

JavaScript

Conditionals

A decorative graphic in the background features stylized leaves in various shades of purple, blue, and pink. On the left side, there's a cluster of leaves: a large pink leaf with veins, a dark blue leaf, and a white leaf with thin veins. The right side shows a branch with many long, narrow purple leaves.

01

Review of previous lessons.

What is debugging?

Looking through code to find the problem, and fixing it.

How did debugging get its name?

Computers used to get ACTUAL bugs in it! You can thank Grace Hopper for the name.

What's a variable and how do I write it?

A variable is a container (like a labeled box) for our data.

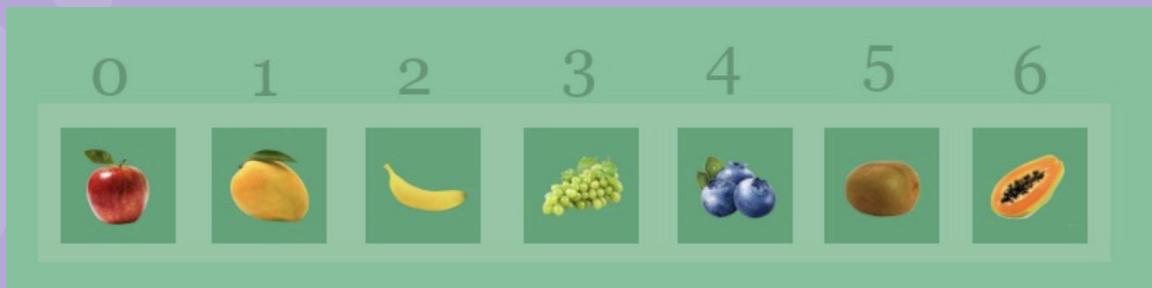
```
var color = "green"
```

What is a data type (hint: it's in the name)?

A type of data! It describes what our data is.

What kinds of data types have we used?

String, number, boolean



The array is fruits. What is fruits[2]?

BANANA

Think of the expression $2 + 5 \times 3$. A computer would think this is 21, but we know it's 17. Why are the answers different?

Computers read from left to right, they don't follow an order of operations unless we include parenthesis.

What's a function?

A chunk of code that can be called countless times, and helps with organization.

What's a parameter?

A value that we can give to our function to do something with.

**What is something that you accomplished or
did last year that you're proud of?**

A decorative graphic in the background features stylized leaves in various shades of purple, blue, and pink, creating a natural, organic feel.

02

Where in the world is technology?

Brainstorm

What things in your life use technology?

- Drive-through taking my order
- Google docs to create your worksheet
- Spell-check
- Gradebook for teachers
- Alarm clock

What do you want to be when you grow up?

Marine Biologist

Boat scanner
checking water
depth.

Researching a newly
discovered marine
animal.

Sensors that read
water temps and
conditions

Brainstorm: How might you use technology in that job?

Animal tracking -
recording movement

Camera taking photos
of marine animals

Software to analyze
animal, water, ocean
data



03



SHE-ro of the month!

SHEro - Ada Lovelace



Ada Lovelace was a mathematician and the first programmer... ever!

Video:

https://www.youtube.com/watch?v=uOkmyICUW_c

What is one thing you liked or learned about Ada Lovelace?

SHEro - Megan Smith



An American engineer that is still around today.

She is the founder and CEO of shift7, which works on tech-forward inclusive innovation for faster impact on economic, social and environmental challenges.

04

Conditionals



Conditionals - what are they?

Subject to...

One or more requirements being met.

In grammar...

We have conditional clauses.

Example:

Remember booleans? If **TRUE**, the code can run.

Conditionals in Grammar

IF...

it's raining, you will get wet.

Conditionals in Grammar

IF...

it's raining, you will get wet.

Conditionals in Grammar

IF...

it's raining, you will get wet.

Conditionals in Grammar

IF...

you heat ice, it melts.

Conditionals in Grammar

IF...

you heat ice, it melts.

Conditionals in Grammar

IF...

you heat ice, it melts.

Conditionals in Code - Water

if

less than 32, water freezes.

else if

greater than 212, water boils.

else

water is liquid.

Conditionals in Code - Water

if

less than 32, water freezes.

elif

greater than 212, water boils.

else

water is liquid.

Conditionals in Code - Water

if

less than 32, water freezes.

```
if (temp < 32) {  
    console.log("The water will freeze!")  
}
```

Conditionals in Code - Water

if

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    console.log("The water will freeze!")  
}
```

Conditionals in Code - Water

if

less than 32, water freezes.

else

water is liquid.

