

MATH EXPRESSIONS

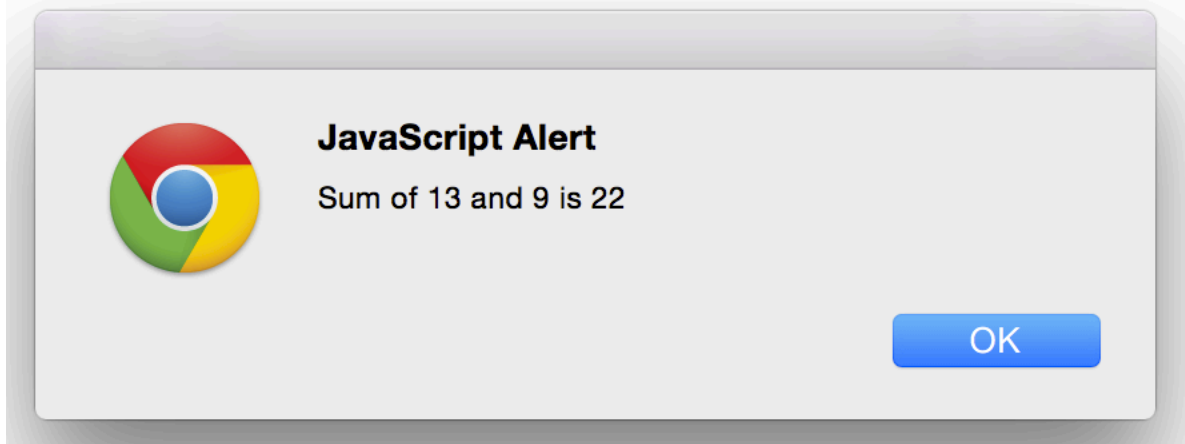
Assignment # 5-7
JAVASCRIPT

MODULE A - Mobile & Cloud Computing

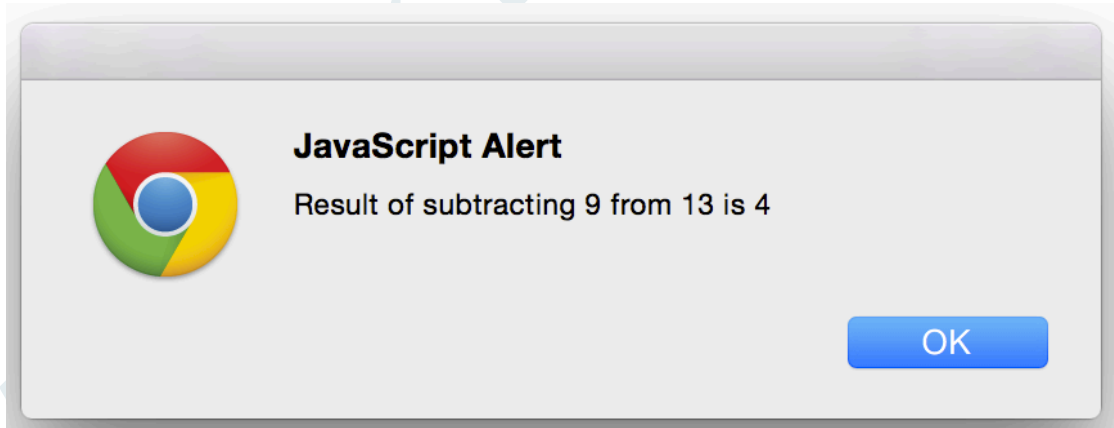
MATH EXPRESSIONS

