S1 Z1

JavaScript

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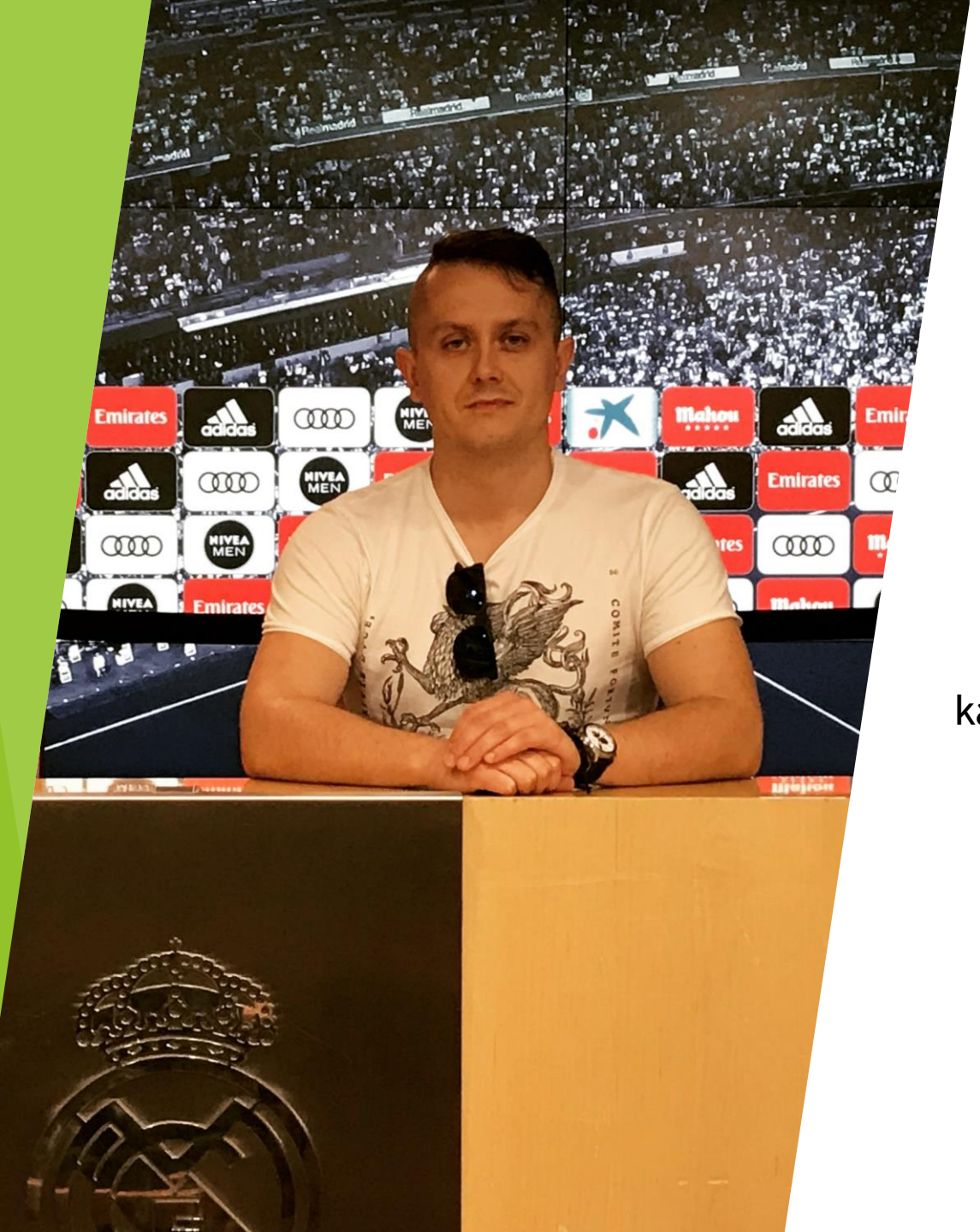
IT'S ALL
ABOUT YOU



About me

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GOAL


PLAN

Why?

Why?

FIRST LEARN

THEN REMOVE "L"

What is JavaScript?

Definition - What does *JavaScript (JS)* mean?

Javascript (JS) is a scripting languages, primarily used on the Web. It is used to enhance HTML pages and is commonly found embedded in HTML code. JavaScript is an interpreted language. Thus, it doesn't need to be compiled. JavaScript renders web pages in an interactive and dynamic fashion. This allowing the pages to react to events, exhibit special effects, accept variable text, validate data, create cookies, detect a user's browser, etc.

Why js?

- Beginner Friendliness
- JavaScript Is In The Browser
- Most Popular Programming Language In The World
- It's Everywhere
- An abundance of JavaScript Jobs
- Community

History

History

- 1995 – Brendan Erich Creates JavaScript
- 1997 – ECMAScript (European Computer Manufacturers Association)
- 1999 – ECMAScript 3
- 2000~ - WAR
- 2009 – ECMAScript 5 (ES5)
- 2015 – ECMAScript 2018 (ES6)
- > 2015 - yearly updates

Tools

Tools

- Text Editor – VS Code (https://code.visualstudio.com)
- Node.js (https://nodejs.org)
- NPM (https://www.npmjs.com)
- Webpack (https://webpack.js.org)
- Git (https://git-scm.com)
- Brain (https://you.are.awesome)


Start

javascript.bialystok

GoodCode

(bez spacji ☺)

“Always code as if the guy who ends up maintaining your code will be a violent psychopath who knows where you live. Because that guy is probably going to be you.”

