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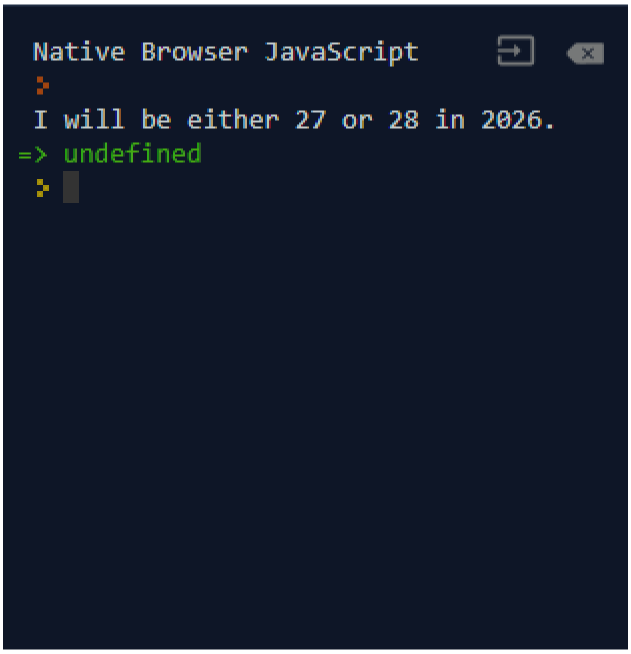
## 1. The Age Calculator

```
// I store my birth year in a variable.
var year_of_birth = 1998;
// I store the future year in a variable.
var future_year = 2026;
// I calculate the first possible age when I would be younger.
var younger_outcome_year = (future_year - year_of_birth) - 1;
// I calculate the second possible age when I would be older.
var older_outcome_year = future_year - year_of_birth;
// I write out the relevant sentence into the browser console substituting the calculated values.
console.log("I will be either " + younger_outcome_year + " or " + older_outcome_year + " in " + future_year + ".");
```



```
Native Browser JavaScript
›
I will be either 27 or 28 in 2026.
=> undefined
›
```

## 2. The Lifetime Supply Calculator

// I store the number of days in a year in a variable.

var days_in_year = 365;

// I store the maximum age of a user in a constant.

const max_age = 100;

// I define a function which takes 2 parametres. (user's age and the amount of user's favourite snack per day)

function calculateSupply(age, amount_per_day) {

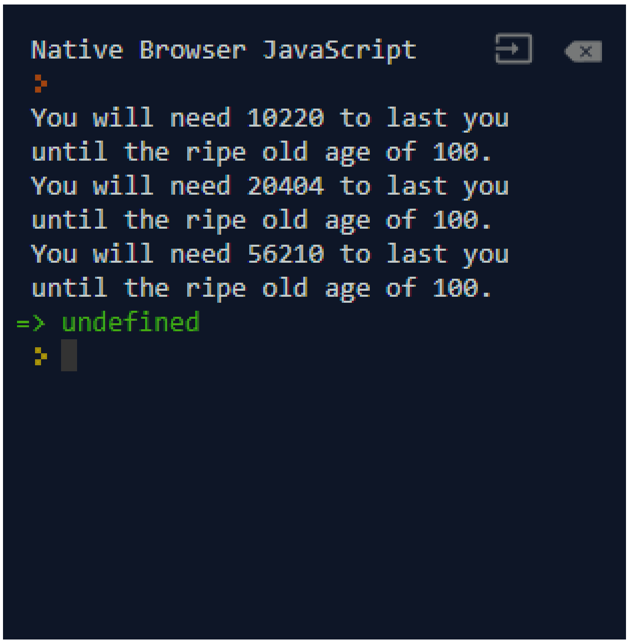
  // I calculate the approximate number of days left in a user's lifetime from the current age.

  total_number_of_days = (max_age - age) * days_in_year;

  // I calculate the overall amount of user's favourite snack needed.