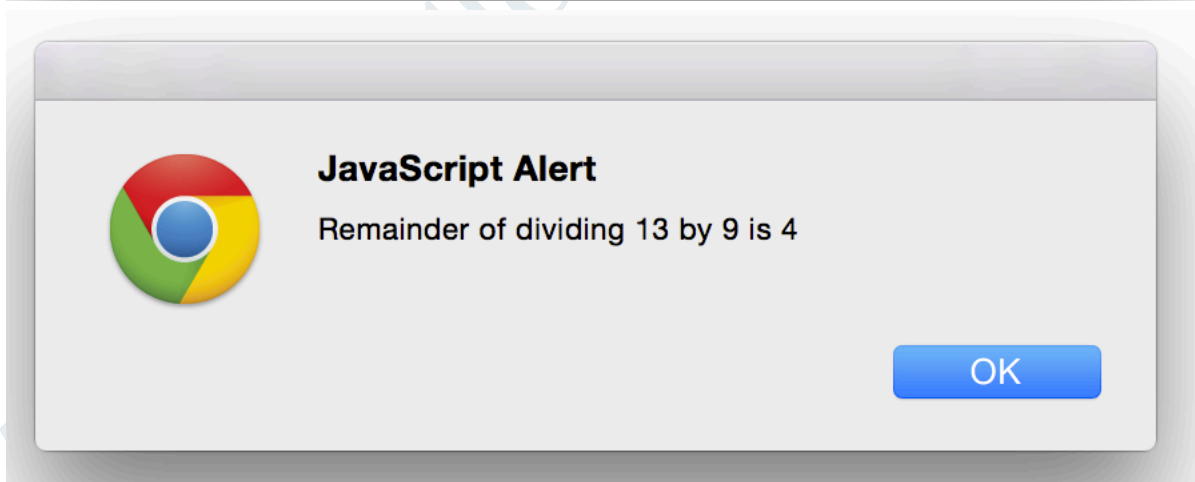
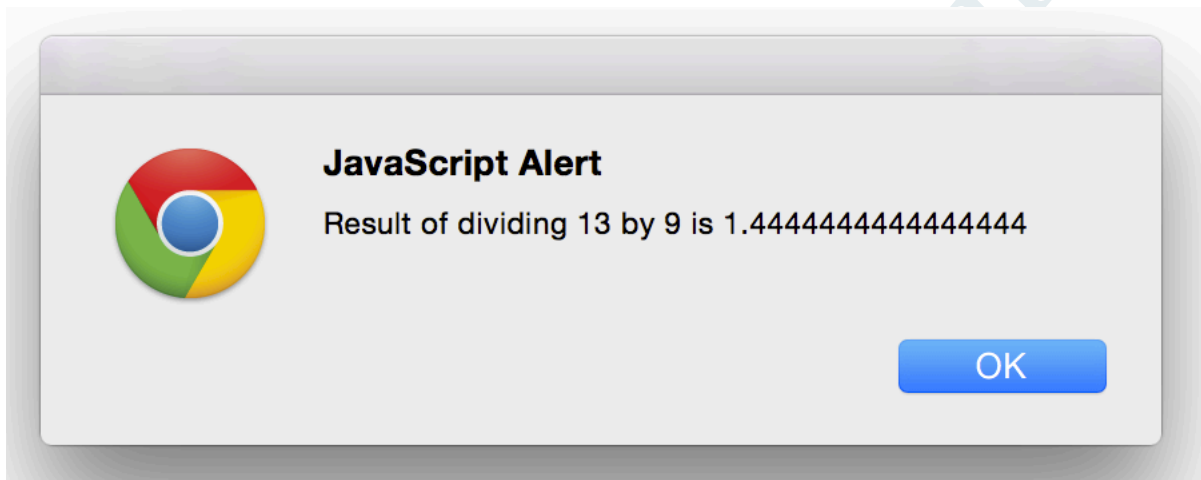
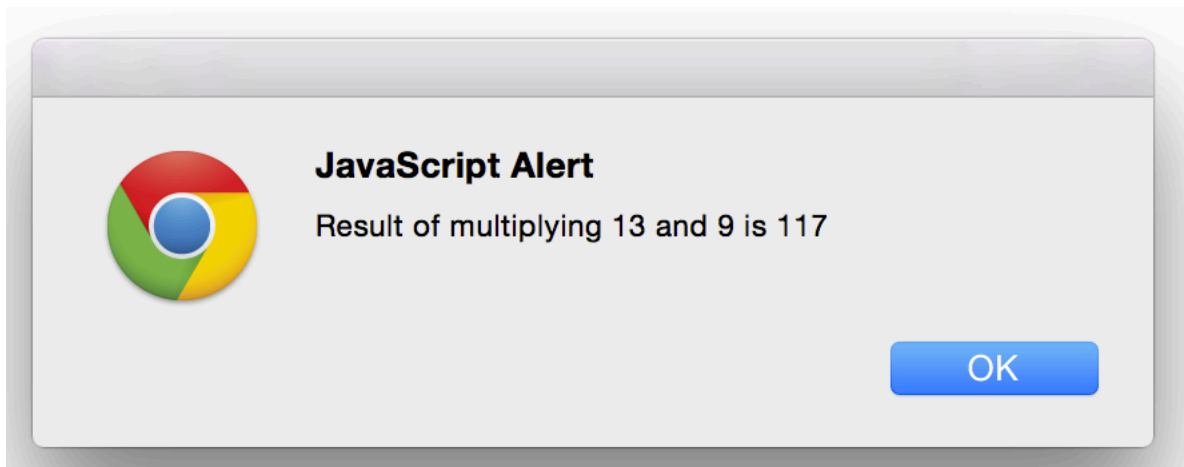
| FAMILIAR OPERATORS | UNFAMILIAR OPERATORS | ELIMINATING AMBIGUITY |