— **John Woods**


I'M SORRY
FOR WHAT I SAID
WHEN I WAS
DEBUGGING


Hello

Hello

```
console.log("Hello world!");
```

Variables

Variables

- Example applications
- Naming
- Best practices

Basic Variables

```
let movieName = "Titanic";
let movieUniqueName = "Tit2015Mxt5";
console.log(movieName); //Titanic
console.log(movieUniqueName); //Tit2015Mxt5

movieName = "Titanic2";
console.log(movieName);  //Titanic2
```

Error

Basic Errors

```
let movieName = "Titanic";
console.log(movieName); //Titanic

let movieUniqueName;
console.log(movieUniqueName); //undefined

let var = 'VALUE’; //Unexpected token var
console.log(var);

let example1 = 'I'm karol’; // Unexpected identifier
let example2 = "I'm karol";

console.log(tt); //tt is not defined
```

Types

Types

- String
- Number
- Boolean
- Undefined / null
- Array

Types

```
console.log(4);
console.log(4.0, 4.01);
console.log("4.00");
console.log(3 + 4); //7
console.log("3" + 4); //34
console.log("3" + "4"); //34
console.log(3 + "4"); //34
let i = 3 + "4";
console.log(typeof i); //string
```

Types

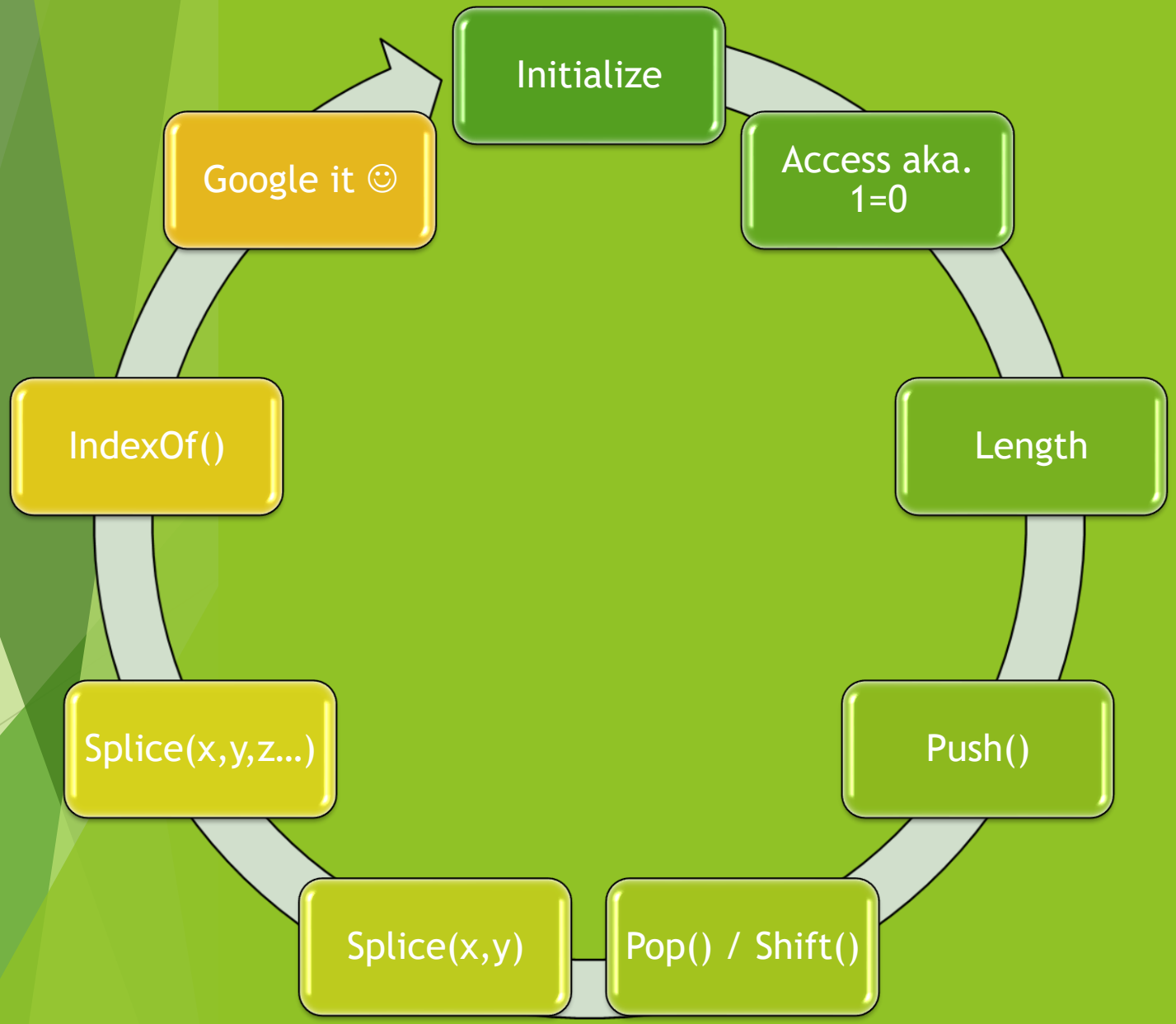
```
let val1 = "Karol";
console.log(val1, typeof val1); // Karol string

let val2 = 4;
console.log(val2, typeof val2); // 4 number

let val3 = "4";
console.log(val3, typeof val3); // 4 string

console.log("4 + 2"); // 4 + 2
console.log(4 + 2);  // 6

console.log("4.1 + 1.1"); // 4.1 + 1.1
console.log(4.1 + 1.1); //5.1999999999999
```

