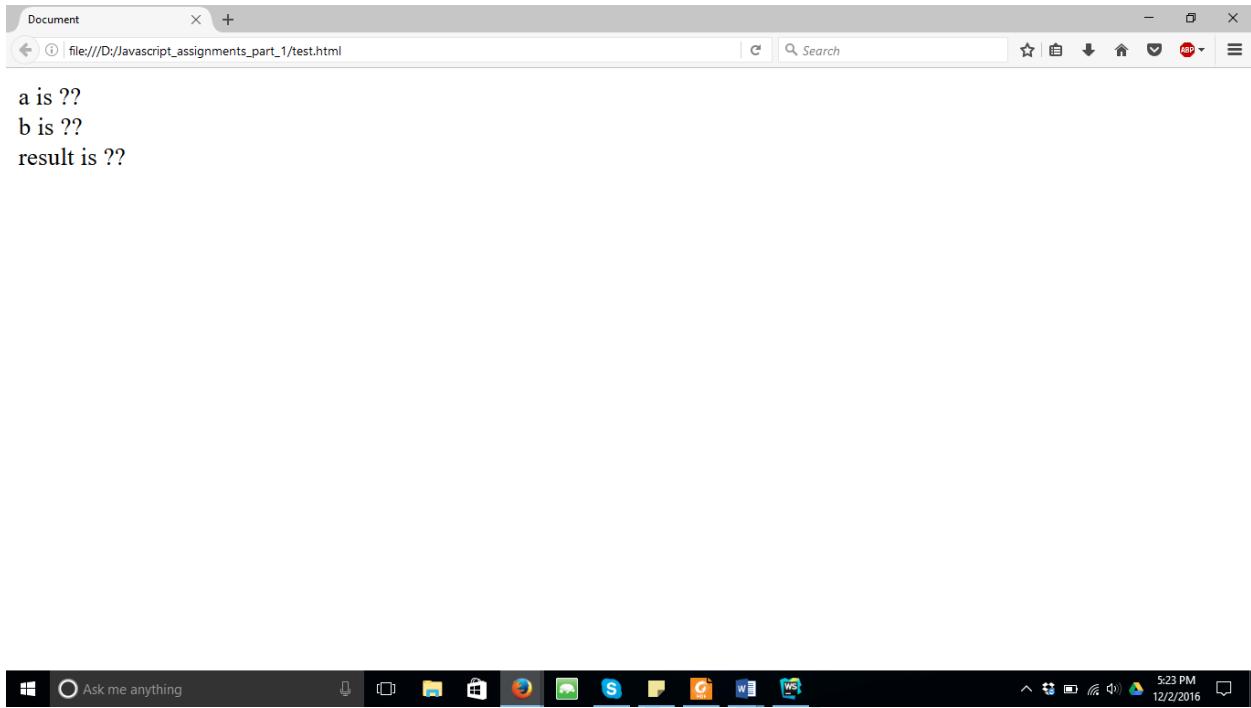
Explain the output at each stage:

--a;

--a - -b;

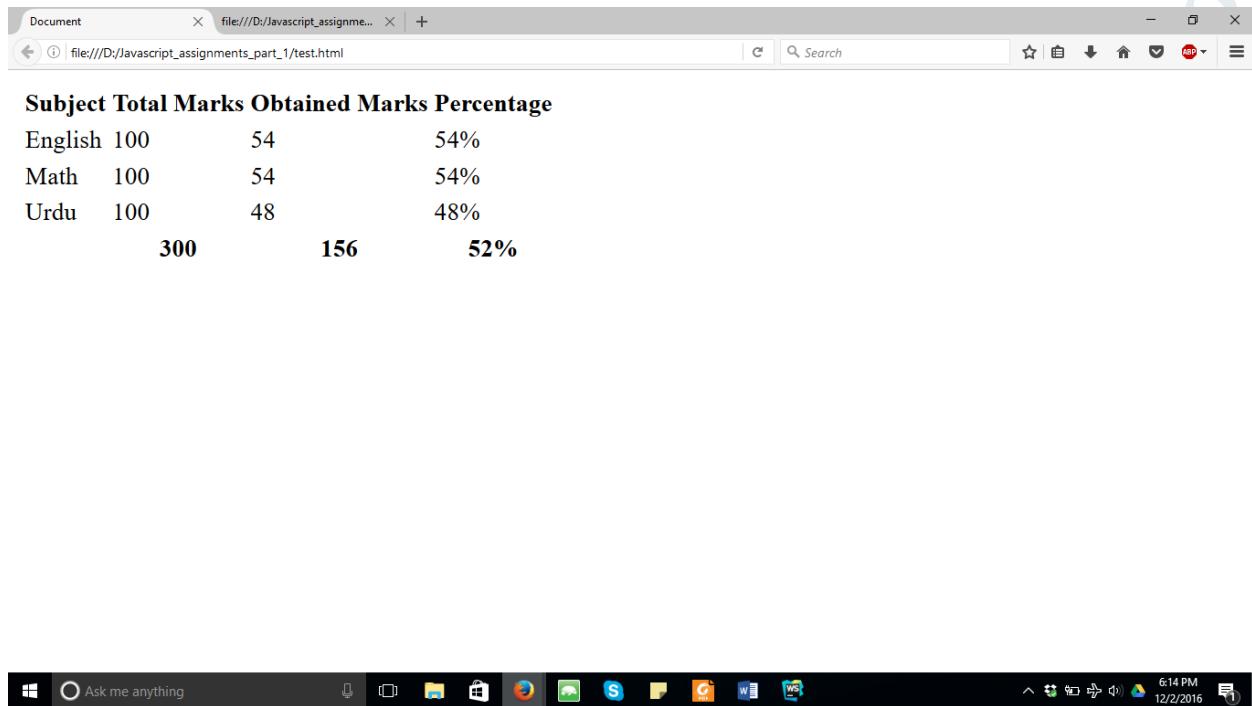
--a - -b + ++b;

--a - -b + ++b + b--;



3. Write a program that takes input a name from user & greet the user.
- 4.
5. Write a program to take input a number from user & display it's multiplication table on your browser. If user does not enter a new number, multiplication table of 5 should be displayed by default.
6. Take
 - a) Take three subjects name from user and store them in 3 different variables.
 - b) Total marks for each subject is 100, store it in another variable.
 - c) Take obtained marks for first subject from user and stored it in different variable.