  total_amount_needed = Math.round(total_number_of_days * amount_per_day);

```
    // I return the total amount of user's snack needed.
    return total_amount_needed;
}


// I call the function with 2 arguments with different values passed.
calculateSupply(20, 0.35);
// I display the relevant sentence with 2 substituted values.
console.log("You will need " + total_amount_needed + " to last you until the ripe old age of " + max_age + ".");
calculateSupply(14, 0.65);
console.log("You will need " + total_amount_needed + " to last you until the ripe old age of " + max_age + ".");
calculateSupply(23, 2);
console.log("You will need " + total_amount_needed + " to last you until the ripe old age of " + max_age + ".");
```



```
›
You will need 10220 to last you
until the ripe old age of 100.
You will need 20404 to last you
until the ripe old age of 100.
You will need 56210 to last you
until the ripe old age of 100.
=> undefined
›
```

### 3. The Geometrizer

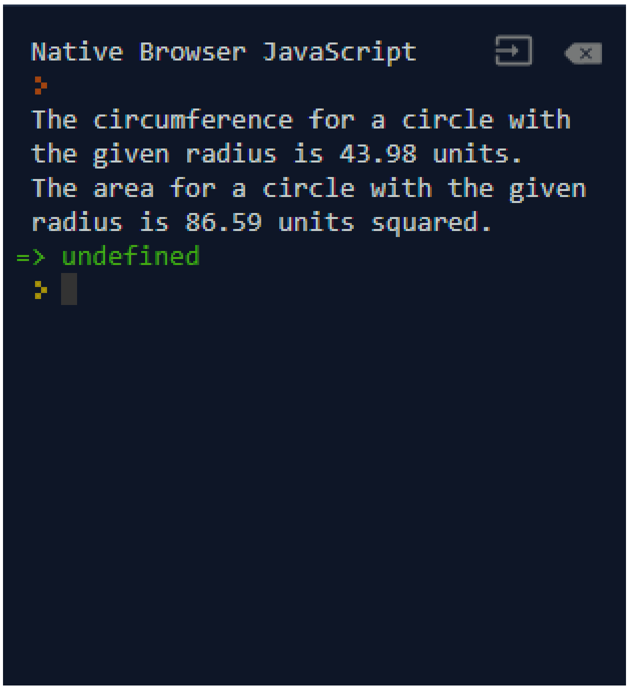
```
// I define a function which takes radius as the parameter.
function calcCircumference(radius) {
   // I calculate the circumference given the radius with the use of PI from the Math function.
   circumference = 2 * Math.PI * radius;

   // I return the circumference value.
   return circumference;
}

// I set the radius value to 7 and I pass it to the function.
calcCircumference(7);
// I display the relevant sentence with the substituted value of circumference rounded to 2 decimal places.
console.log("The circumference for a circle with the given radius is " + circumference.toFixed(2) + " units.");

function calcArea(radius) {
   // I calculate the area given the radius with the use of PI and pow from the Math function.
   area = Math.PI * Math.pow(radius, 2);

   // I return the area value.
   return area;
}
```

// I set the radius value to 5.25 and I pass it to the function.

calcArea(5.25);

// I display the relevant sentence with the substituted value of area rounded to 2 decimal places.

console.log("The area for a circle with the given radius is " + area.toFixed(2) + " units squared.");



Native Browser JavaScript

```
›
The circumference for a circle with
the given radius is 43.98 units.
The area for a circle with the given
radius is 86.59 units squared.
=> undefined
›
```

## 4. The Temperature Converter

// I store a Celsius temperature into a variable.

var celsius_temperature_1 = 6.5;

// I create a function converting Celsius into Fahrenheit.