Types

```
let val4 = false;
console.log(val4, typeof val4); // false boolean

let val5;
console.log(val5, typeof val5); // undefined undefined

val5 = null;
console.log(val5, typeof val5); // null object

console.log(typeof {}); // object
console.log(typeof function() {}); // function
```

Array

Array


Initialize
Access aka. 1=0
Length
Push()
Pop() / Shift()
Splice(x,y)
Splice(x,y,z…)
IndexOf()
Google it ☺

Array

```
let val1 = [1, 2, 3];

console.log(val1, typeof val1);// [1,2,3] Array
console.log("val1[0]");
console.log(val1[0]); // 1
console.log("val1[1]");
console.log(val1[1]); // 2
console.log("val1[-1]");
console.log(val1[-1]); // undefined
console.log("val1[3]");
console.log(val1[3]); // undefined
```

Array - push

```
let val1 = [0, 1, 2, 3];
let l = val1.push(4);
console.log(val1); //[0, 1, 2, 3, 4]
console.log(l); // 5
l = val1.push(5);
console.log(val1); // [0, 1, 2, 3, 4, 5]
console.log(l); // 6
```

Array - pop

```
let val1 = [1, 2, 3];

let tempElement;
tempElement = val1.pop();

console.log(tempElement); //3
console.log(val1); // [1,2]
```

Array – shift

```
let val1 = [1, 2, 3];

let tempElement = val1.shift();

console.log(tempElement); //1
console.log(val1); //[2,3]
```

Array - splice

```
let val1 = [1, 2, 3, 4, 5];
val1.splice(1);
console.log(val1); //[1]
```

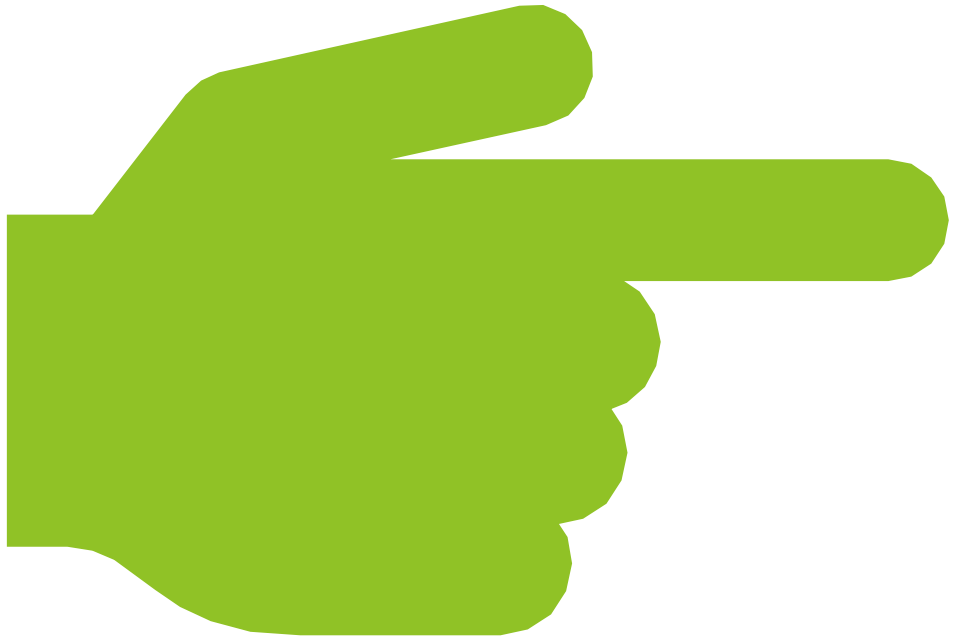
Array - splice

```
let val1 = [1, 2, 3, 4, 5];
val1.splice(1, 2);
console.log(val1); // [1,4,5]
```

Array - splice

```
let val1 = [1, 2, 3, 4, 5];
val1.splice(1, 2, 100, 200, 300, 300);
console.log("val1.splice(1, 2, 100, 200, 300, 300)");
console.log(val1); //[1, 100, 200, 300, 300, 4, 5]
console.log("val1.indexOf(200)");
console.log(val1.indexOf(200)); //2
console.log("val1.indexOf(400)");
console.log(val1.indexOf(400)); //-1
console.log("val1.indexOf(300)");
console.log(val1.indexOf(300)); // 3
```

