PRESENTATION A

What is a programming language?

Instructions given by a programmer to create programs

• What is a variable? And a value? Give an example.

Variable: a variable is a container that stores information.

Value: a value is the information given to the variable

An example would be const greeting = "hello". The variable is "greeting" and the value is "hello".

What is a constant variable?

A constant variable is one whose value cannot be changed.

Javascript

```
string: const hola = "hola";

number: const num1 = 1;

boolean: const verdadero = true;

undefined: const vacio = "";

null: const nulo = null;

object: const objeto = { key: value, key1: value1 };

array const array = [ object1, object, object ];
```

Java

```
string: string hola = "hola";

number (int, double, float): int num1 = 1;

boolean: boolean verdadero = true;

array: String[] array= ["object", "object", "object"];

classes: public class miClase{
}
```

PHP

```
string: $\texto = "\texto";

number: $\texto = 1;

boolean: $\texto = \texto";

boolean = 1;

$\texto = \texto = (\texto);

$\texto = (\texto) = 1;

$\texto = (\texto) = (\text
```

• Go

var a bool = true

var b int = 5

var c float 32 = 3.14

var d string = "Hi!"

Python

```
string = "Hola";
number: number = 1;
array: array = [object, object, object];
boolean: bool = true;
```

• C#

string: texto = "Hello World!!";

int/double/float: numero = 100;

bool boolVar = true;

What are logical operators? Show an JavaScript example and explain what is the difference between the && and || logical operators in JavaScript.

AND = &&	AND:	OR:	NOT:
AND dd	7.1.2.	const num1 = 1;	const num1 = 16;
OR =	const num1 = 1;		
NOT = !	const num2 = 2;	const num2 = 2;	const num2 = 18;
		if(num1 num2 >= 0){	if(num1 != num2){
<,>	if(num1 && num2 >= 0){		
<=,>=	console.log("Mayores que cero");	console.log("uno es mayor que cero");	console.log("No es mayor de edad");
	}	}	}

The difference between && and ||:

&&: the comparison made between variables or values must be fulfilled by the 2 variables or values

||: meanwhile || only one of the two values or variables has to fulfill the comparison

How can you convert a number to a string? Give an example of the following programming languages:

- Javascript number.toString()
- **Java -** int i=10; String s=String.valueOf(i);
- **PHP** \$var_name = 32.360; echo strval(\$var_name);
- **Go** stringValue = strconv.ltoa(intValue)
- **Python** str(num)
- **C#** int num = 10; num.ToString();

It is possible to assign a variable to another variable? Show an example in JavaScript

Yes, Example:

```
let a = 1;
let b = " ";
a = b;
```

What is the difference between an unidimensional and bidimensional array? Show an example in JavaScript

Unidimensional array = is an array that contains no other arrays

```
const uarray = ["data1", "data2", "data3"];
```

Bidimensional array = contains other arrays inside

```
const biarray = [ ["data1", "data2"], ["data3", "data4"] ]
```

If you have a bidimensional array with 2 nested arrays of first and last names with the following values:

Array 1 of first names: ["Ana", "Maria", "Alex"]

Array 2 of last names: ["Marks", "Perez", "García"]

How would you build the full name by concatenating the first and last names in the position o in each subarray so that you have the full name of the first person, example full name: "Alex García"

```
const name = ["nombre1", "nombre2", "nombre3"];
const surname = ["surname1", "surname2", "surname3"];
```

console.log(name[2], surname[2]);

What is the difference between using x++ and ++x? In what other ways can you increment the value of the variable x by 1 without writing the entire x = x + 1 statement (using a shorthand operation)

The difference is when you use x++ when u console.log x is equal to 2. And when you use ++x the result is 3.

x += 1;

I don't know how to increment the value.

What is the difference between reference types and primitive values in JavaScript?

The difference is where they are stored, primitive values are stored in stack and reference types are stored in heap.

Also, the primitive values are immutable.