- d) Take obtained marks for remaining 2 subjects from user and store them in variables.
- e) Now calculate total marks and percentage and show the result in browser like this.(Hint: user table)



A screenshot of a Windows desktop environment. At the top, there's a taskbar with various icons for applications like File Explorer, Mozilla Firefox, and Microsoft Word. In the center, a Microsoft Edge browser window is open, showing a table of marks. The table has columns for Subject, Total Marks, Obtained Marks, and Percentage. The data is as follows:

Subject	Total Marks	Obtained Marks	Percentage
English	100	54	54%
Math	100	54	54%
Urdu	100	48	48%
	300	156	52%

7.

USER INPUT & CONDITIONAL STATEMENT

Assignment # 9-10
JAVASCRIPT

1. Write a program to take “city” name as input from user. If user enters “Karachi”, welcome the user like this: “Welcome to city of lights”

2. Write a program to take “gender” as input from user. If the user is male, give the message: Good Morning Sir. If the user is female, give the message: Good Morning Ma’am.

3. Write a program to take input color of road traffic signal from the user & show the message according to this table:

Signal color	Message
Red	Must Stop
Yellow	Ready to move
Green	Move now

4. Write a program to take input remaining fuel in car (in litres) from user. If the current fuel is less than 0.25litres, show the message “Please refill the fuel in your car”

5. Run this script, & check whether alert message would be displayed or not. Record the outputs.

```
a. var a = 4;
if (++a === 5){
  alert("given condition for variable a is true");
}
```

b. var b = 82;
if (b++ === 83){
alert("given condition for variable b is true");
}

c. var c = 12;
if (c++ === 13){
alert("condition 1 is true");
}
if (c === 13){
alert("condition 2 is true");
}
if (++c < 14){
alert("condition 3 is true");
}
if(c === 14){
alert("condition 4 is true");
}

d. var materialCost = 20000;
var laborCost = 2000;
var totalCost = materialCost + laborCost;
if (totalCost === laborCost + materialCost){
alert("The cost equals");
}

e. if (true){
alert("True");
}
if (false){
alert("False");
}

```
f. if("car" < "cat"){
    alert("car is smaller than cat");
}
```

6. Write a program to take input the marks obtained in three subjects & total marks. Compute & show the resulting percentage on your page. Take percentage & compute grade as per following table:

Percentage %	Grade	Remarks
Greater than or equal to 80	A-one	Excellent
Greater than or equal to 70	A	Good
Greater than or equal to 60	B	You need to improve
Less than 60	Fail	Sorry

Show the total marks, marks obtained, percentage, grade & remarks like:

Marks Sheet

Total marks : 300

Marks obtained : 219

Percentage : 73%

Grade : B

Remarks : You need to improve

7. Guess game:

Store a secret number (ranging from 1 to 10) in a variable.

Prompt user to guess the secret number.

- a. If user guesses the same number, show “Bingo! Correct answer”.
- b. If the guessed number +1 is the secret number, show “Close enough to the correct answer”.

8. Write a program to check whether the given number is divisible by 3. Show the message to the user if the number is divisible by 3.

9. Write a program that checks whether the given input is an even number or an odd number.

10. Write a program that takes temperature as input and shows a message based on following criteria

- a. $T > 40$ then “It is too hot outside.”
- b. $T > 30$ then “The Weather today is Normal.”
- c. $T > 20$ then “Today’s Weather is cool.”
- d. $T > 10$ then “OMG! Today’s weather is so Cool.”

11. Write a program to create a calculator for $+, -, *, /$ & $\%$ using if statements. Take the following input:

- a. First number
- b. Second number
- c. Operation ($+, -, *, /, \%$)

Compute & show the calculated result to user.