Operators



- + Addition
- - Subtraction
- * Multiplication
- / Division
- % Modules
- ++ Increment by one
- -- Decrement by one

Operators (Logical)

OPERATOR	NAME
&&	AND
II	OR
!	NOT

Operators (Comparison)

OPERATOR	NAME
==	Equal
===	Strict Equal
!=	Not Equal
<	Less than
<=	Less than or equal
>	Greater than
>=	Greater than or equal

Operators

```
console.log(1 == 1); // true
console.log(1 == true); //  true
console.log(1 === true); // false
console.log(1 != true); // false
console.log(1 !== true); // true
```

Operators

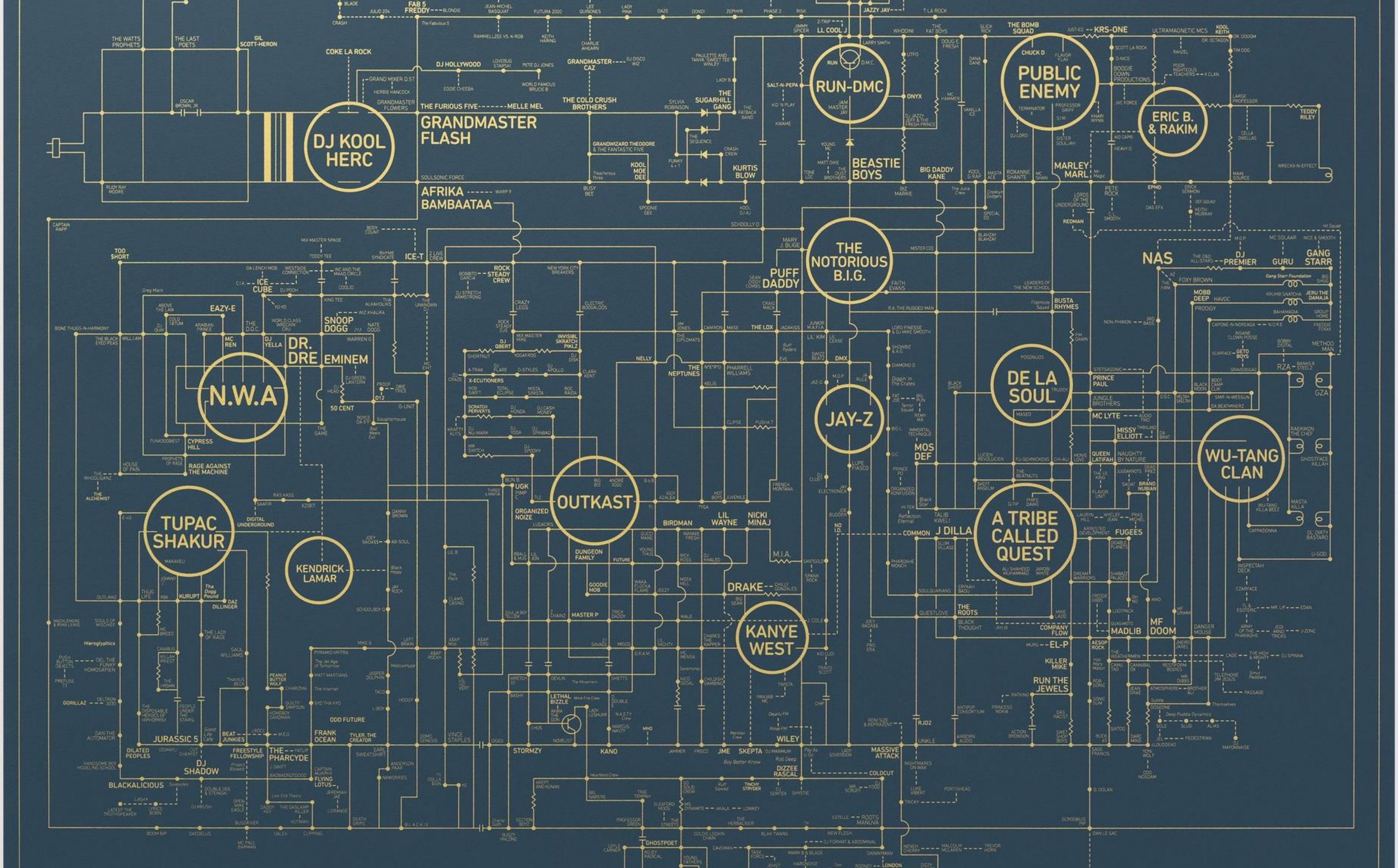
```
let i = 0;
console.log(i++); //0
console.log(++i); //2
console.log(i--); //2
console.log(--i); //0
console.log(i); // 0
```

Operators

```
let i = "5";
console.log(+i); //5
console.log(typeof +i); // number
console.log(-i); // -5
console.log(typeof -i); // number
console.log(i); //5
console.log(typeof i); // string
let j = "xyz";
console.log(+j); // Nan
```