function celsiusToFahrenheit() {

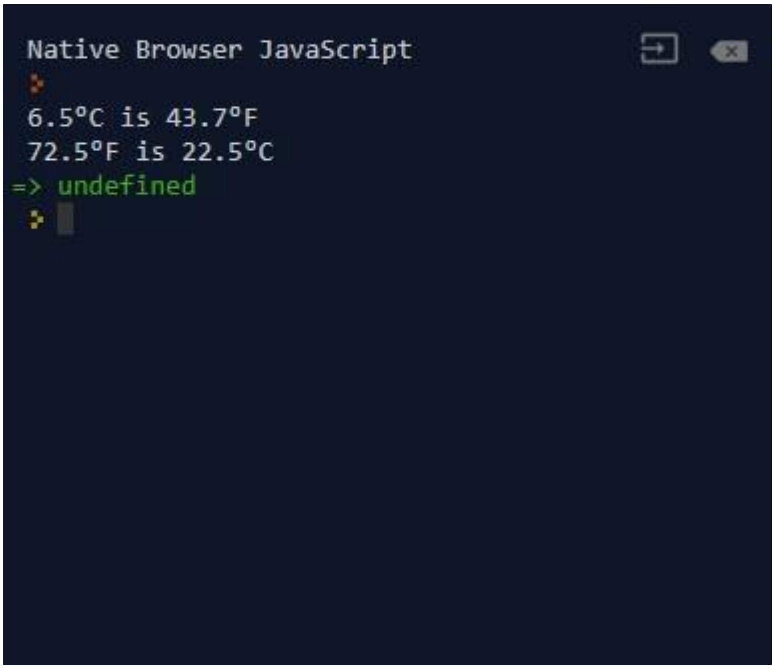
    // I calculate the Fahrenheit temperature and I assign it to a variable.

    fahrenheit_temperature_1 = celsius_temperature_1 * 1.8 + 32;

}

```
// I invoke the function.
celsiusToFahrenheit();


// I display the relevant sentence with substituted values and the
temperature rounded to one decimal place.
console.log(celsius_temperature_1 + "°C is " +
fahrenheit_temperature_1.toFixed(1) + "°F");




// I store a Fahrenheit temperature into a variable.
var fahrenheit_temperature_2 = 72.5;


// I create a function converting Fahrenheit into Celsius.
function fahrenheitToCelsius() {
   // I calculate the Celsius temperature and I assign it to a variable.
   celsius_temperature_2 = (fahrenheit_temperature_2 - 32) / 1.8;
}


fahrenheitToCelsius();


console.log(fahrenheit_temperature_2 + "°F is " +
celsius_temperature_2.toFixed(1) + "°C");
```

}

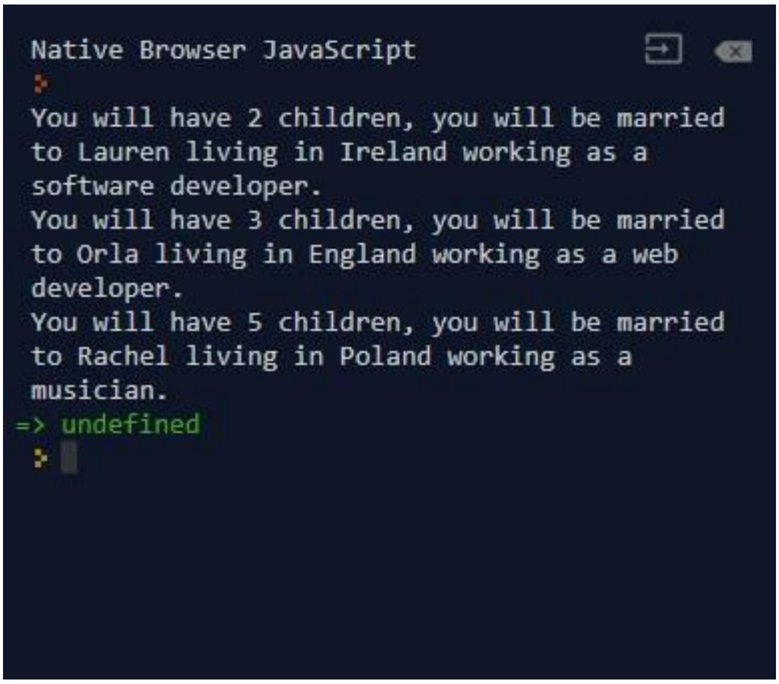


```
Native Browser JavaScript
›
6.5°C is 43.7°F
72.5°F is 22.5°C
=> undefined
›
```

