



Coding for Good

Badge 1 – Coding Basics

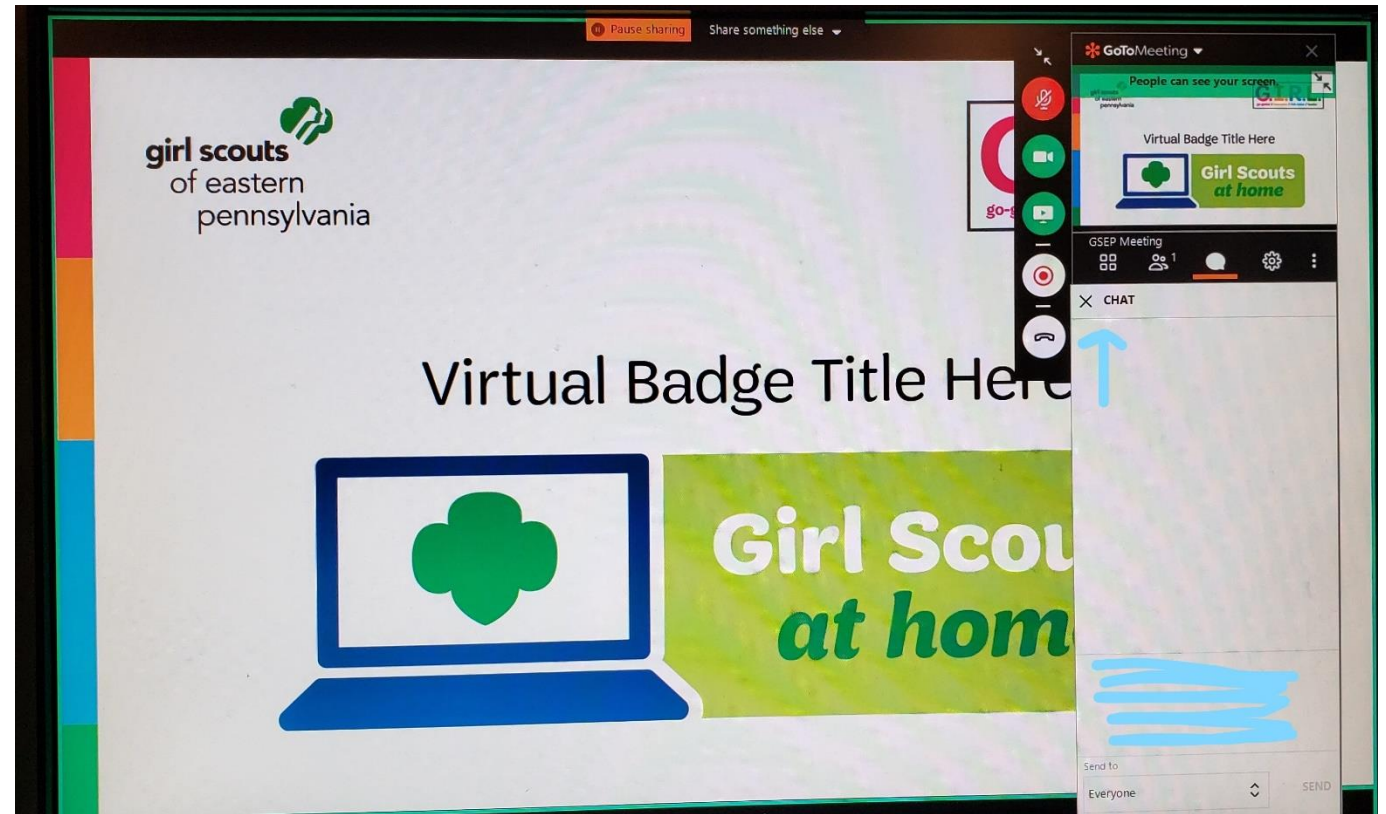
Seniors & Ambassadors



Girl Scouts
at home

How will this Virtual Troop Meeting work?

- On the right side of your screen, there is a control panel. You should see a microphone, a video camera, and a chat bubble.
- When you are called on to talk, you will need to click on your microphone so it is green. Then everyone will be able to hear you.
- If you have a webcam, clicking on it will let everyone else in the meeting see you too.
- The Chat Log looks like a cartoon thought bubble...see it underlined in red? You can type questions or comments into the chat log and everyone will be able to see what you write!