Operators

```
let v1 = 4;
let v2 = 10;
let v3 = 3;
let v4 = false;
let v5 = 0;
console.log(v1 > 5 && v2 < 100); // false
console.log(v1 > 5 || v2 < 100); // true
console.log(v1 > 5 || (v2 < 100 && v3 === 3));  // true
console.log((v1 > 5 || v2 < 100) && v3 === 3);  // true
console.log(!v1); //false
console.log(!!v1); // true
console.log(!v5); // true
console.log(!!v5); // false
console.log(v1 && v2); // 10
console.log(v1 || v2); // 4
console.log(v4 && v5); // false
console.log(v4 || v5); / 0
```



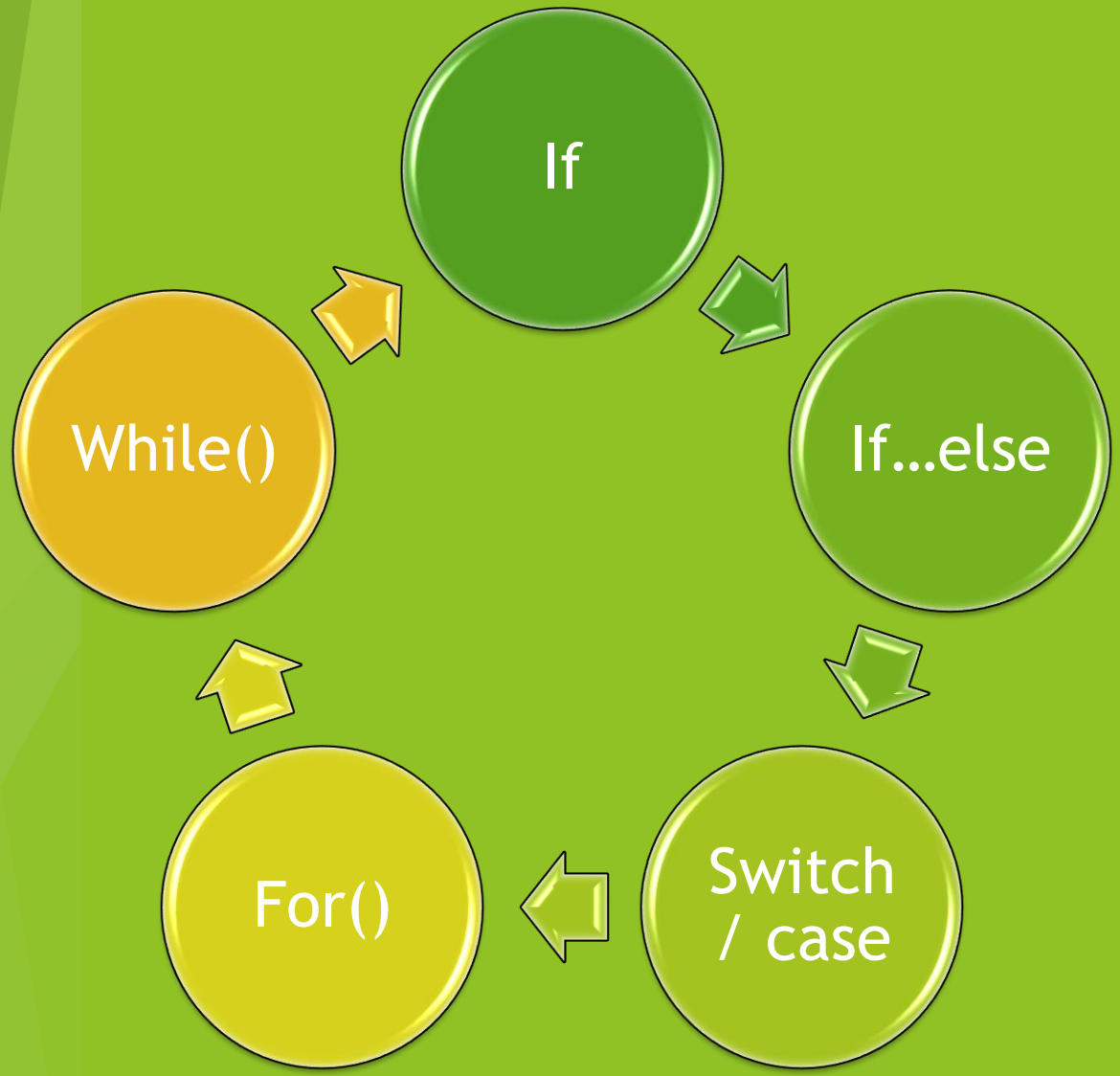
DJ KOOL HERC
GRANDMASTER FLASH
THE FURIOUS FIVE
MELLE MEL
THE COLD CRUSH BROTHERS
THE SUGARHILL GANG
AFRIKA BAMBAATAA
KURTIS BLOW
KOOL MOE DEE
RUN-DMC
BEASTIE BOYS
BIG DADDY KANE
PUBLIC ENEMY
MARLEY MARL
ERIC B. & RAKIM
KRS-ONE
THE BOMB SQUAD
THE NOTORIOUS B.I.G.
PUFF DADDY
NAS
DJ PREMIER
GURU
GANG STARR
ICE-T
ICE CUBE
EAZY-E
SNOOP DOGG
DR. DRE
EMINEM
N.W.A
50 CENT
CYPRESS HILL
RAGE AGAINST THE MACHINE
TUPAC SHAKUR
KENDRICK LAMAR
OUTKAST
UGK
ORGANIZED NOIZE
BIRDMAN
LIL WAYNE
NICKI MINAJ
DRAKE
KANYE WEST
JAY-Z
DMX
MOS DEF
DE LA SOUL
PRINCE PAUL
A TRIBE CALLED QUEST
J DILLA
COMMON
FUGEES
WU-TANG CLAN
RZA
GZA
MF DOOM
MADLIB
EL-P
KILLER MIKE
RUN THE JEWELS
THE ROOTS
QUESTLOVE
MC LYTE
MISSY ELLIOTT
QUEEN LATIFAH
JURASSIC 5
DJ SHADOW
BLACKALICIOUS
THE PHARCYDE
FRANK OCEAN
TYLER, THE CREATOR
ODD FUTURE
STORMZY
KANO
SKEPTA
JME
WILEY
DIZZEE RASCAL
MASSIVE ATTACK
GORILLAZ