## 5. The Fortune Teller

```
// I create a function to tell about a lot which takes 4 parameters.
function tellFortune(number_of_children, name_of_partner, geographic_location, job_title) {
   // I construct a sentence with the substituted values from arguments and I assign it to a variable.
   fortune = "You will have " + number_of_children + " children, you will be married to " +
   name_of_partner + " living in " + geographic_location + " working as a " + job_title + ".";

   // I return the sentence with a fate.
   return fortune;
}

// I call the function 3 times with 4 different values for the arguments.
```

```
tellFortune(2, "Lauren", "Ireland", "software developer");
// Each time I display the sentence with a destiny.
console.log(fortune);
tellFortune(3, "Orla", "England", "web developer");
console.log(fortune);
tellFortune(5, "Rachel", "Poland", "musician");
console.log(fortune);
```



```
Native Browser JavaScript
>
You will have 2 children, you will be married
to Lauren living in Ireland working as a
software developer.
You will have 3 children, you will be married
to Orla living in England working as a web
developer.
You will have 5 children, you will be married
to Rachel living in Poland working as a
musician.
=> undefined
>
```

## 6. The puppy Age Calculator

```
// I create a function computing the age of a dog which takes 2 arguments.
function calculateDogAge(age_of_puppy, conversion_rate) {
   // I calculate the dog's age and I assign it to a variable.
   age_of_dog = age_of_puppy / conversion_rate;
   // Each time I display the relevant sentence with the value of age rounded down to the nearest integer.
```

console.log("Your doggie is " + Math.floor(age_of_dog) + " years old in dog years!")

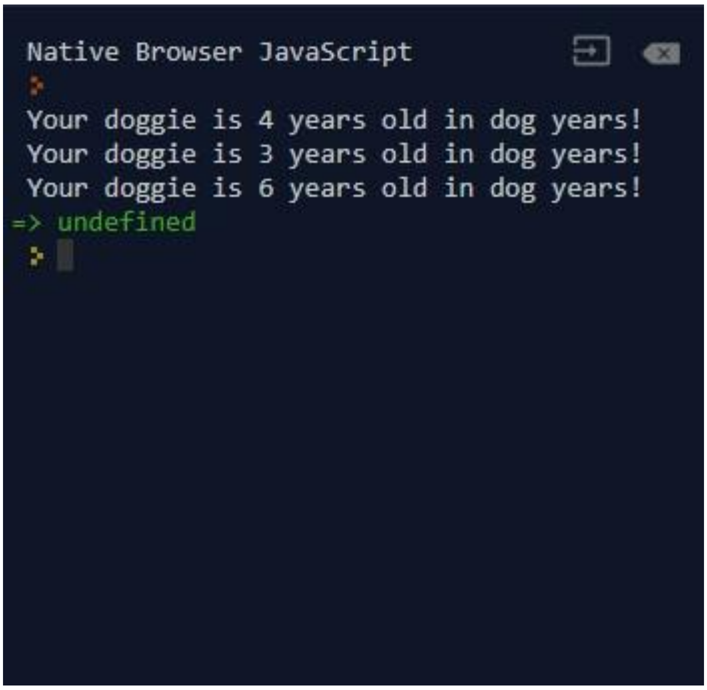
}

// I call the function three times with different set of values.

calculateDogAge(33, 7);

calculateDogAge(22, 7);

calculateDogAge(44, 7);



```
Native Browser JavaScript
>
Your doggie is 4 years old in dog years!
Your doggie is 3 years old in dog years!
Your doggie is 6 years old in dog years!
=> undefined
>
```

**7. The leap Year**

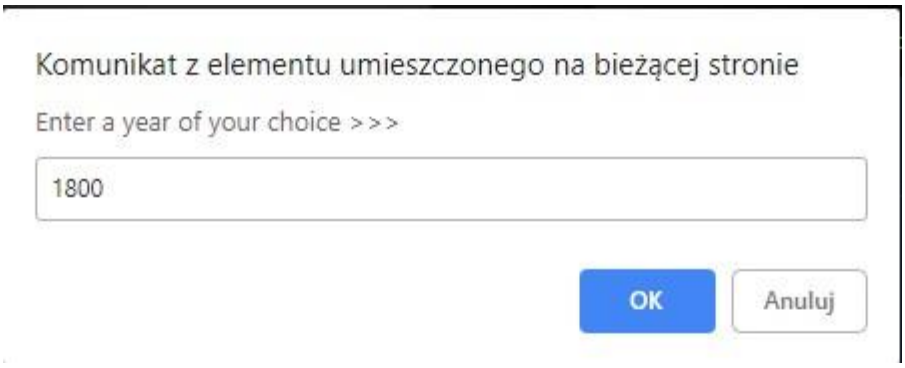
// I use the dialog box to interact with user input and I assign it to a variable.

