

Girls Code Club

Intro & Variables

INTRODUCTIONS

Write your name on your name tag. If you need help, raise your hand!

Going around the room, *tell us your name and why you signed up for Girls Code Club*. Coaches will start.

GROUND RULES: WHAT TO EXPECT

Girls Code Club is an inclusive environment where everyone should feel comfortable learning and asking questions! In order to begin fostering this environment, each of you will get to submit the ground rules that will help you to feel safe during our sessions.

Miss Emma will read those out loud once collected, and we'll review the summary of our ground rules during Session 2.

Write your ground rule(s) below!

What would make me feel safe participating in Girls Code Club is...

ICE BREAKER: SORTING

In code, we sometimes have things called sorting algorithms. Algorithms are a set of instructions.

What does it mean to sort something?

The Game: Each person is going to get a piece of paper with an animal on it!

Goal: Sort yourselves from largest to smallest animal.

Rules:

- You can NOT say any words.
- You can NOT show anyone your piece of paper.
- You CAN pretend to be your animal.
- You CAN try to show how big or small your animal is using your hands or other methods.

You have 5 minutes... GO!

(This exercise will be done 2-3 times so the coders have a chance to try again.)

ICE BREAKER: TWO TRUTHS

For this exercise, we're going to learn a little more about each other. Write down two true things about yourself. Then, right down something that isn't true. When it's your turn to read off your facts, read them in any order! Everyone has to guess which thing is NOT true.

TRUE _____

TRUE _____

NOT TRUE _____

ICE BREAKER: FOLDY PAPER EXERCISE

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INTERNET SAFETY

Internet safety is SO important! Once you put something online, it can be up there forever. Because of this, we shouldn't be putting anything personal online.

What is an example of personal information that you shouldn't put on the internet?

Internet Safety Video -

<https://jr.brainpop.com/artsandtechnology/technology/internetsafety/>

Internet Safety Quiz #1 -

<https://jr.brainpop.com/artsandtechnology/technology/internetsafety/easyquiz/>

Internet Safety Quiz #2 -

<https://jr.brainpop.com/artsandtechnology/technology/internetsafety/hardquiz/>

INTERNET SAFETY: EXERCISE

Come up with a **username** that we can use for our CodePen projects. A username can be anything you want it to be, but shouldn't include any personal information.

Do NOT include your:

- name or nickname
- age or birthday
- address
- school or grade/level

You COULD include your:

- pet's name
- favorite animal
- favorite number or color
- what you want to be when you grow up
- a username you already use for the internet

Write your username on the back of your nametag!

You will be using this username for naming any CodePen's you create or to replace your actual name when we're coding. The point of a username is that you know who you are, but some random person on the internet won't.

SHERO: HEDY LAMARR



Hedy Lamarr is our SHero of the month!

She was an actress that many of our parents or grandparents watched in movies, back in the day. But that's not all! Hedy also laid the groundwork for technology like WiFi, GPS, and bluetooth. In other words, her work allows different things in tech to talk to each other.

She was a Jewish woman born in Austria in 1914. Despite being a very smart kid who was interested in how machines worked, she was not taken seriously. Her beauty led her to film where she starred in a lot of movies and ended up pretty famous.

Her genius was unlocked when she started dating a scientist who gave her an invention table to set up in her movie trailer. She once said, "Improving things comes naturally to me."

She went on to create an upgraded stoplight and a tablet that dissolved in water to make a soda similar to Coca-Cola. However, her most significant invention was engineered as the United States geared up to enter World War II. She came up with an extraordinary new communication system used with the intention of guiding torpedoes to their targets in war.

What is something you learned and/or liked about Hedy?

VARIABLES

A variable stores information so you can use it later. The value of your variable can change throughout the course of your program, but they have to stay the same type. The variable type could be a:

- Number
- String (text)
- Boolean (true or false, yes or no)

When you're creating a variable in your code, it's called a **var** (short for variable) in JavaScript. You can also use **const**, short for constant, to tell your code that the variable will never change. Example: `var apples = 3`

In Python, you don't need any of that!

(JavaScript)

var pumpkins = 3

(Python)

pumpkins = 3

How many pumpkins do we have?

What if we change **pumpkins** to equal **5 + 3**

How many pumpkins do we have now?

You can also create your variable, and use its value in math! This example will tell us how many pets Emma has. What does **pets** equal?

cats = 4

dogs = 0

geckos = 1

pets = cats + dogs + geckos

Try it yourself! Use the interactive code editor to tell us how many pets you have. If you don't have any pets, you could tell us how many pieces of clothing you're wearing right now (example: shirt, pants, shoes, socks, glasses, hat).

What do you think happens if we try to add strings together? Remember that strings are text on a screen or page. We tell our code that it's a string by adding double-quote marks before and after the word.

```
color = "green"  
food = "bean"  
word = color + food
```

What is **word**? What if I wanted to put a space between "green" and "bean"?

Before we start typing, we'll do a tour of our editors! Also notice the way we're outputting our variables (by using **print** or **console.log**).

Exercise #1:

Emma has 5 pets.

(Python)

main.py +

= '1Enrsd rhagStart'

(JavaScript)

Exercise #2:

The year is 2024.

```
year = 2024
yearString = "The year is "
print(yearString + str(year))
```

```
var year = 2024
var yearString = "The year is "
console.log(yearString + str(year))
```

Exercise #3:

There are 6 colors in the rainbow.

```
colorCount = 6
colorString = "There are "
rainbow = " in the rainbow."
print(colorString + str(colorCount) + rainbow)
```

```
var colorCount = 6
var colorString = "There are "
var rainbow = " in the rainbow."
console.log(colorString + str(colorCount) + rainbow)
```

More Exercises!

1. Girls Code Club has 9 sessions.
2. If my parents were going to adopt a pet tomorrow, I would name it ____.
3. My favorite thing I did this summer was ____.
4. I want to learn ____ in Girls Code Club this year.
5. My favorite food is ____.
6. My favorite number is ____.
7. I know the following coding languages: ____, ____, ____

Advanced Exercises:

For each exercise, type your answer and watch it work!

What would your variable look like if it was storing your favorite word?

What would your variable look like if it was adding the first 5 prime numbers: 1, 3, 5, 7, and 11?

What would your variable look like if it was storing your favorite things about the Fall season?

What would your variable look like if it was adding 5, 5 times?

What would your variable look like if it was storing your favorite drink?

What would your variable look like if it was storing your username?

Using a variable, tell us about your favorite subject in class.

What would your variable look like if it was adding the numbers 5, 3, 7, and 8?

What would your variable look like if it was dividing 10 by 5?

What would your variable look like if it was counting the number of pets that you have?

What would your variable look like if it counted the number of plants at your house?

What would your variable look like if it was listing the colors of the rainbow?

What would your variable look like if it was adding the number 3 to the word "butterflies"?