Operators

```
let userData = null;
let defaultData = "data from configuration";
console.log(userData || defaultData); // data from configuration


let i = false ? 4 : 5;
console.log(i); // 5
```

Flow

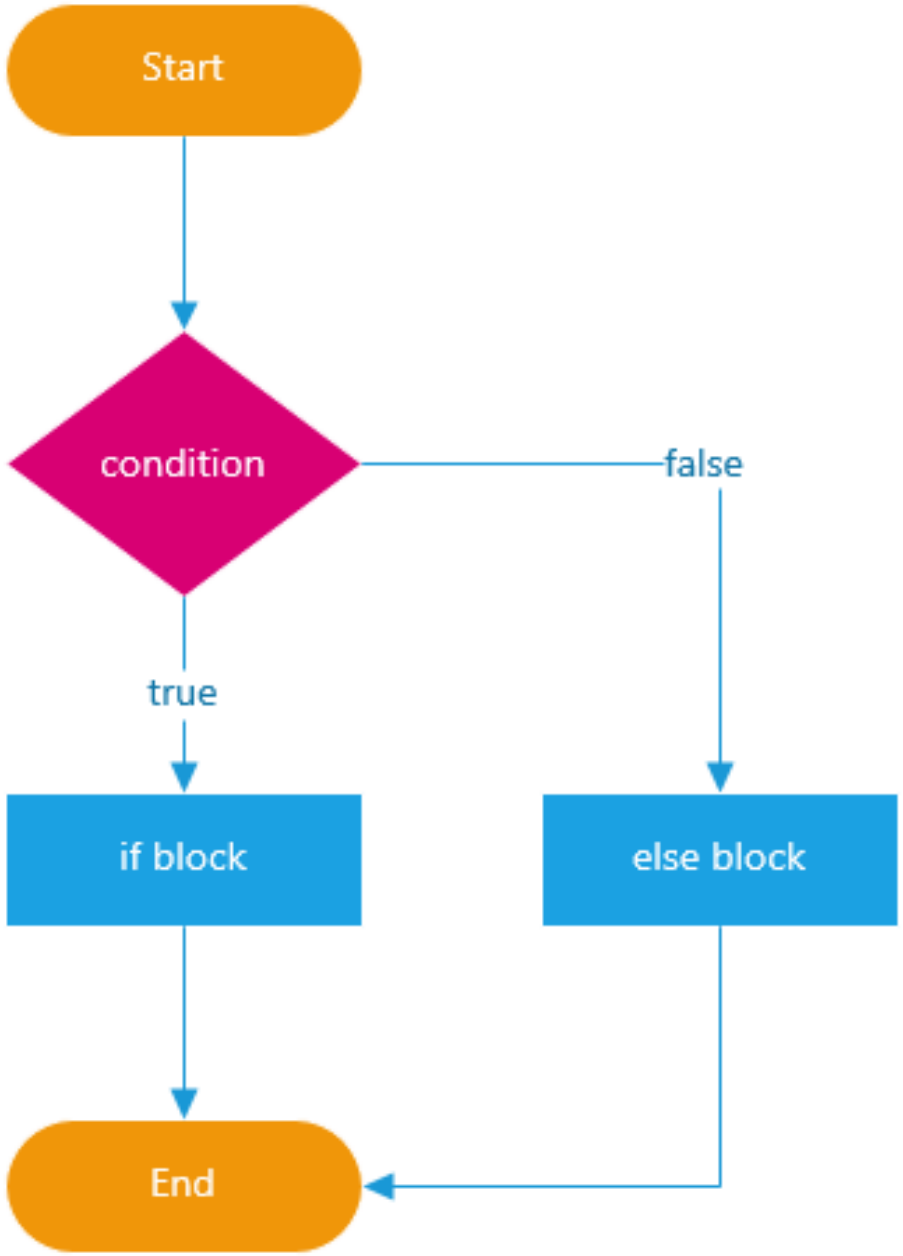
Flow



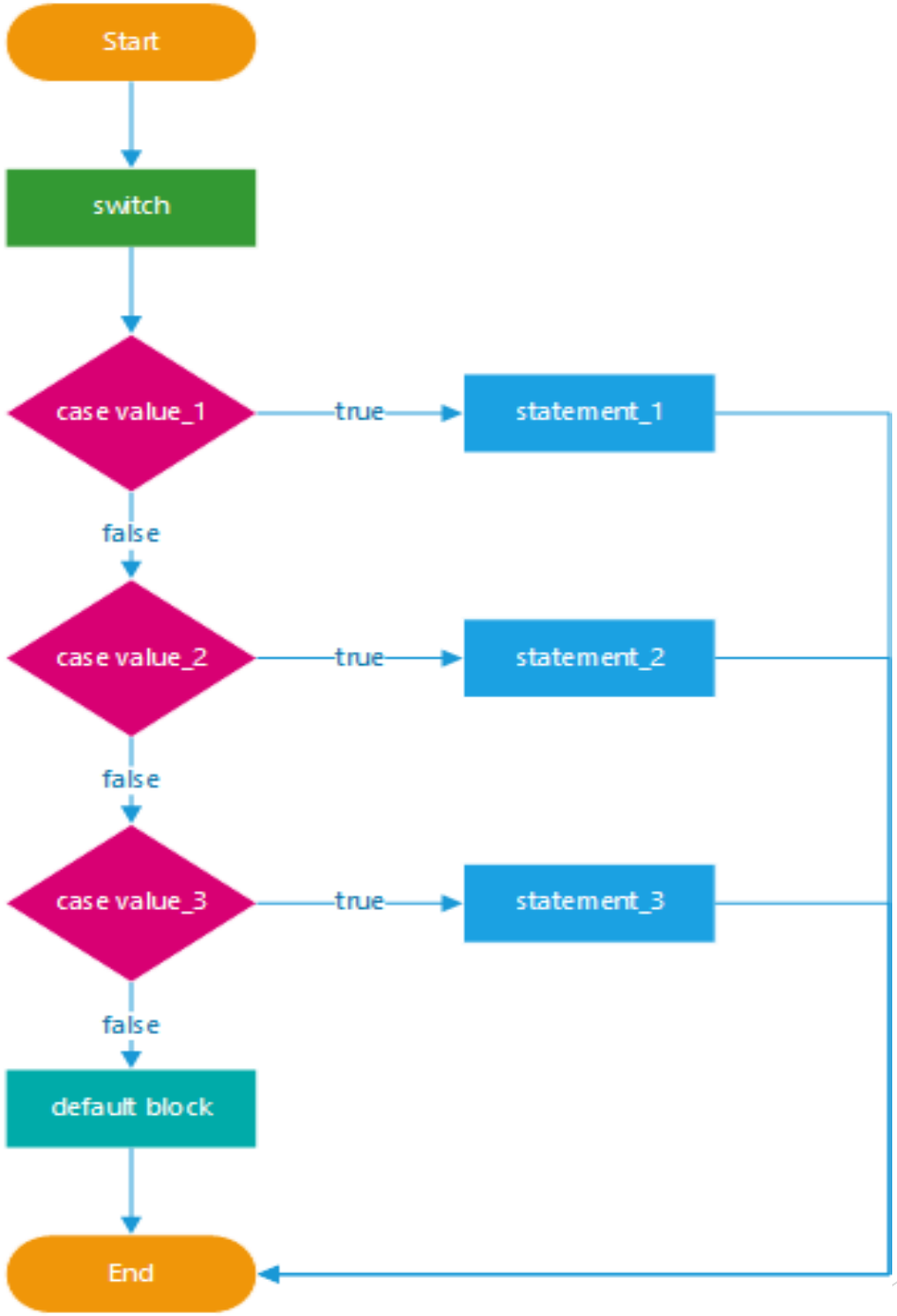
Truthy vs Falsy

Truthy	Falsy
True	False
‘0’	0
‘false’	‘’ / “”
[]	Null
{}	Undefined
function(){}	NaN