var year_of_choice = prompt("Enter a year of your choice >>> ");

/*

* I check if the year entered by a user is divisible by 4

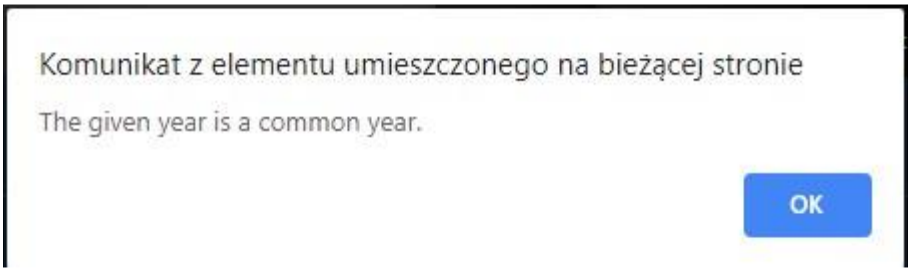
```
* and not divisible by 100 or divisible by 400 in the condition below.
*/
if (year_of_choice % 4 == 0 && (year_of_choice % 100 != 0 ||
year_of_choice % 400 == 0)) {
   // I notify a user in the dialog box that this is a leap year.
   window.alert("The given year is a leap year.");
}
// Otherwise, the year is a common year.
else {
   // I notify a user in the dialog box that this is a common year.
   window.alert("The given year is a common year.");
}
```



Komunikat z elementu umieszczonego na bieżącej stronie

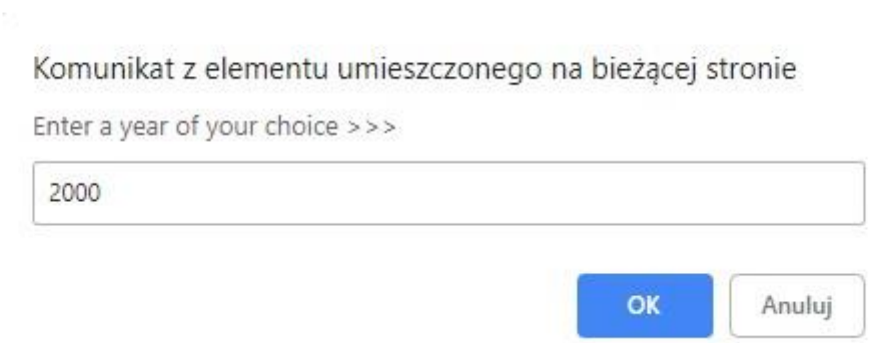
Enter a year of your choice >>>

1800



Komunikat z elementu umieszczonego na bieżącej stronie

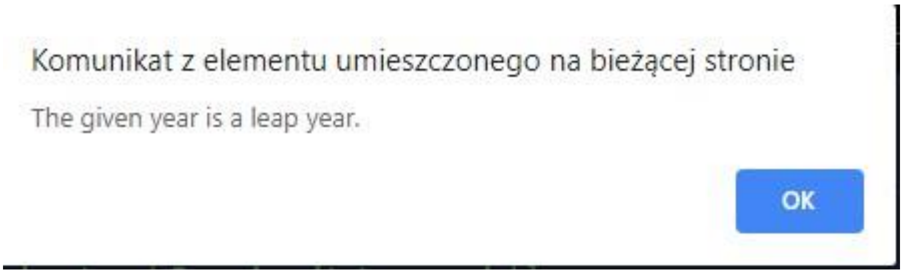
The given year is a common year.