IF...ELSE & ELSE IF STATEMENT, TESTING SET OF CONDITIONS

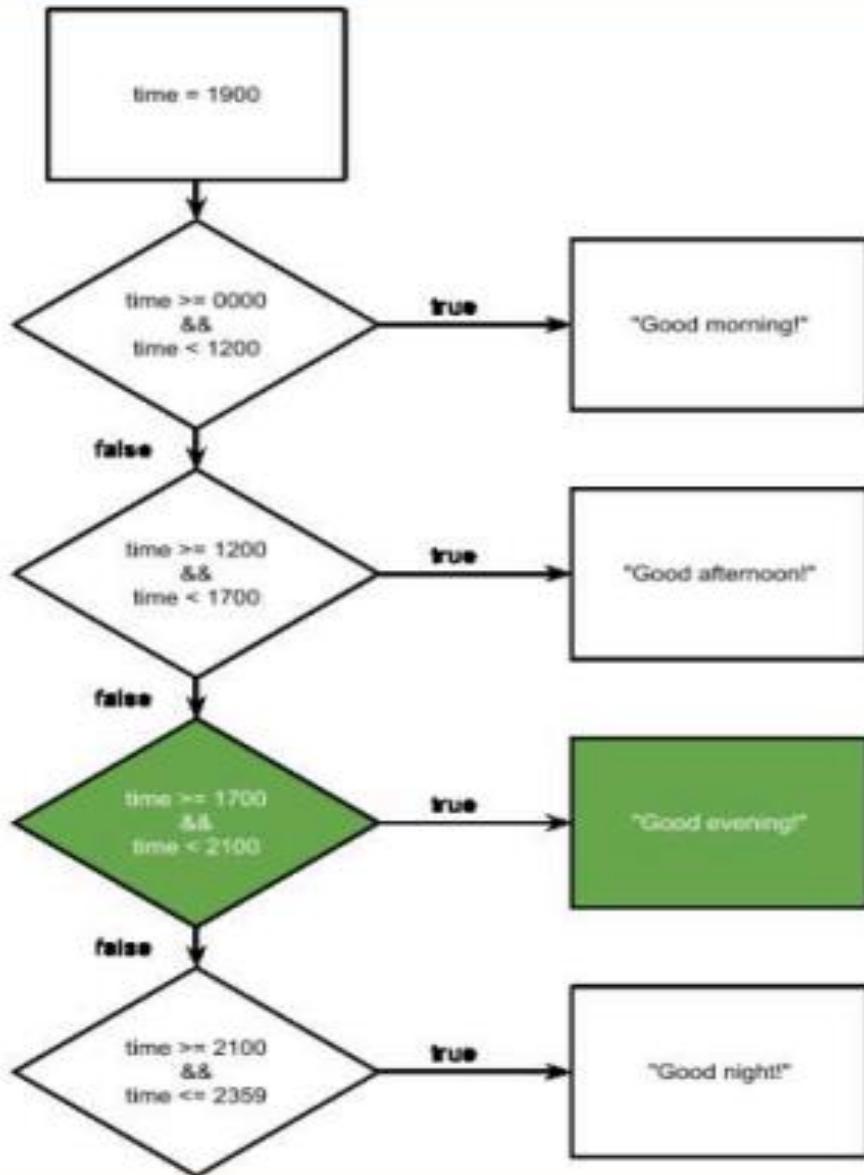
Assignment # 12-13
JAVASCRIPT

1. Write a program that takes a character (number or string) in a variable & checks whether the given input is a number, uppercase letter or lower case letter. (Hint: ASCII codes:- A=65, Z=90, a=97, z=122).
2. Write a JavaScript program that accept two integers and display the larger. Also show if the two integers are equal.
3. Write a program that takes input a number from user & state whether the number is positive, negative or zero.
4. Write a program that takes a character (i.e. string of length 1) and returns true if it is a vowel, false otherwise
5. Write a program that
 - a. Store correct password in a JS variable.
 - b. Asks user to enter his/her password
 - c. Validate the two passwords:
 - i. Check if user has entered password. If not, then give message “ Please enter your password”
 - ii. Check if both passwords are same. If they are same, show message “Correct! The password you entered matches the original password”. Show “Incorrect password” otherwise.

6. This if/else statement does not work. Try to fix it:

```
var greeting;  
var hour = 13;  
if (hour < 18) {  
    greeting = "Good day";  
} else  
    greeting = "Good evening";  
}
```

7. Write a program that takes time as input from user in 24 hours clock format like: 1900 = 7pm. Implement the following case using if, else & else if statements



ARRAYS

Assignment # 13-15
JAVASCRIPT

1. Declare an empty array using JS literal notation to store student names in future.
2. Declare an empty array using JS object notation to store student names in future.
3. Declare and initialize a strings array.
4. Declare and initialize a numbers array.
5. Declare and initialize a boolean array.
6. Declare and initialize a mixed array.
7. Declare and Initialize an array and store available education qualifications in Pakistan (e.g. SSC, HSC, BCS, BS, BCOM, MS, M. Phil., PhD). Show the listed qualifications in your browser like:

Qualifications:

- 1) SSC
- 2) HSC
- 3) BCS
- 4) BS
- 5) BCOM
- 6) MS
- 7) M. Phil.
- 8) PhD

8. Write a program to store 3 student names in an array. Take another array to store score of these three students. Assume that total marks are 500 for each student, display the scores & percentages of students like:

Score of Michael is 320. Percentage: 64%

Score of John is 230. Percentage: 46%

Score of Tony is 480. Percentage: 96%

9. Initialize an array with color names. Display the array elements in your browser.
- Ask the user what color he/she wants to add to the beginning & add that color to the beginning of the array. Display the updated array in your browser.
 - Ask the user what color he/she wants to add to the end & add that color to the end of the array. Display the updated array in your browser.
 - Add two more color to the beginning of the array. Display the updated array in your browser.
 - Delete the first color in the array. Display the updated array in your browser.
 - Delete the last color in the array. Display the updated array in your browser.
 - Ask the user at which index he/she wants to add a color & color name. Then add the color to desired position/index. . Display the updated array in your browser.
 - Ask the user at which index he/she wants to delete color(s) & how many colors he/she wants to delete. Then

remove the same number of color(s) from user-defined position/index. . Display the updated array in your browser.

10. Write a program to store student scores in an array & sort the array in ascending order using Array's sort method.

Scores of Students : 320,230,480,120
Ordered Scores of Students : 120,230,320,480

11. Write a program to initialize an array with city names.
Copy 3 array elements from *cities* array to *selectedCities* array.

Cities list:
Karachi,Lahore,Islamabad,Quetta,Peshawar

Selected cities list:
Islamabad,Quetta

12. Write a program to create a single string from the below mentioned array:
- ```
var arr = ["This ", " is ", " my ", " cat"];
```
- (Use array's join method)

**Array:**  
This,is,my,cat

**String:**  
This is my cat

13. Create a new array. Store values one by one in such a way that you can access the values in the order in which they were stored. (FIFO-First In First Out)

Devices:  
keyboard,mouse,printer,monitor

Out:  
keyboard  
Out:  
mouse  
Out:  
printer  
Out:  
monitor

14. Create a new array. Store values one by one in such a way that you can access the values in reverse order. (Last In-First Out)

Devices:  
keyboard,mouse,printer,monitor

Out:  
monitor  
Out:  
printer  
Out:  
mouse  
Out:  
keyboard

15. Write a program to store phone manufacturers (Apple, Samsung, Motorola, Nokia, Sony & Haier) in an array. Display the following dropdown/select menu in your browser using document.write() method:

# ARRAYS AND LOOP

Assignment # 17-20  
JAVASCRIPT

1. Declare and initialize an empty multidimensional array.  
(Array of arrays)
2. Declare and initialize a multidimensional array  
representing the following matrix:

|   |   |   |   |
|---|---|---|---|
| 0 | 1 | 2 | 3 |
| 1 | 0 | 1 | 2 |
| 2 | 1 | 0 | 1 |

3. Write a program to print numeric counting from 1 to 10.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10

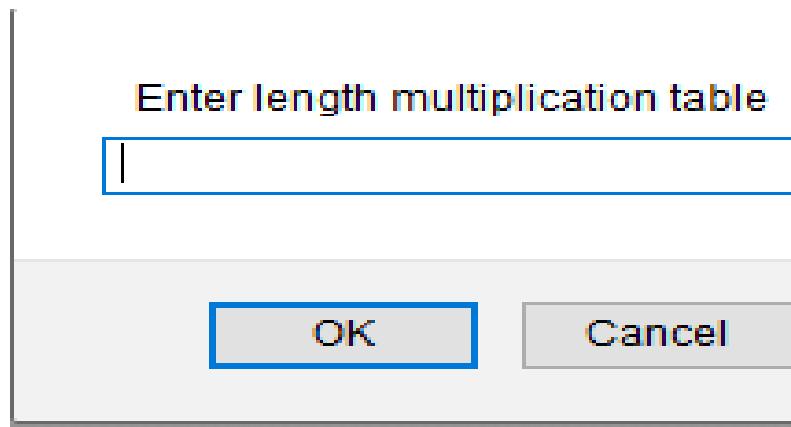
4. Write a program to print multiplication table of any number using for loop. Table number & length should be taken as an input from user.