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



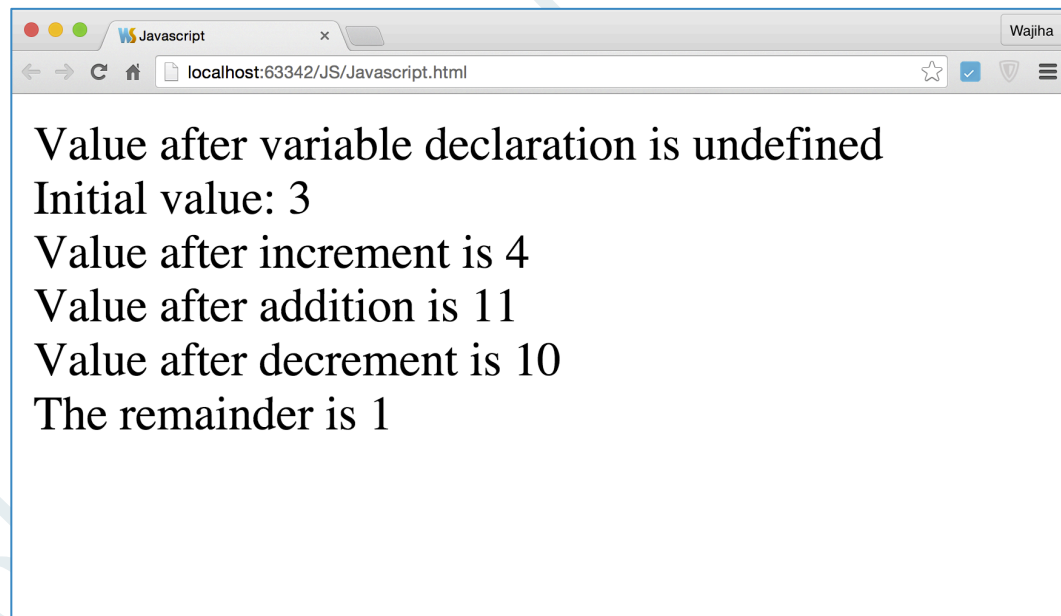
2. Repeat task1 for subtraction, multiplication, division & modulus. E.g.



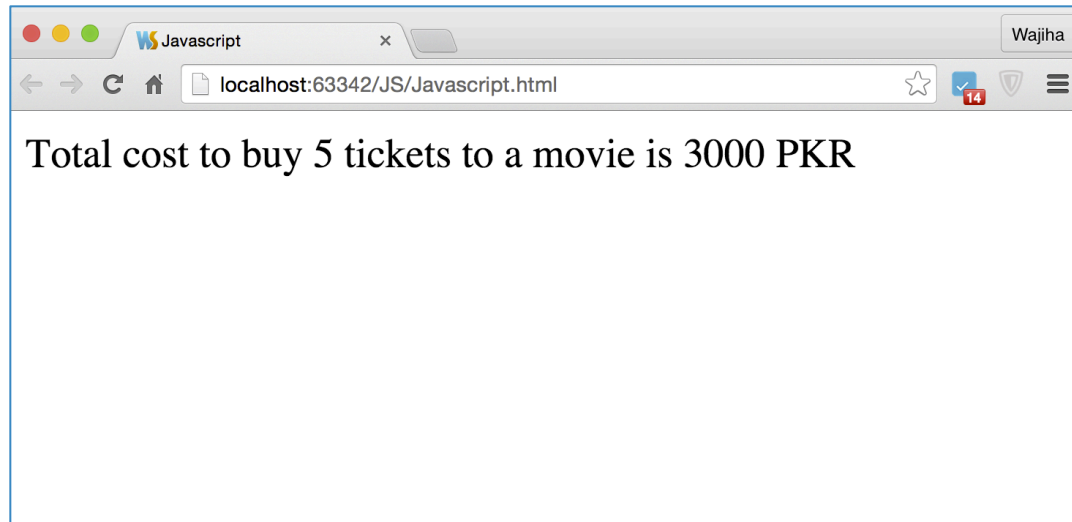


3. Do the following using JS Mathematic Expressions
 - a. Declare a variable.
 - b. Show the value of variable in your browser like "Value after variable declaration is: ??".