Komunikat z elementu umieszczonego na bieżącej stronie

Enter a year of your choice >>>

2000

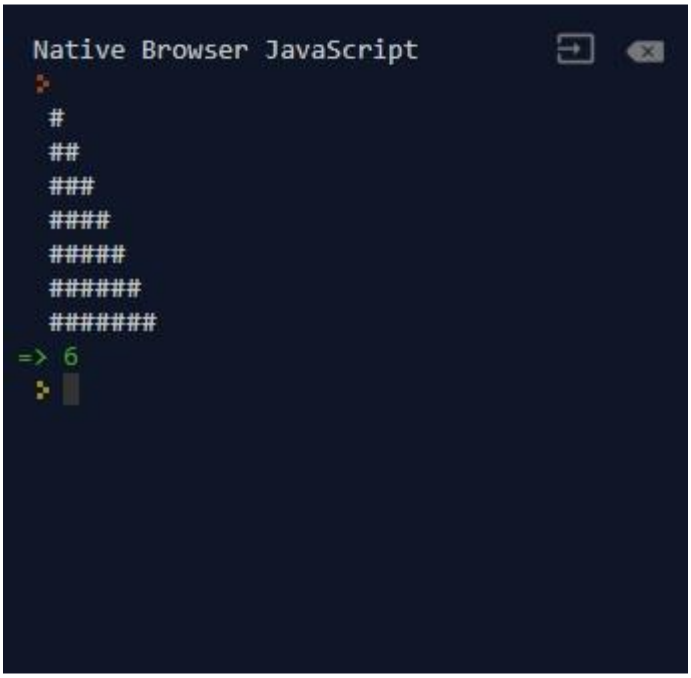


Komunikat z elementu umieszczonego na bieżącej stronie

The given year is a leap year.

## 8. Looping a triangle

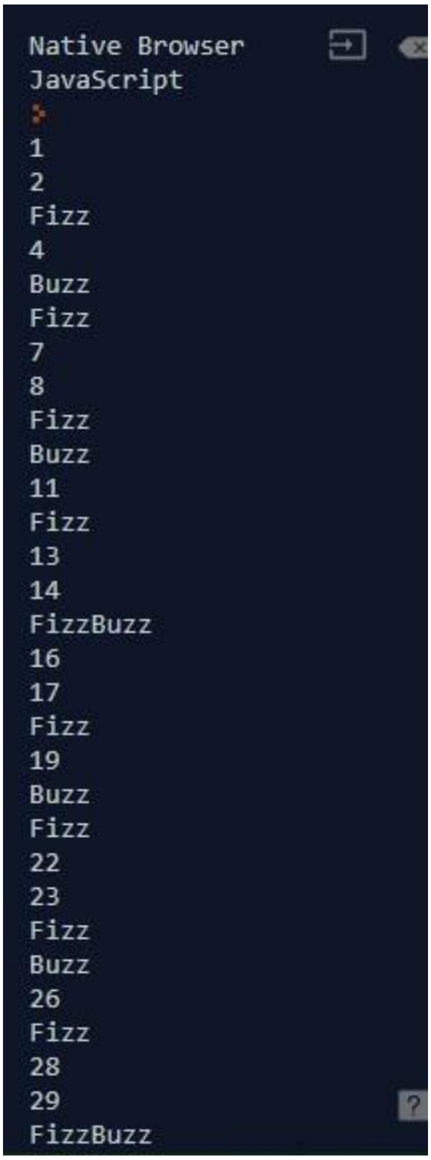
```
// I initialise a variable that will hold a number of crosshatches on each line.
var set_of_crosshatches = " ";
// I initialise the crosshatch symbol.
var crosshatch = "#";
// I initialise the index to be the starting point and the control point for the number of lines.
var index = 0;

// As long as the index is lesser than 7, I consider the following operations:
while (index < 7) {
   // With this line I can achieve an increasing number of crosshatches forming a triangle shape.
   set_of_crosshatches = set_of_crosshatches + crosshatch;
   // I display one and then more crosshatches on each of the 7 lines.
   console.log(set_of_crosshatches);
   // I increment the index by 1 with each iteration.
   index++;
}
```