The Girl Scout Promise & Law

**On my honor, I will try:
to serve God
& my country,
to help people
at all times,
& to live by the
Girl Scout Law.**

Promise

**I will do my best to be
honest & fair, friendly & helpful,
considerate & caring,
courageous & strong,
& responsible for what I say & do,
& to respect myself & others,
respect authority,
use resources wisely,
make the world a better place,
& be a sister to every Girl Scout.**

Law

Senior Coding Basics Badge 1

Steps

1. Use functions to create a self-portrait
2. Write code to create a portrait
3. Learn about computer logic
4. Explore “IF” statements
5. Use computer logic to create a quiz show

Purpose

When I’ve earned this badge, I’ll know about JavaScript syntax, functions and arguments, and x-y coordinates. I’ll know how computers make decisions using Boolean logic, IF statements, and control flow—and how programming can make a positive difference in the world.

Ambassador Coding Basics Badge 1

Steps

1. Learn about functions through song lyrics
2. Learn about loops through song patterns
3. Write an algorithm duet
4. Code a performance routine
5. Share your coded routine with others

Purpose

When I've earned this badge, I'll know how to write shareable code with functions and arguments. I'll have explored how to use coding to spread a message or build community.

Ada Lovelace

- Celebrated annually and internationally on the second Tuesday in October.
- Recognizes achievements of women in STEM fields.
- Increases the profile of women in STEM.
- New female STEM role models emerge.



ADA LOVELACE
DAY

It
STEMs
from
HER

WORDS TO KNOW



Algorithm a series of specific instructions. By creating a sequence of instructions that can be applied to many circumstances, you're creating an algorithm.

JavaScript a computer programming language.

Syntax the rules for how a program is written. These rules have a purpose similar to written grammar: it's a standard format for writing code that the computer understands. In programming, the syntax needs to be exactly correct for a computer to know what to do. For this reason, programmers often use pseudocode to help them flesh out ideas without the burden of being too exact.

EXAMPLE OF A DAILY BEDTIME ROUTINE IN JAVA SCRIPT:

Function one of the basic building blocks of a program. It's a type of instruction similar to a verb: a function does something. In JavaScript, as in most coding languages, it has a special form: the name of the function followed by '()'. For example, turnLeft() and drawEye() are two examples of functions. The () tells the computer to "do" the named function. "Doing" a function is typically described as "calling" a function or a "function call."

```
takeShower()  
brushHair()  
flossTeeth()  
brushTeeth()  
putawayClothes()  
turnoffLight()  
getinBed()  
closeEyes()
```

Control flow computers read programs line by line. But when a decision has to be made, the computer doesn't read all the statements—it makes a choice as to which statements to execute. The choosing of what to execute and what to ignore is control flow. An IF statement is one way to direct the control flow for a computer.

Argument a part of code that makes a function more specific and reusable in a number of different ways: it adds details to the function that are changeable. In many programming languages, arguments are represented as a list separated by commas inside the parentheses.



`sing()`
WITH ARGUMENT ADDED:
`sing("Make new friends, but keep the old")`

Variable in coding, a variable holds or "stores" information. This makes it easy to reuse information that might be used many times.

Loops

DRY

Remember:



DON'T



REPEAT



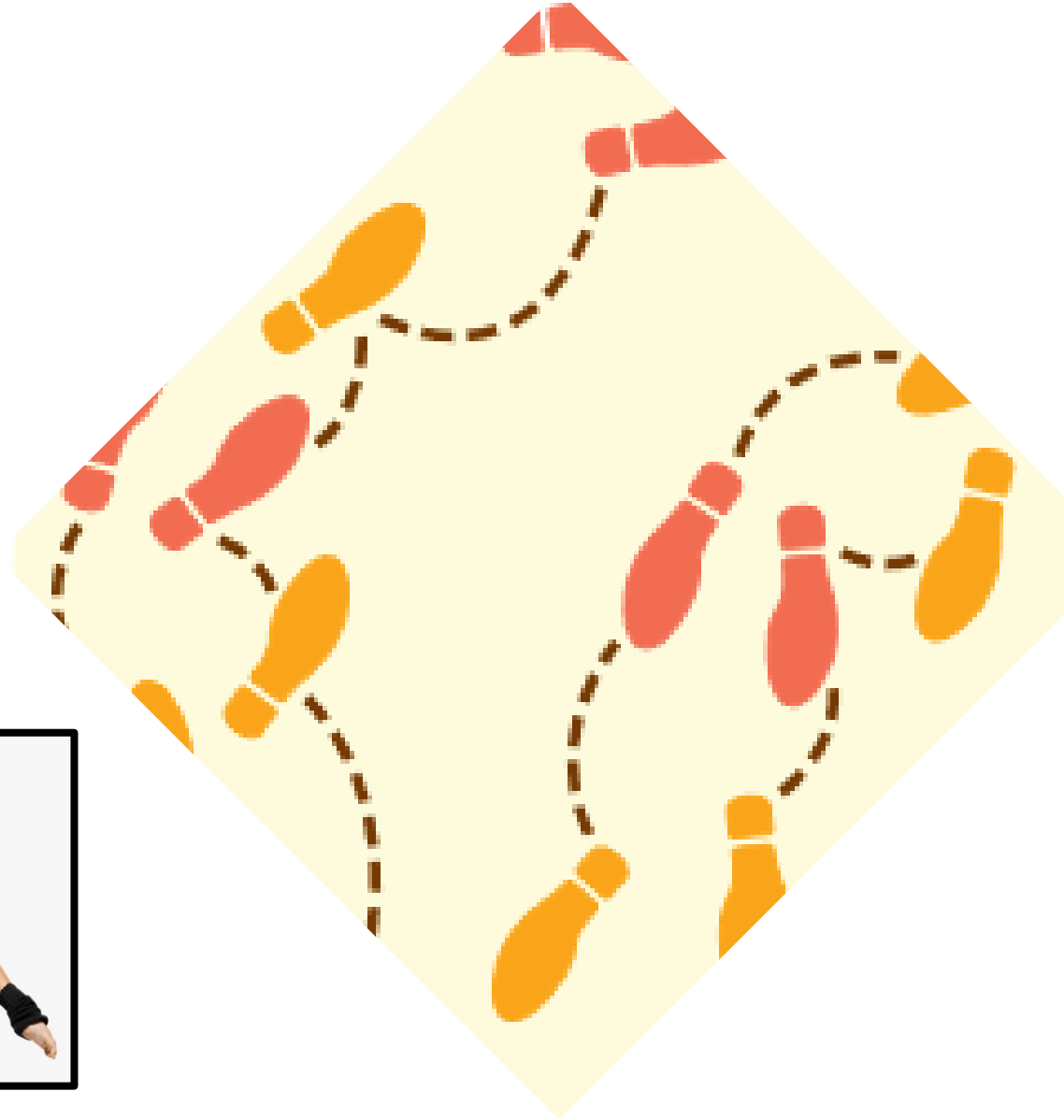
YOURSELF

Loop a function that repeats a piece of code a number of times. For example, a loop using pseudocode syntax might look like this:

```
for 1...3 {  
    The repeating code  
    goes here  
}
```



It's time for some fun, Ambassadors!



BACK

THE

BASIC

IF statement is TRUE
THEN say this
ELSE say that.

X-Y coordinates when programmers put images on screens, they use a grid that represents the screen. Each square in the grid has a reference number like an address. This number is a square's location and can be written as a pair of numbers: the first number is the X (horizontal position), and the second one is the Y (vertical position). The grid's numbers start with the top left corner square as (0,0), which is called the origin.

Boolean expression a statement that can either be true or false, and nothing else.

IF statement this tests whether some "condition" is true or false. The program then executes the code in the true branch if the condition is true. Often, but not always, there is a second branch which executes when the condition is false.

Either the TRUE branch
or
the FALSE branch.

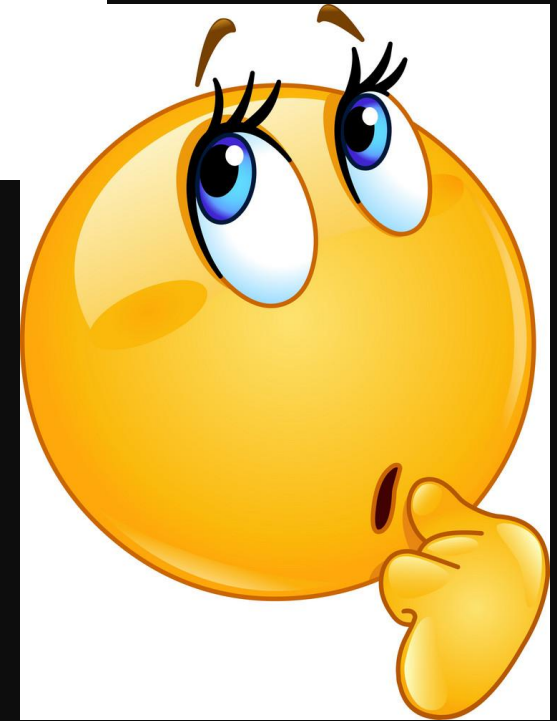
Now it's time for the Seniors to have some fun!

REMEMBER:

IF statement is TRUE
THEN say this
ELSE say that.

IF Girl Scouts of the USA was founded on March 12 1912 is TRUE
THEN you are correct
ELSE please try again

**TRUE
OR
FALSE?**



Grace Hopper



1906-1992

Hedy Lamarr



1914-2000

Karen Sparck Jones



1935-2007

Raye Montague



1935-2018

CODE THAT SAVES LIVES!



Medicine has even started using artificial intelligence (AI), or computers that can learn from experience, to help diagnose illnesses.

Advances in technology have changed the way first responders, like paramedics, search and rescue teams, and firefighters, help people. [REDACTED]