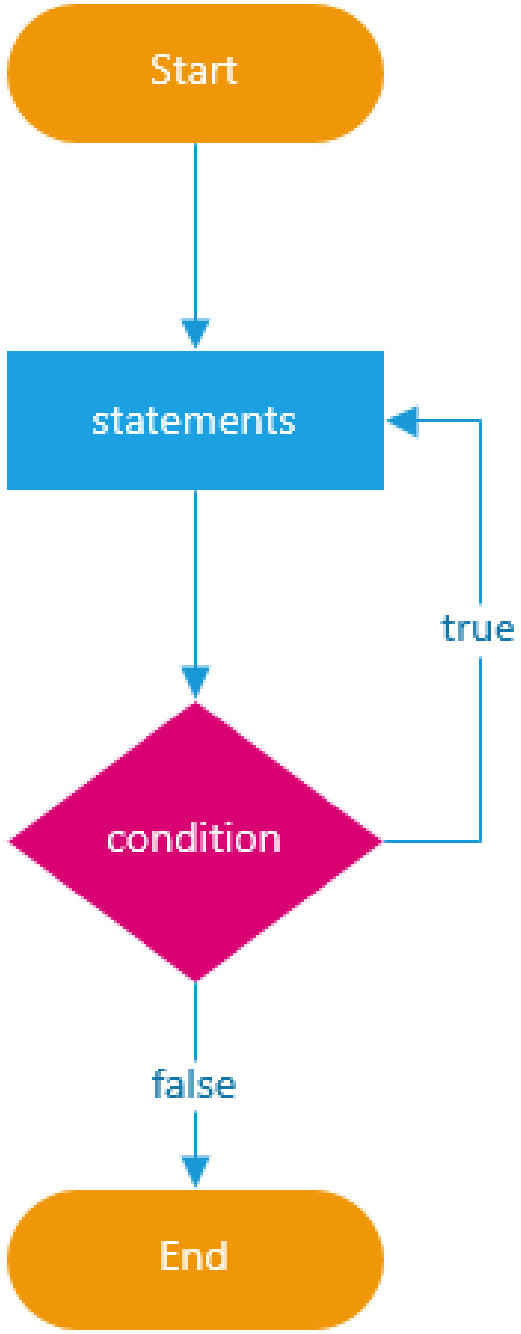
If...else



Switch...case


Start
switch
case value_1
true
statement_1
false
case value_2
true
statement_2
false
case value_3
true
statement_3
false
default block
End

For...while



If

```
if (4 === 4) {
    console.log("if(4 === 4)"); // if(4 === 4)
}

if (4 > 8) {
    console.log("if(4 > 8)");
}

if (4 <= 4) {
    console.log("if(4<=4)"); // if(4<=4)
}

if (4 == "4") {
    console.log('if(4=="4")’); // if(4=="4")
}

if (4 === "4") {
    console.log('if(4==="4")');
}
```

If / Else

```
let x = 4,
    y = 4;
if (x > y) {
    y = x + y;
}
console.log(y); //4

if (4 > 8) {
    console.log("if(4 > 8)");
} else {
    console.log("Not true that: 4 > 8"); //Not true that: 4 > 8
}
```

If / Else

```
let x = 4,
  y = 4;
if (x > y) {
  y = y + x;
  console.log(y);
} else if (x === y) {
  y = 3;
  x = 2;
  console.log(x, y); // 2,3
} else if (x <= y) {
  x = y + x;
  console.log(x);
} else {
  console.log("something strange just happend");
}
```

Switch

```
let x = 3,
    y = 5;
console.log(y,' is: ');

switch (y){
case 0:
    console.log('zero');
break;
case 1:
    console.log('one');
break;
case 2:
    console.log('two’); // two
break;
case 3:
    console.log('three');
break;
case 4:
    console.log('four');
break;
default:
    console.log('greaten then four');
break;
}
```

Switch

```
let operation = "M";
console.log("Calculation result = ");
switch (operation) {
case "A":
    console.log(x + y);
break;
case "S":
    console.log(x - y);
break;
case "M":
    console.log(x * y); // 6
break;
case "D":
    console.log(x / y);
break;
}
```

For

```
console.log("1...5");
for (let i = 0; i < 5; i++) {
    console.log(i); // 1,2,3,4,5
}
```

For

```
console.log("1...5");
console.log("continue on 2");
for (let i = 0; i < 5; i++) {
    if (i === 2) {
        continue;
    }
    console.log(i); // 0,1,3,4
}
```

For

```
console.log("1...5");
console.log("break on 2");
for (let i = 0; i < 5; i++) {
    if (i === 2) {
        break;
    }
    console.log(i); // 0,1
}
```

For

```
let valueArray = [1, 4, 7, 2, 3, 0];
let sum = 0;
console.log("Sum of ", valueArray);
for (let i = 0; i < valueArray.length; i++) {
    sum = sum + valueArray[i];
    console.log(sum);
}
console.log(sum); //17
```

While

```
console.log("1...5");
let i = 0;
while (i < 5) {
    console.log(i); // 0,1,2,3,4
    i++;
}
```

While

```
console.log("1...5");
console.log("continue on 2");
i = 0;
while (i < 5) {
    if (i === 2) {
        i++;
        continue;
    }

    console.log(i); //0,1,3,4
    i++;
}
console.log("done");
```

While

```
console.log("1...5");
console.log("break on 2");
i = 0;
while (i < 5) {
    i++;
    if (i === 2) {
        break;
    }
    console.log(i); // 1
}
```

While

```
let valueArray = [1, 4, 7, 2, 3, 0];
let sum = 0;
i = 0;
console.log("Sum of ", valueArray);
while (i < valueArray.length) {
    sum = sum + valueArray[i];
    i++;
}
console.log(sum); // 17
```

Best practices

Avoid	Avoid direct comparisons • (x === false) --> (!x)
Use	Use === aka. Strict equality • (x == y) -> (x === y)
Convert	Convert to real boolean • (x === y) -> (!!x === !!y)