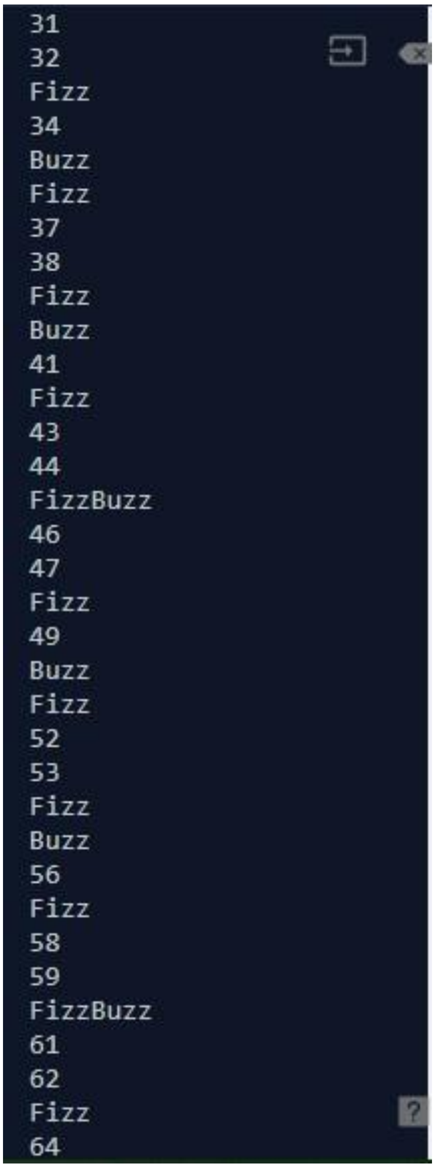
```
 #
 ##
 ###
 ####
 #####
 ######
 #######
=> 6
```

## 9. FizzBuzz

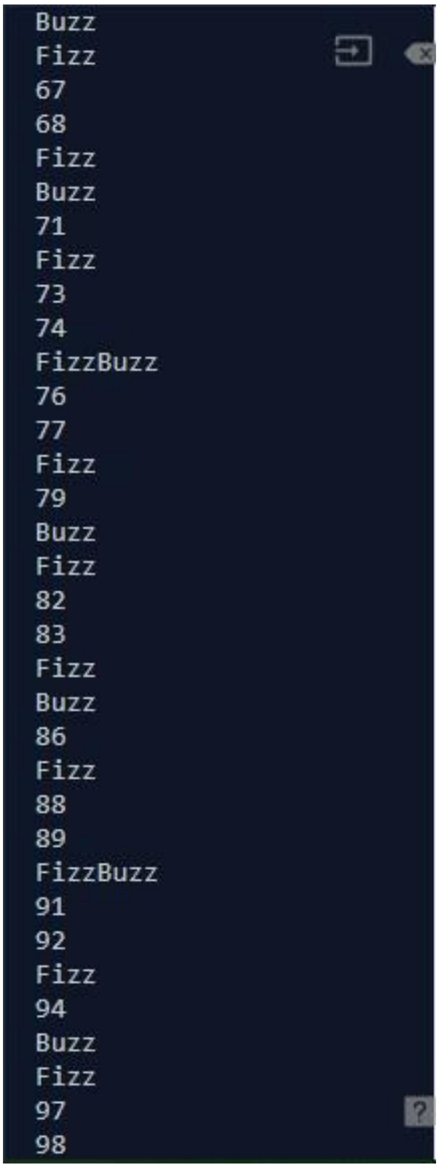
```
// I initialise the starting number.
var number = 1;

// As long as the number does not reach 100, I consider the following operations:
while (number <= 100) {
   // If a particular number from those between 1 and 100 does not have a reminder (is divisible by 3), I do the following:
   if ( !(number % 3) ) {
       // I display the designated word instead of a number.
       console.log("Fizz");
   }
   // If a particular number from those between 1 and 100 does not have a
reminder (is divisible by 5), I do the following:
   else if ( !(number % 5) ) {
       console.log("Buzz");
   }
   // If a particular number in the range (1-100) does not have have a
reminder, while dividing by 5 and 3, I do the following:
   else if ( !(number % 5) && !(number % 3) ) {
       console.log("FizzBuzz");
   }
   // Otherwise, I do the following:
   else {
       // I just display a standard number in the range (0-100)
       console.log(number);
   }

   // I increment a number in the given range by 1 with each iteration.
   number++;
}
```