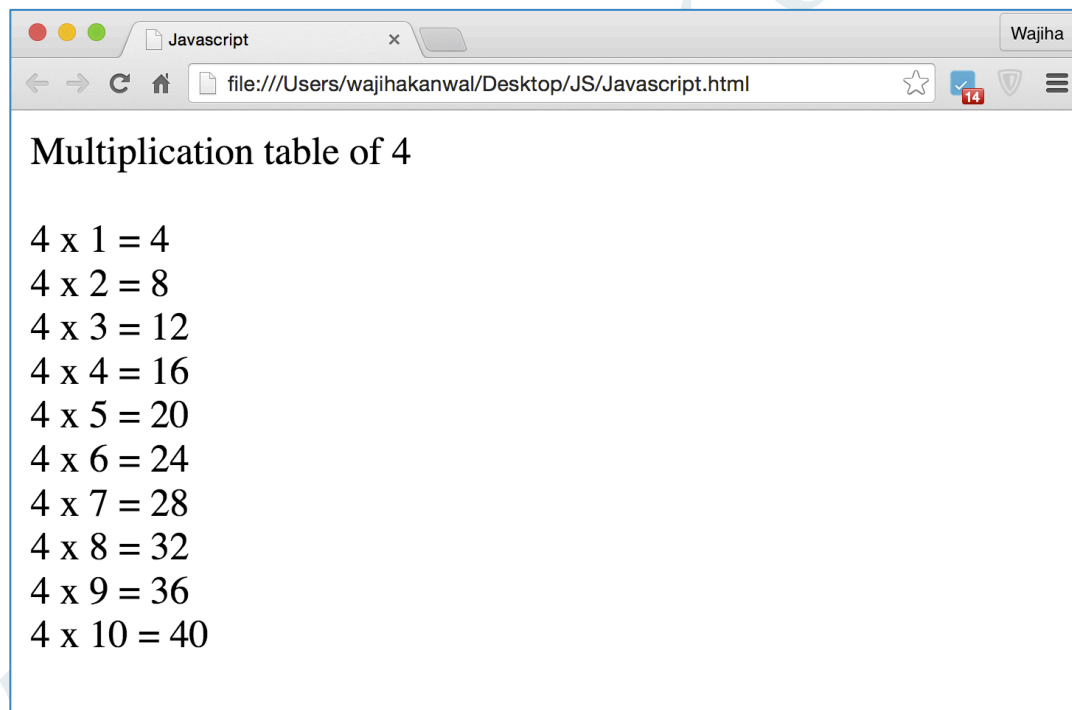
- c. Initialize the variable with some number.
- d. Show the value of variable in your browser like “Initial value: 3”.
- e. Increment the variable.
- f. Show the value of variable in your browser like “Value after increment is: 4”.
- g. Add 7 to the variable.
- h. Show the value of variable in your browser like “Value after addition is: 11”.
- i. Decrement the variable.
- j. Show the value of variable in your browser like “Value after decrement is: 10”.
- k. Show the remainder after dividing the variable’s value by 3. Output : “The remainder is : 1”



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:



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



6. **The Temperature Converter:** It's hot out! Let's make a converter based on the steps here.
- Store a Celsius temperature into a variable.
 - Convert it to Fahrenheit & output "NN°C is NN°F".

- c. Now store a Fahrenheit temperature into a variable.
- d. Convert it to Celsius & output “NN°F is NN°C”.

Conversion Formulae:

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

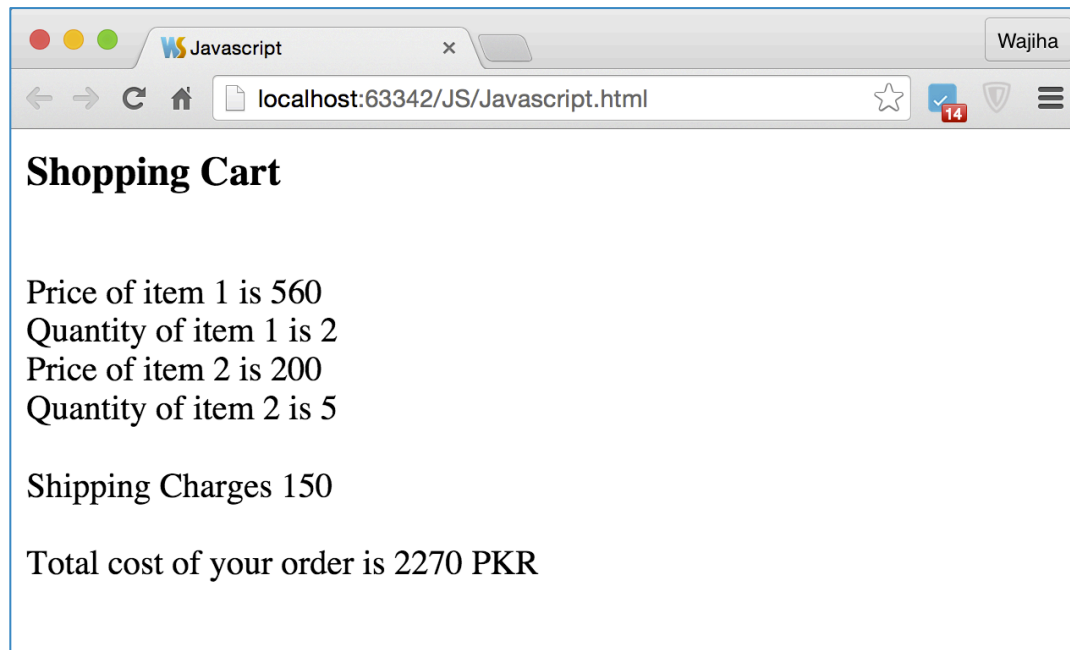
$$^{\circ}\text{F} = (^{\circ}\text{C} \times 9 / 5) + 32$$

Example Output:

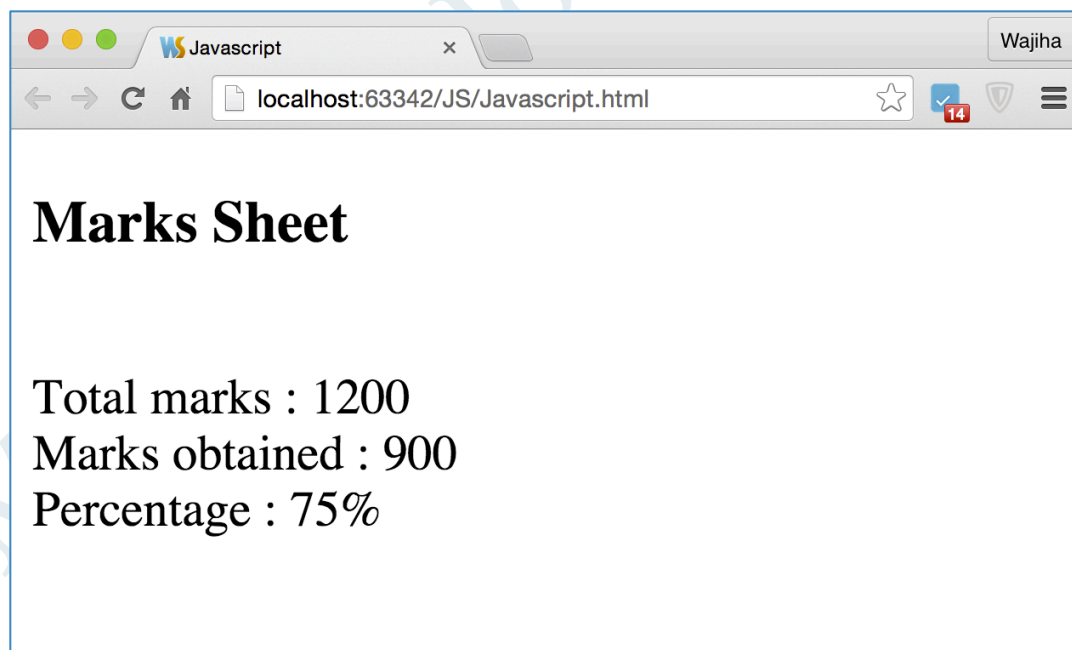


- 7. Write a program to implement checkout process of a shopping cart system for an e-commerce website. Store the following in variables
 - a. Price of item 1
 - b. Price of item 2
 - c. Ordered quantity of item 1
 - d. Ordered Quantity of item 2
 - e. Shipping charges