Enter a number to show its multiplication table

|

OK

Cancel



### Multiplication table of 2 Length 15

2 x 1 = 2  
2 x 2 = 4  
2 x 3 = 6  
2 x 4 = 8  
2 x 5 = 10  
2 x 6 = 12  
2 x 7 = 14  
2 x 8 = 16  
2 x 9 = 18  
2 x 10 = 20  
2 x 11 = 22  
2 x 12 = 24  
2 x 13 = 26  
2 x 14 = 28  
2 x 15 = 30

5. Write a program to print items of the following array using for loop:

```
fruits = ["apple", "banana", "mango", "orange",
"strawberry"]
```

apple  
banana  
mango  
orange  
strawberry

Element at index 0 is apple  
Element at index 1 is banana  
Element at index 2 is mango  
Element at index 3 is orange  
Element at index 4 is strawberry

6. Generate the following series in your browser. See example output.

- a. Counting: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
- b. Reverse counting: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1
- c. Even: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20
- d. Odd: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19
- e. Series: 2k, 4k, 6k, 8k, 10k, 12k, 14k, 16k, 18k, 20k

**Counting:**

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,

**Reverse counting:**

10, 9, 8, 7, 6, 5, 4, 3, 2, 1,

**Even:**

0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20,

**Odd:**

1, 3, 5, 7, 9, 11, 13, 15, 17, 19,

**Series:**

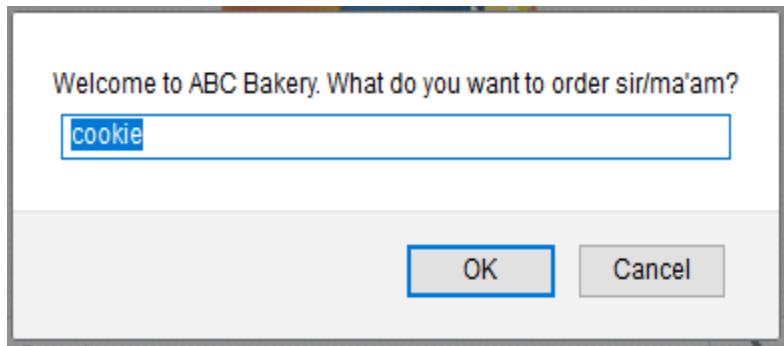
2k, 4k, 6k, 8k, 10k, 12k, 14k, 16k, 18k, 20k,

7. You have an array

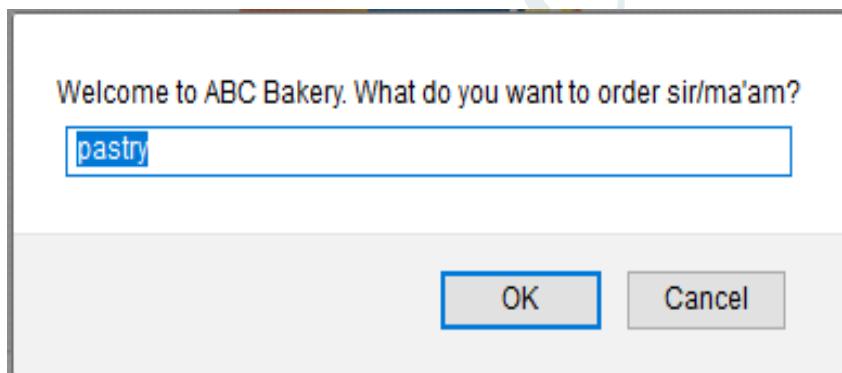
A = ["cake", "apple pie", "cookie", "chips", "patties"]

Write a program to enable “search by user input” in an array.

After searching, prompt the user whether the given item is found in the list or not. Example:



cookie is **available** at index 2 in our bakery



We are sorry. pastry is **not available** in our bakery

8. Write a program to identify the largest number in the given array.

A = [24, 53, 78, 91, 12].

Array items: 24,53,78,91,12  
The largest number is 91

9. Write a program to identify the smallest number in the given array.

A = [24, 53, 78, 91, 12]

Array items: 24,53,78,91,12  
The smallest number is 12

10. Write a program to print multiples of 5 ranging 1 to 100.

5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100,

# STRING METHODS

Assignment # 21-25  
JAVASCRIPT

1. Write a program that takes two user inputs for first and last name using prompt and merge them in a new variable titled **fullName**. Greet the user using his full name.
2. Write a program to take a user input about his favorite mobile phone model. Find and display the length of user input in your browser

My favorite phone is: Samsung Galaxy S6 Edge Plus  
Length of string: 28

3. Write a program to find the index of letter “n” in the word “Pakistani” and display the result in your browser.

String: Pakistani  
Index of 'n': 7

4. Write a program to find the last index of letter “l” in the word “Hello World” and display the result in your browser.

**String: Hello World  
Last index of 'l': 9**

5. Write a program to find the character at 3<sup>rd</sup> index in the word “Pakistani” and display the result in your browser.

**String: Pakistani  
Character at index 3: i**

6. Repeat Q1 using string concat() method.

7. Write a program to replace the “Hyder” to “Islam” in the word “Hyderabad” and display the result in your browser.

**City: Hyderabad**

**After replacement: Islamabad**

8. Write a program to replace all occurrences of “and” in the string with “&” and display the result in your browser.

*var message = “Ali and Sami are best friends. They play cricket and football together.”;*

9. Write a program that converts a string “472” to a number 472. Display the values & types in your browser.

**Value: 472**

**Type: string**

**Value: 472**

**Type: number**

10. Write a program that takes user input. Convert and show the input in capital letters.

User input: peanuts  
Upper case: PEANUTS

11. Write a program that takes user input. Convert and show the input in title case.

User input: javascript  
Title case: Javascript

12. Write a program that converts the variable **num** to string.

`var num = 35.36;`

Remove the dot to display “3536” display in your browser.

Number: 35.36  
Result: 3536

13. Write a program to take user input and store username in a variable. If the username contains any special symbol among [ @ . , ! ], prompt the user to enter a valid username. For character codes of [ @ ] .

