Variable arity functions in javascript / Variadic function in javascript

Function arity is the number of **arguments a function expects or the number of parameters it has**. We can get the arity of the function by using the **length property** with the function name. Consider the following example:

```
function maxInTwo(a,b)
{       var max= a>b ?a:b
        return max
}
```

document.write(maxInTwo.length) //prints 2 as it have two parameters.

Nullary function arity

A **nullary function** is a function that accepts **no arguments**. In that case, we can simply call the function without any arguments. Consider the following example:

```
function sayNamaste()
{       document.write("Namste bandhu!")
}
```

sayNamaste is a nullary function because it does not have any parameter or It does not expect any argument while calling the function.

Unary function arity

A **unary function** is a function that accepts **exactly one argument** and can be created by calling the function with just the one argument provided.

```
function sayNamaste(person)
{       document.write("Namstey!, ",person,"<br>")|
}
```

sayNamaste is a unary function because it has **1 parameter** or It expects 1 argument while calling the function.

Note: if you call a function which have exactly no parameter defined and pass argument while calling it then its error.

Binary function arity

A **binary function** is a function that accepts **exactly two arguments**. Similarly to the unary function, we can create a binary function by calling the function with just the first two arguments provided.
```
function sumOfTwo(a,b)
{       var sum=a+b
        document.write(`Sum of ${a} and ${b} is ${sum}<br>`)
}
```

1. **sumOfTwo** is a binary function because it has **exactly two parameters** or it expects two arguments while calling the function.
   Note:
   A function that has a fixed number of parameters like 1 parameter, or 2 parameters, is called the fixed arity function.

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2. **if you provide a lesser number of arguments than the parameters then the arguments are assigned from left to right into the parameters, remaining parameter holds undefined.**
3. **If you provide more arguments than the parameters to a function, then extra arguments are simply discarded.**

N-ary function arity

In general, a **n-ary function** is a function that accepts **exactly n arguments**. To create a parameter that can store n numbers of arguments we precede the parameter with " … ". The variable arity parameter is treated as an array inside the function definition. We can pass 0 to n arguments when calling variable arity or n-ary functions.

Consider the following example:

```
function print(...argument)
{       var argsCount=argument.length
        document.write(`<br>${argsCount} arguments recieved`)
        document.write(`<br> Arguments are : `)
        for(var x of argument)
                document.write(`${x} `)
}

print()
print(1,2,3,4,5)
```

Note: if you check the length of n-ary function then its 0.

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