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

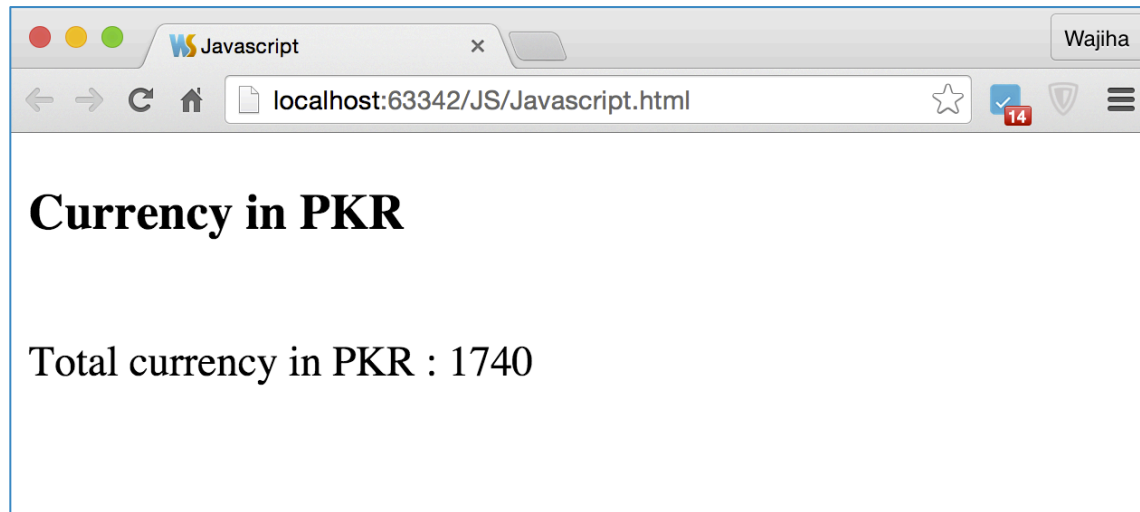


8. Write a script to take total marks & marks obtained by a student. Compute the percentage & show the result in your browser.



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.

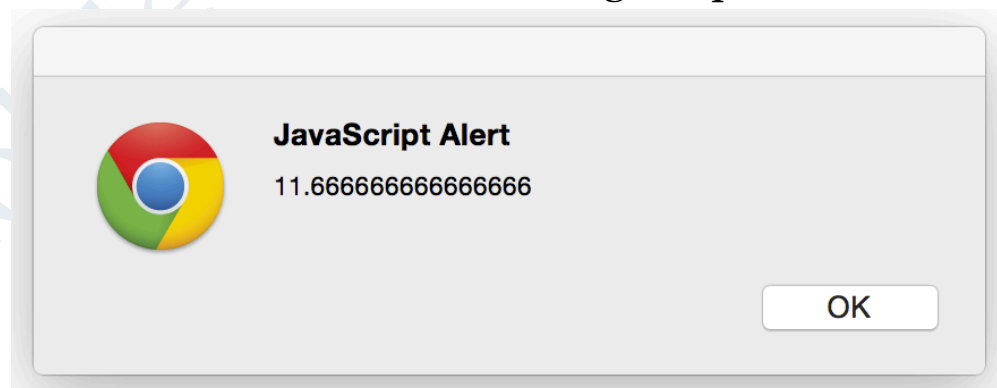
(Exchange rates : **1 US Dollar = 104 Pakistani Rupee** and **1 Saudi Riyal = 28 Pakistani Rupee**)