Note:

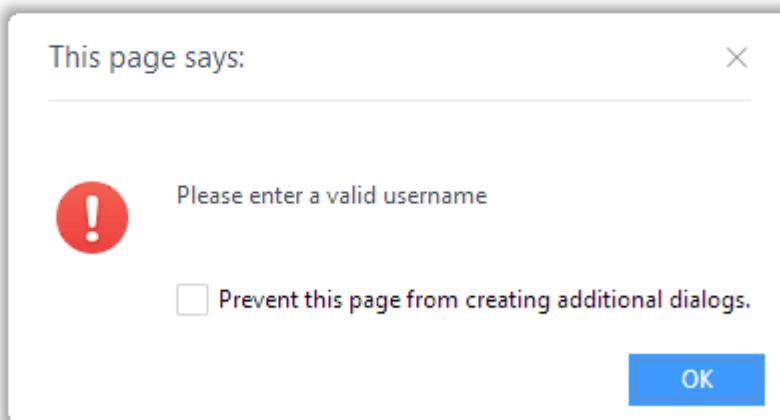
ASCII code of ! is 33

ASCII code of , is 44

ASCII code of . is 46

ASCII code of @ is 64

cm@d

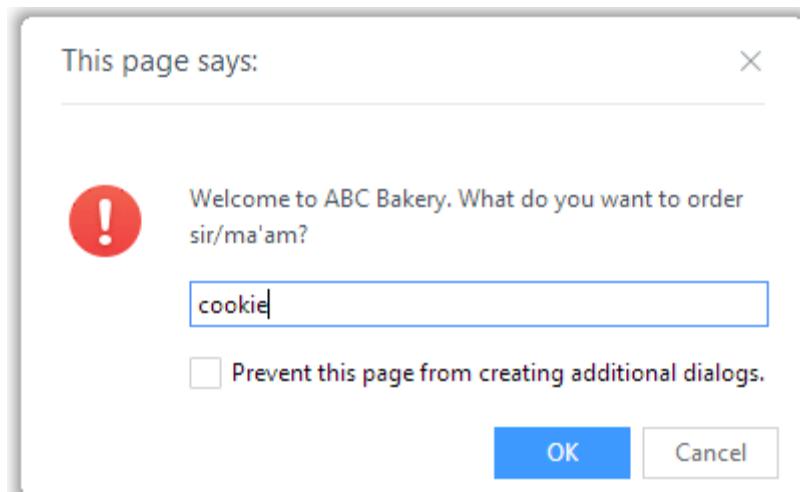


14. You have an array

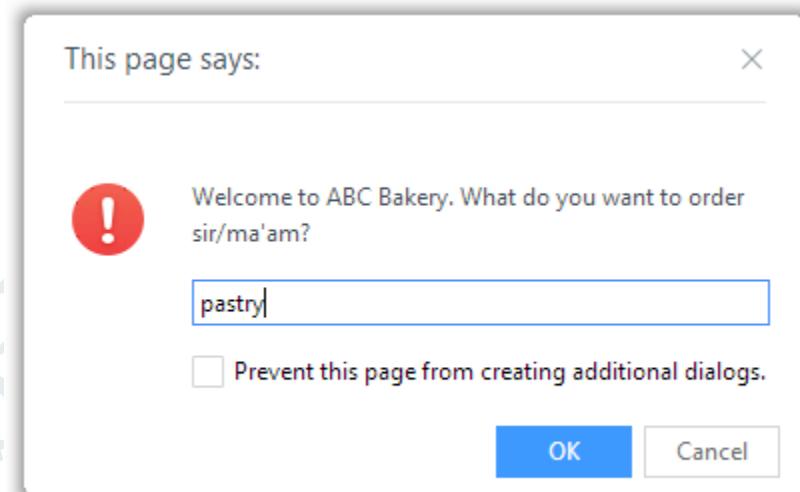
`A = ["cake", "apple pie", "cookie", "chips", "patties"]`

Write a program to enable “search by user input” in an array. After searching, prompt the user whether the given item is found in the list or not.

Note: Perform case insensitive search. Whether the user enters cookie, Cookie, COOKIE or coOkIE, program should inform about its availability. Example:



cookie is **available** at index 2 in our bakery



We are sorry. pastry is **not available** in our bakery

15. Write a program to take password as an input from user. The password must qualify these requirements:

- a. It should contain alphabets and numbers
- b. It should not start with a number
- c. It must at least 6 characters long

If the password does not meet above requirements, prompt the user to enter a valid password.

For character codes of **a-z, A-Z & 0-9**, refer to ASCII table at the end of this document.

Entered password: 123cmad

Password can not begin with a number

Please enter a valid password

16. Write a program to convert the following string to an array using string split method.

*var university = “University of Karachi”;*

Display the elements of array in your browser.

U  
n  
i  
v  
e  
r  
s  
i  
t  
y  
  
o  
f  
  
K  
a  
r  
a  
c  
h  
i

17. Write a program to display the last character of a user input.

User input: Pakistan  
Last character of input: n

18. You have a string “The quick brown fox jumps over the lazy dog”. Write a program to count number of occurrences of word “the” in given string.

Text: The quick brown fox jumps over the lazy dog  
There are 2 occurrence(s) of word 'the'

# MATH METHODS

Assignment # 26-30  
JAVASCRIPT

1. Write a program that takes a **positive integer** from user & display the following in your browser.
  - a. number
  - b. round off value of the number
  - c. floor value of the number
  - d. ceil value of the number

number: 3.45214  
round off value: 3  
floor value: 3  
ceil value: 4

2. Write a program that takes a **negative floating point** number from user & display the following in your browser.
  - a. number
  - b. round off value of the number
  - c. floor value of the number
  - d. ceil value of the number

number: -2.673  
round off value: -3  
floor value: -3  
ceil value: -2

3. Write a program that displays the absolute value of a number.  
E.g. absolute value of -4 is 4 & absolute value of 5 is 5

The absolute value of -4 is 4

4. Write a program that simulates a dice using random() method of JS Math class. Display the value of dice in your browser.:

random dice value: 4

random dice value: 6

5. Write a program that simulates a coin toss using random() method of JS Math class. Display the value of coin in your browser