```
if (temp < 32) {  
    console.log("The water will freeze!")  
} else {  
    console.log("The water is liquid.")  
}
```

Conditionals in Code - Comparisons

`<=`

less than or equal to

`>=`

greater than or equal to

`==`

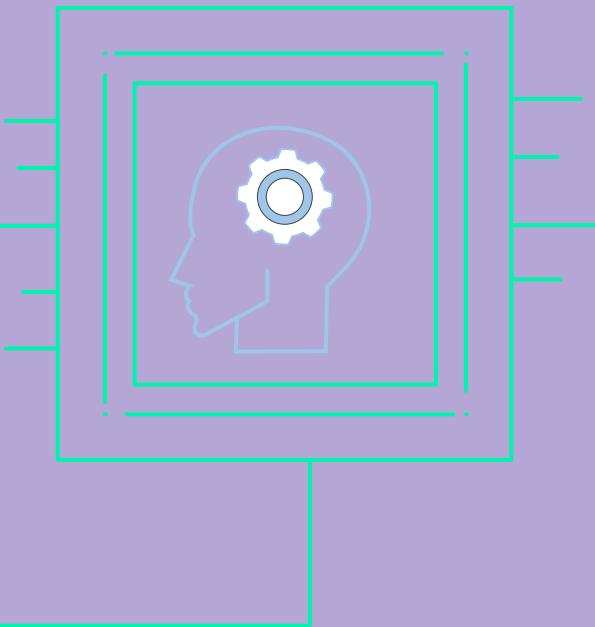
equal to

`!=`

not equal to

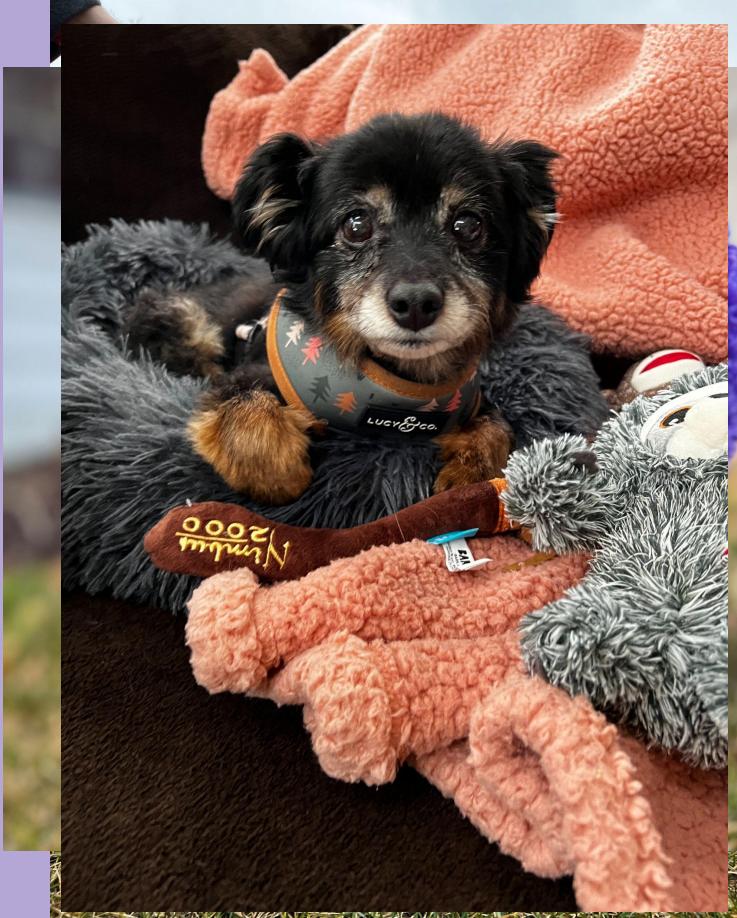
Process Conditionals Another Way

Conditionals Video



Example – Stevie Budd

```
if (today is Christmas) {  
    Stevie wears snowman PJs!  
} else if (it's chilly outside) {  
    // It's not Christmas but it's chilly.  
    Stevie wears a vest.  
} else if (it's COLD outside) {  
    // It's not Christmas and it's COLDer  
    Stevie wears a sherpa.  
} else {  
    Stevie wears her harness.  
}
```



Example - Cats

```
if (cat color is orange) {  
    Hamish  
} else if (cat color is black) {  
    Ampersand  
} else if (brown tabby) {  
    Mina  
} else {  
    Po  
}
```



05

JavaScript coding exercises.

05

Python coding exercises.

```
1 var clothing = ""  
2 var temp = 0  
3  
4 if (temp < 40) {  
5     clothing = "jacket & gloves"  
6 } else if (temp >= 40 && temp < 55) {  
7     clothing = "jacket"  
8 } else if (temp >= 55 && temp < 60) {  
9     clothing = "sweater or cardigan"  
10 } else {  
11     clothing = "shirt"  
12 }  
13  
14 console.log(`When it's ${temp} degrees, I wear a ${clothing} to go outside.`)
```

```
1 clothing = ""
2 temp = 0
3
4 if temp < 40:
5     clothing = "jacket & gloves"
6 elif temp >= 40 and temp < 55:
7     clothing = "jacket"
8 elif temp >= 55 and temp < 60:
9     clothing = "sweater or cardigan"
10 else:
11     clothing = "shirt"
12
13 print(f'When it\'s {temp} degrees, I wear a {clothing} to go outside.')
14
```

Now that you've written your code, what is printed in the console?

For each set of instructions in your packet, make the code change and write down what was printed in the console.



07

Custom Conditional