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

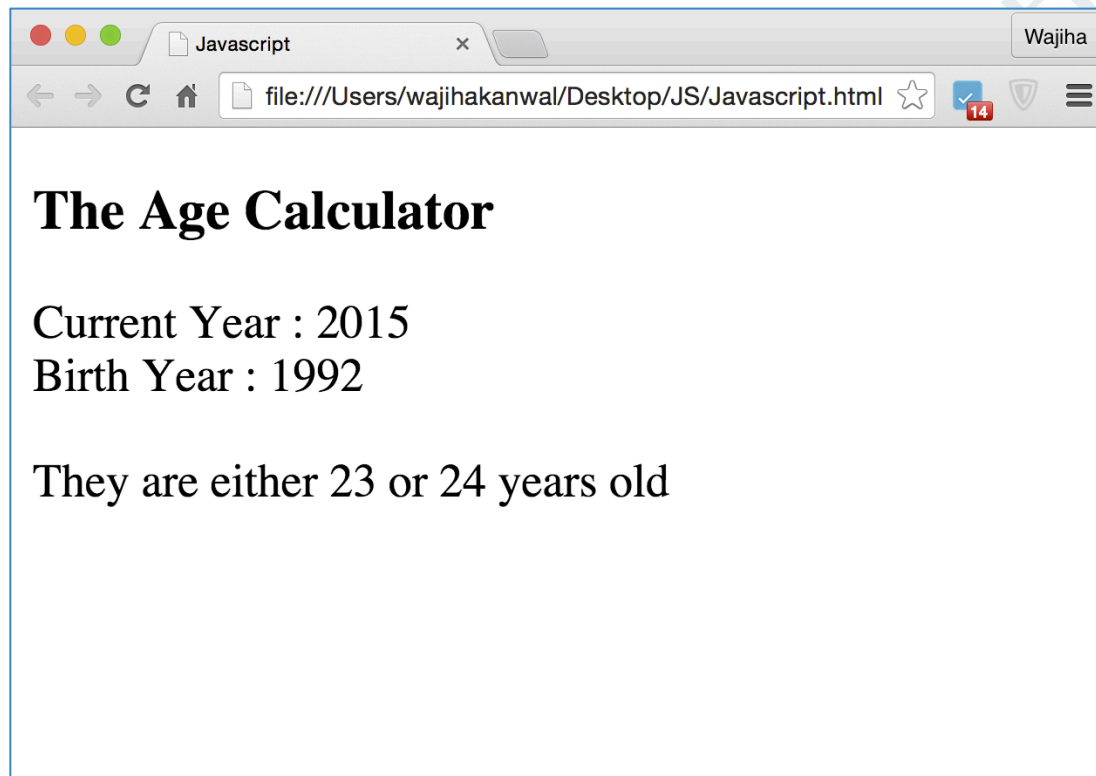
Perform all calculations in a single expression.



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”.

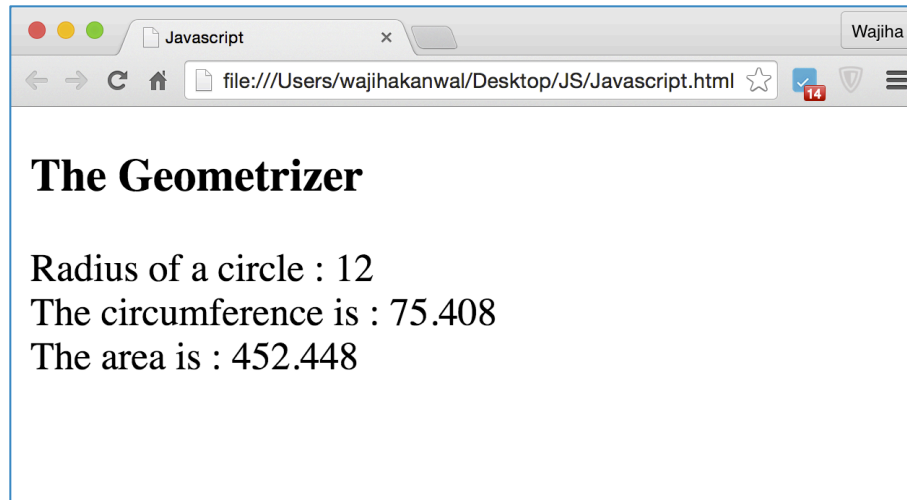


12. **The Geometrizer:** Calculate properties of a circle.