2

random coin value: Heads

1

random coin value: Tails

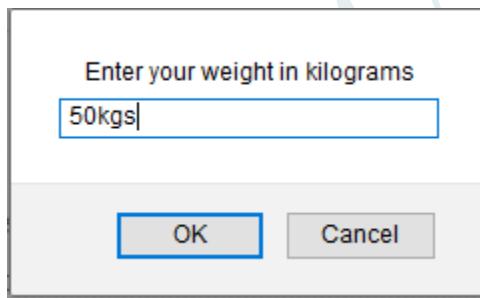
6. Write a program that shows a random number between 1 and 100 in your browser.

random number between 1 and 100: 84

7. Write a program that asks the user about his weight. Parse the user input and display his weight in your browser.

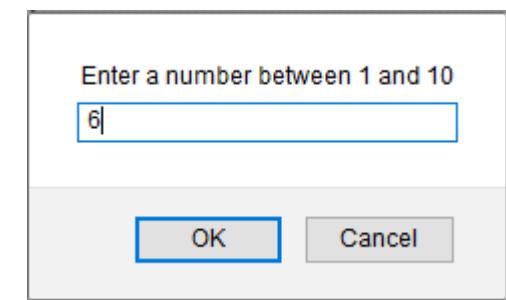
Possible user inputs can be:

- a. 50
- b. 50kgs
- c. 50.2kgs
- d. 50.2kilograms



The weight of user is 58.3 kilograms

8. Write a program that stores a random secret number from 1 to 10 in a variable. Ask the user to input a number between 1 and 10. If the user input equals the secret number, congratulate the user.



Try again!  
 Prevent this page from creating additional dialogs

OK

# DATE METHODS

Assignment # 31-34  
JAVASCRIPT

1. Write a program that displays current date and time in your browser.

Sat Dec 05 2015 22:18:39 GMT+0500 (PKT)

2. Write a program that alerts the current month in words. For example December.

Current month: December

3. Write a program that alerts the first 3 letters of the current day, for example if today is Sunday then alert will show Sun.

Today is Sat

4. Write a program that displays a message “It’s Fun day” if its Saturday or Sunday today.

# It's Fun day

5. Write a program that shows the message “First fifteen days of the month” if the date is less than 16<sup>th</sup> of the month else shows “Last days of the month”.

## First fifteen days of the month

6. Write a program that determines the minutes since midnight, Jan. 1, 1970 and assigns it to a variable that hasn't been declared beforehand. Use any variable you like to represent the Date object.

```
Current Date: Sat Dec 05 2015 22:32:23 GMT+0500 (PKT)
Elapsed milliseconds since January 1, 1970: 1449336743386
Elapsed minutes since January 1, 1970: 402593.53982944443
```

7. Write a program that tests whether it's before noon and alert “Its AM” else “its PM”.

# It's PM

8. Write a program that creates a Date object for the last day of the last month of 2020 and assigns it to variable named **laterDate**.

Later date: Thu Dec 31 2020 00:00:00 GMT+0500 (PKT)

9. Create a date object of the starting date of this Ramadan and alert the number of days past since 1st Ramadan?  
Note: 1st Ramadan was on June 18, 2015

171 days have passed since 1st Ramadan, 2015

10. Write a program that displays in your browser the seconds that elapsed between the reference date and the beginning of 2015.

On reference date Sat Dec 05 2015 22:50:16 GMT+0500 (PKT),  
488091 seconds had passed since beginning of 2015

11. Create a Date object for the current date and time.  
Extract the hours, reset the date object an hour ahead and finally display the date object in your browser.

current date: Sat Dec 05 2015 23:08:16 GMT+0500 (PKT)  
1 hour ago, it was Sat Dec 05 2015 22:08:16 GMT+0500 (PKT)

12. Write a program that creates a date object and show the date in an alert box that is reset to 100 years back?

current date: Sat Dec 05 2015 23:09:37 GMT+0500 (PKT)  
100 years back, it was Sun Dec 05 1915 23:09:37 GMT+0500 (PKT)

13. Write a program to ask the user about his age. Calculate and show his birth year in your browser.

Your age is 21  
Your birth year is 1994

14. Write a program to generate your K-Electric bill in your browser. All the amounts should be rounded off to 2 decimal places. Display the following fields:
- Customer Name
  - Current Month

- c. Number of units
  - d. Charges per unit
  - e. Net Amount Payable (within Due Date)
  - f. Late Payment Surcharge
  - g. Gross Amount Payable (after Due Date)
- Where,

Net Amount Payable (within Due Date) = Number of units \* Charges per unit  
& Gross Amount Payable (after Due Date) = Net Amount + Late Payment Surcharge

## K-Electric Bill

Customer Name: **ABC Customer**

Month: **February**

Number of units: **410**

Charges per unit: **16**

Net Amount Payable (within Due Date): **6560**

Late payment surcharge: **350**

Gross Amount Payable (after Due Date): **6910**

-- END --

# FUNCTION

Assignment # 35-38  
JAVASCRIPT

1. Write a function that displays current date & time in your browser.

Sat Dec 05 2015 22:18:39 GMT+0500 (PKT)

2. Write a function that takes first & last name and then it greets the user using his full name.

3. Write a function that adds two numbers (input by user) and returns the sum of two numbers.

4. **Calculator:**

Write a function that takes three arguments num1, num2 & operator & compute the desired operation. Return and show the desired result in your browser.

5. Write a function that squares its argument.

6. Write a function that computes factorial of a number.

7. Write a function that take start and end number as inputs & display counting in your browser.

8. Write a nested function that computes hypotenuse of a right angle triangle.

$$\text{Hypotenuse}^2 = \text{Base}^2 + \text{Perpendicular}^2$$

Take base and perpendicular as inputs.

Outer function : calculateHypotenuse()

Inner function: calculateSquare()

9. Write a function that calculates the area of a rectangle.

$$A = \text{width} * \text{height}$$

Pass width and height in following manner:

- i. Arguments as value
- ii. Arguments as variables

10. Write a JavaScript function that checks whether a passed string is palindrome or not?

A palindrome is word, phrase, or sequence that reads the same backward as forward, e.g., madam.

11. Write a JavaScript function that accepts a string as a parameter and converts the first letter of each word of the string in upper case.

EXAMPLE STRING : 'the quick brown fox'

EXPECTED OUTPUT : 'The Quick Brown Fox'

12. Write a JavaScript function that accepts a string as a parameter and find the longest word within the string.

EXAMPLE STRING : 'Web Development Tutorial'

EXPECTED OUTPUT : 'Development'

13. Write a JavaScript function that accepts two arguments, a string and a letter and the function will count the number of

occurrences of the specified letter within the string.