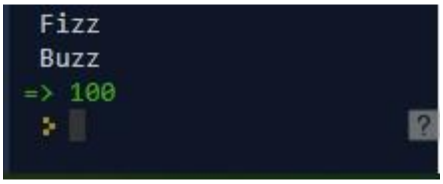
```
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
16
17
Fizz
19
Buzz
Fizz
22
23
Fizz
Buzz
26
Fizz
28
29
FizzBuzz
```



```
31
32
Fizz
34
Buzz
Fizz
37
38
Fizz
Buzz
41
Fizz
43
44
FizzBuzz
46
47
Fizz
49
Buzz
Fizz
52
53
Fizz
Buzz
56
Fizz
58
59
FizzBuzz
61
62
Fizz
64
```



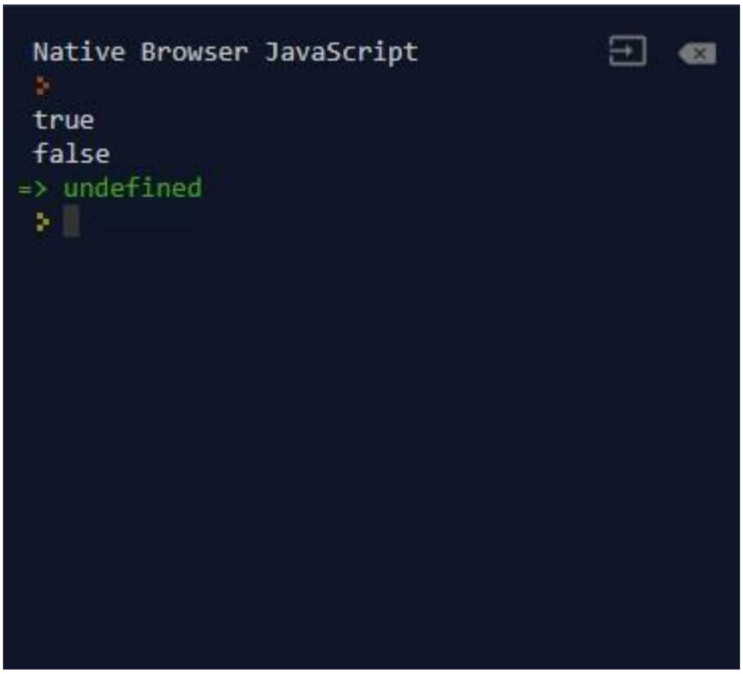
```
Buzz
Fizz
67
68
Fizz
Buzz
71
Fizz
73
74
FizzBuzz
76
77
Fizz
79
Buzz
Fizz
82
83
Fizz
Buzz
86
Fizz
88
89
FizzBuzz
91
92
Fizz
94
Buzz
Fizz
97
98
```



```
 Fizz
 Buzz
=> 100
 >
```

**10. Palindrome**

```
// I create a function checking whether a given word is a palindrome, which
takes the string as a parameter.
function is_it_palindrome(word) {
    // I intialise an empty string to hold the reversed word later.
    var reversed_word = "";
    // I initialise the index to be the number of letters in a word.
    var index = word.length;
    // As long as the index has not passed through all the characters, I
consider the following operations:
    while (index > 0) {
        // I add each character of a word to construct the full word.
        reversed_word += word[index - 1];
        // I decrement by 1 with each iteration of the loop.
        index--;
    }
    // I initialise the boolean value to be false.
    boolean_value = false;
    // If the original word exactly matches the reversed one, I do the
following:
    if (word === reversed_word) {
        // I change the boolean value to be true.
        boolean_value = true;
    }
    // Otherwise, I do the following:
    else {
        // I confirm that the word is not a palindrome.
        boolean_value = false;
    }

    // I display the true or false for every function call.
    console.log(boolean_value);
}

// I call the function twice with 2 different values passed.
is_it_palindrome("madam");
is_it_palindrome("man");
```



```
Native Browser JavaScript
>
true
false
=> undefined
>
```