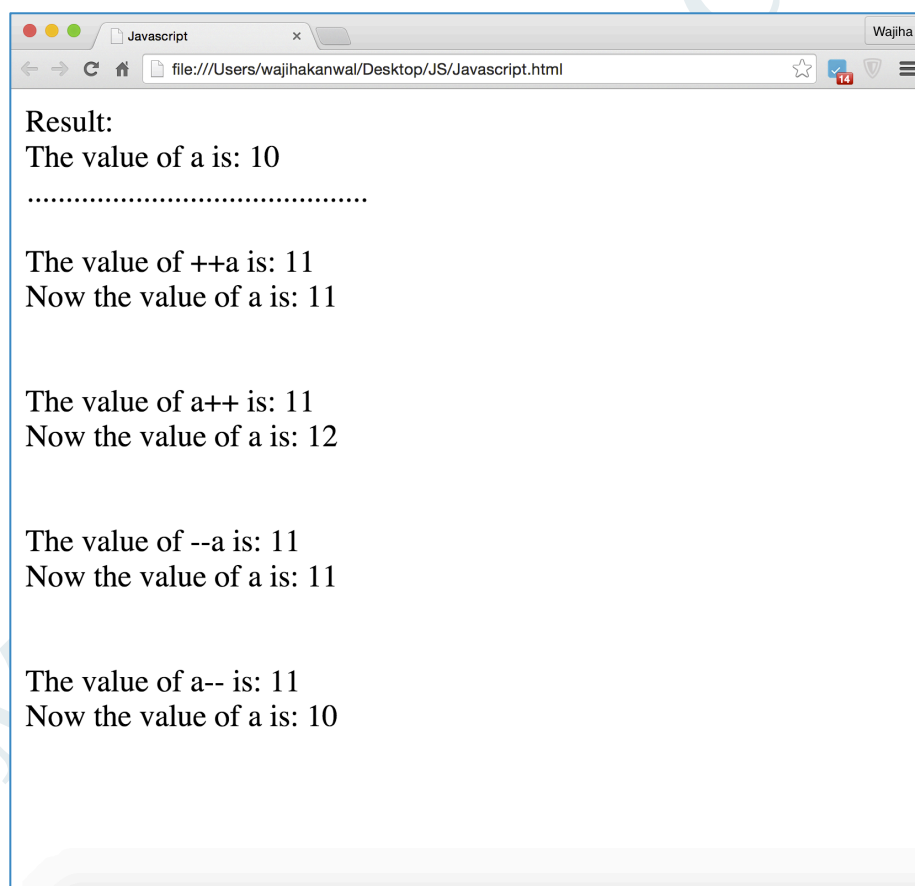
- Store a radius into a variable.
- Calculate the circumference based on the radius, and output “The circumference is NN”.

(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 , $\pi = 3.142$)



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



14. 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;
```

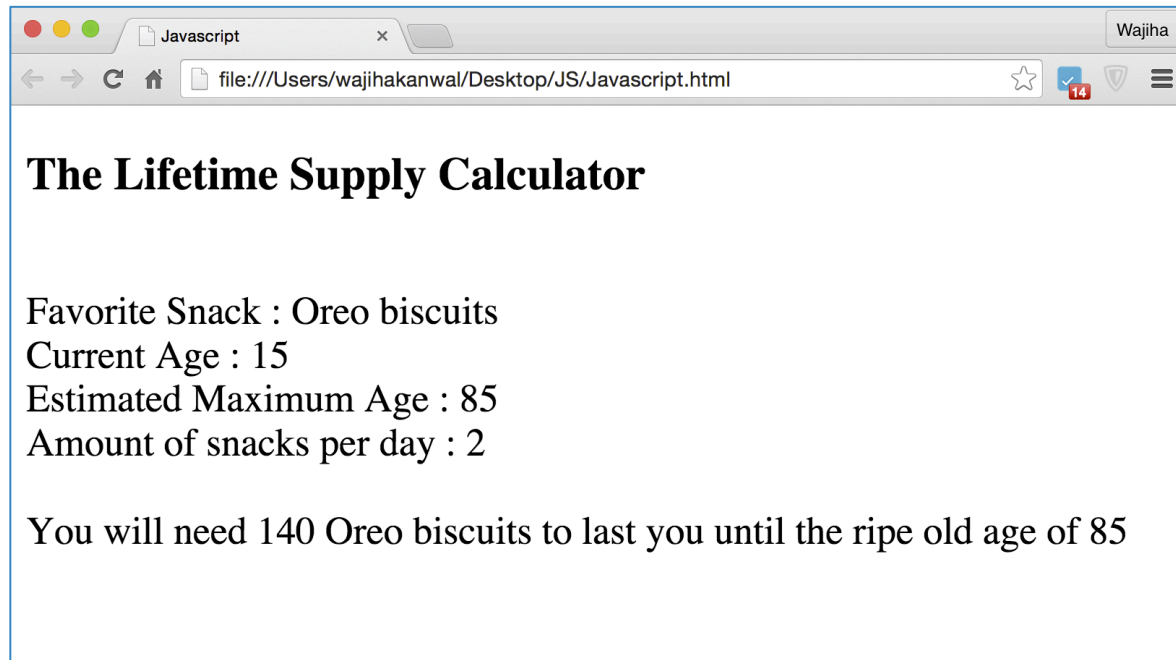
```
--a - --b + ++b;
```

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



15. **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”.



-- END --