*Sample arguments : 'JSResourceS.com', 'o'*

## 14. The Geometrizer

Create 2 functions that calculate properties of a circle, using the definitions here.

Create a function called calcCircumference:

- Pass the radius to the function.
- Calculate the circumference based on the radius, and output "The circumference is NN".

Create a function called calcArea:

- Pass the radius to the function.
- Calculate the area based on the radius, and output "The area is NN".

$$\text{Circumference of circle} = 2\pi r$$

$$\text{Area of circle} = \pi r^2$$

-- END --

Mobile & Cloud Computing

# FUNCTIONS, SWITCH STATEMENTS, WHILE... DO- WHILE LOOPS

Assignment # 38-44  
JAVASCRIPT

## | FUNCTIONS | SWITCH | WHILE.. DO-WHILE |

1. Write a custom function power ( a, b ), to calculate the value of a raised to b.
2. Any year is entered through the keyboard. Write a function to determine whether the year is a leap year or not.

*Leap years ..., 2012, 2016, 2020, ...*

3. If the lengths of the sides of a triangle are denoted by a, b, and c, then area of triangle is given by  

$$\text{area} = S(S - a)(S - b)(S - c)$$

$$\text{where, } S = ( a + b + c ) / 2$$

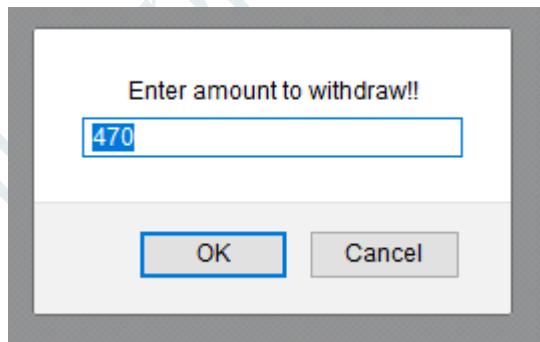
Calculate area of triangle using 2 functions

4. Write a function that receives marks received by a student in 3 subjects and returns the average and percentage of these marks. there should be 3 functions one is the mainFunction and other are for average and percentage. Call those functions from mainFunction and display result in mainFunction.
5. You have learned the function indexOf. Code your own custom function that will perform the same functionality. You can code for single character as of now.
6. Write a function to delete all vowels from a sentence. Assume that the sentence is not more than 25 characters long.
7. Write a function with switch statement to count the number of occurrences of any two vowels in succession in a line of text. For example, in the sentence

**“Pleases read this application and give me gratuity”**

Such occurrences are ea, ea, ui.

8. The distance between two cities (in km.) is input through the keyboard. Write four functions to convert and print this distance in meters, feet, inches and centimeters.
9. Write a program to calculate overtime pay of employees. Overtime is paid at the rate of Rs. 12.00 per hour for every hour worked above 40 hours. Assume that employees do not work for fractional part of an hour.
10. A cashier has currency notes of denominations 10, 50 and 100. If the amount to be withdrawn is input through the keyboard in hundreds, find the total number of currency notes of each denomination the cashier will have to give to the withdrawer.



**you will have 4 hundred notes 1 fifty notes 2 ten notes.**

**-- END --**

# EVENTS

Assignment # 43-48  
JAVASCRIPT

1. Show an alert box on click on a link.
2. Display some Mobile images in browser. On click on an image Show the message in alert to user.

### Mobile Phone lookup



iPhone6Plus.gif



GalaxyS6EdgePlus.gif



V10.gif



HuaweiP8.gif

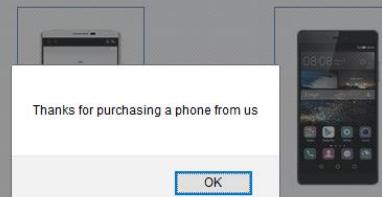
### Mobile Phone lookup



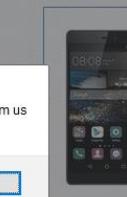
iPhone6Plus.gif



GalaxyS6EdgePlus.gif



V10.gif



HuaweiP8.gif

3. Display 10 student records in table and each row should contain a delete button. If you click on a button to delete a record, entire row should be deleted.

Before delete

| Index | Name  | Class |                                       |
|-------|-------|-------|---------------------------------------|
| 0     | Jhone | 10    | <input type="button" value="Delete"/> |
| 1     | Doe   | 9     | <input type="button" value="Delete"/> |
| 2     | Mark  | 10    | <input type="button" value="Delete"/> |
| 3     | James | 8     | <input type="button" value="Delete"/> |

After click on delete button on “Mark ” row

**Index Name Class**

|   |       |    |                                       |
|---|-------|----|---------------------------------------|
| 0 | Jhone | 10 | <input type="button" value="Delete"/> |
| 1 | Doe   | 9  | <input type="button" value="Delete"/> |
| 2 | James | 8  | <input type="button" value="Delete"/> |

4. Display an image in browser. Change the picture on mouseover and set the first picture onmouseout.
5. Show a counter in browser. Counter should increase on click on increase button and decrease on click on decrease button. And show updated counter value in browser.

# EVENTS

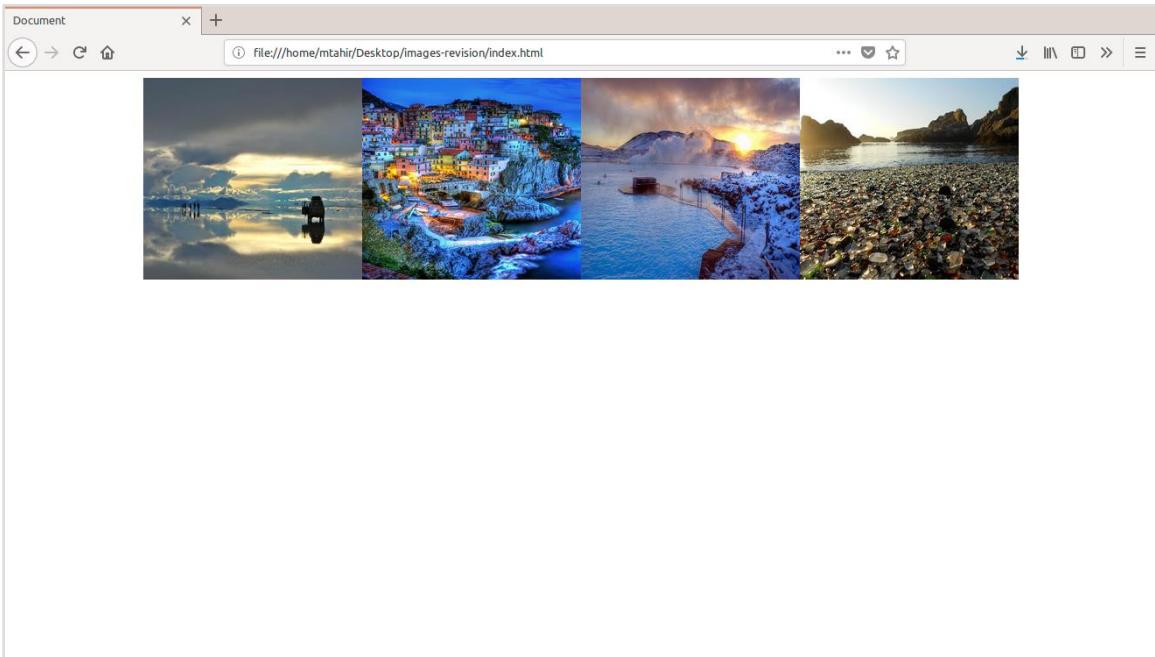
Assignment # 49-52  
JAVASCRIPT

1. Create a signup form and display form data in your web page on submission.
2. Suppose in your webpage there is content area in which you have entered your item details, but user can only see some details on first look. When user clicks on “Read more” button, full detail of that particular item will be displayed.
3. In previous assignment you have created a tabular data using javascript. Let’s modify that. Create a form which takes student’s details and show each student detail in table. Each row of table must contain a delete button and an edit button. On click on delete button entire row should be deleted. On click on edit button, a hidden form will appear with the values of that row.

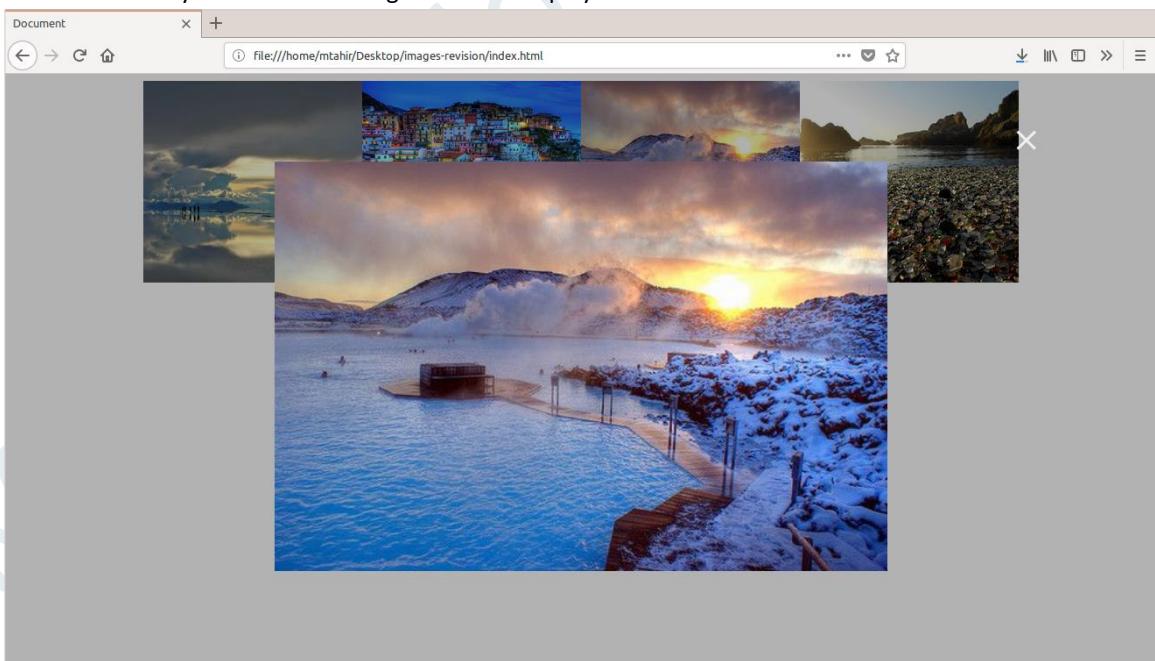
# EVENTS

Assignment # 53-57 JAVASCRIPT

1. Consider you have 4 images in a file as shown below:



Now When you click on an image it should display in a modal.



**Modal code is available in this assignment file.**

2. Create a paragraph and two buttons "zoom in" (+) and "zoom out" (-).

On each click on “zoom in”(+) , add 10px in font size of paragraph.

And on each click on “zoom out”(-) , minus 10px in font size of paragraph.

Mobile & Cloud Computing

# DOM

Mobile & Cloud Computing

Assignment # 58-67JAVASCRIPT

1. Consider you have following code snippet:

(Copy it in your HTML file)

```
<div>
 <h1> DOM </h1>
 <div id="form-content" class="content">
 <label for="first-name">First Name</label>
 <input type="text" id="first-name" />
 <label for="last-name">Last Name</label>
 <input type="text" id="last-name" />
 <label for="email">Email</label>
 <input type="text" id="email" />
 </div>
 <div id="main-content" class="content">
 <p class="render"> First Name : Alex</p>
 <p class="render" id="lastName">Last Name: Bank</p>
 <p class="render"> Email : alexbank@example.com</p>
 <p class="render"> Country : Pakistan </p>
 <p class="render"> contact : +92 300 1234567</p>
 </div>
</div>
```

- i. Get element of id “main-content” and assign them in a variable.
- ii. Display all child elements of “main-content” element.
- iii. Get all elements of class “render” and show their innerHTML in browser.
- iv. Fill input value whose element id first-name using javascript.
- v. Repeat part iv for id “last-name” and “email”.

2. use HTML code of question 1 and show the result on browser.

- i. What is node type of element having id “form-content”.
- ii. Show node type of element having id “lastName” and its child node.
- iii. Update child node of element having id “lastName”.
- iv. Get First and last child of id “main-content”.
- v. Get next and previous siblings of id “lastName”.
- vi. Get parent node and node type of element having id “email”

**NOTE: You can remove JUNKS from this site.**

**<https://www.willpeavy.com/minifier/>**