

Fruit Rain



Teaching Coding with Fruit.

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SPRING 2023
GEORGIA GWINNET COLLEGE

Agenda

- What is TAP?
- Our mission
- Meet the Team
- Pre-survey
- Variables
- Test what you've learned in Fruit Rain
- Change the game code a little
- What we hoped you learned
- Post-survey

What is Tap?

TAP is a movement within the culture of technology at GGC that breaks down the stigmas surrounding technology. TAP, which stands for technology ambassador program, is a course at Georgia Gwinnett College that allows students to simulate real-world scenarios such as building projects, teamwork, leadership, and meeting project deadlines. The goal of Tap is to encourage students with varying levels of computer knowledge to demonstrate to others that technology is not as brash as it appears.

Anyone is able to take this class, regardless of major or experience in ITEC.



Our Mission



- For our project, we wanted to find a way to teach others the basics of programming in a way that was fun, unique, and engaging.
- The idea we settled on was to have players answer a variety of programming-related questions by touching the fruit.
- We accomplished this with a Makey Makey controller, with which we wired fruit to directional inputs.
- Today, we'll be learning the concepts taught in the game, trying them for ourselves by writing some simple programs, and playing through the game to test what we've learned



FRUIT RAIN

Meet The Team



Chloe Vedrine

-Systems and Security major
-Rising Junior



Justin Portillo

-Soft Dev major
-Rising Senior



Dion Del Rosario

-Systems and Security major
-Rising Senior



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FRUIT RAIN

Pre Survey

Type in this link in the search box :

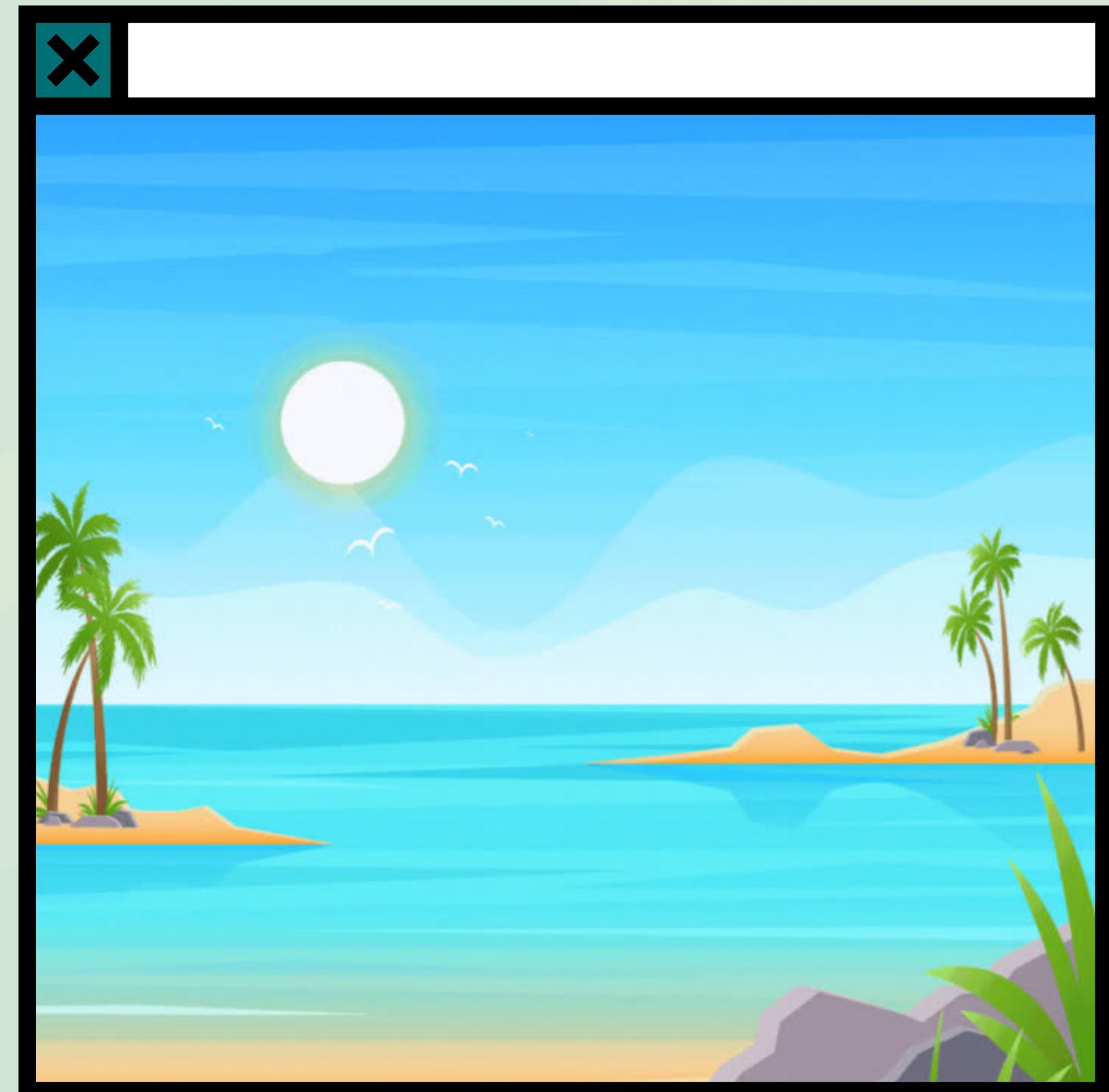
https://ggc.az1.qualtrics.com/jfe/form/SV_a36sUt1QwTJt2Ga

- Or use QR code



Lets Start!

We'll focus on teaching variables and operators today



How To Access The Game

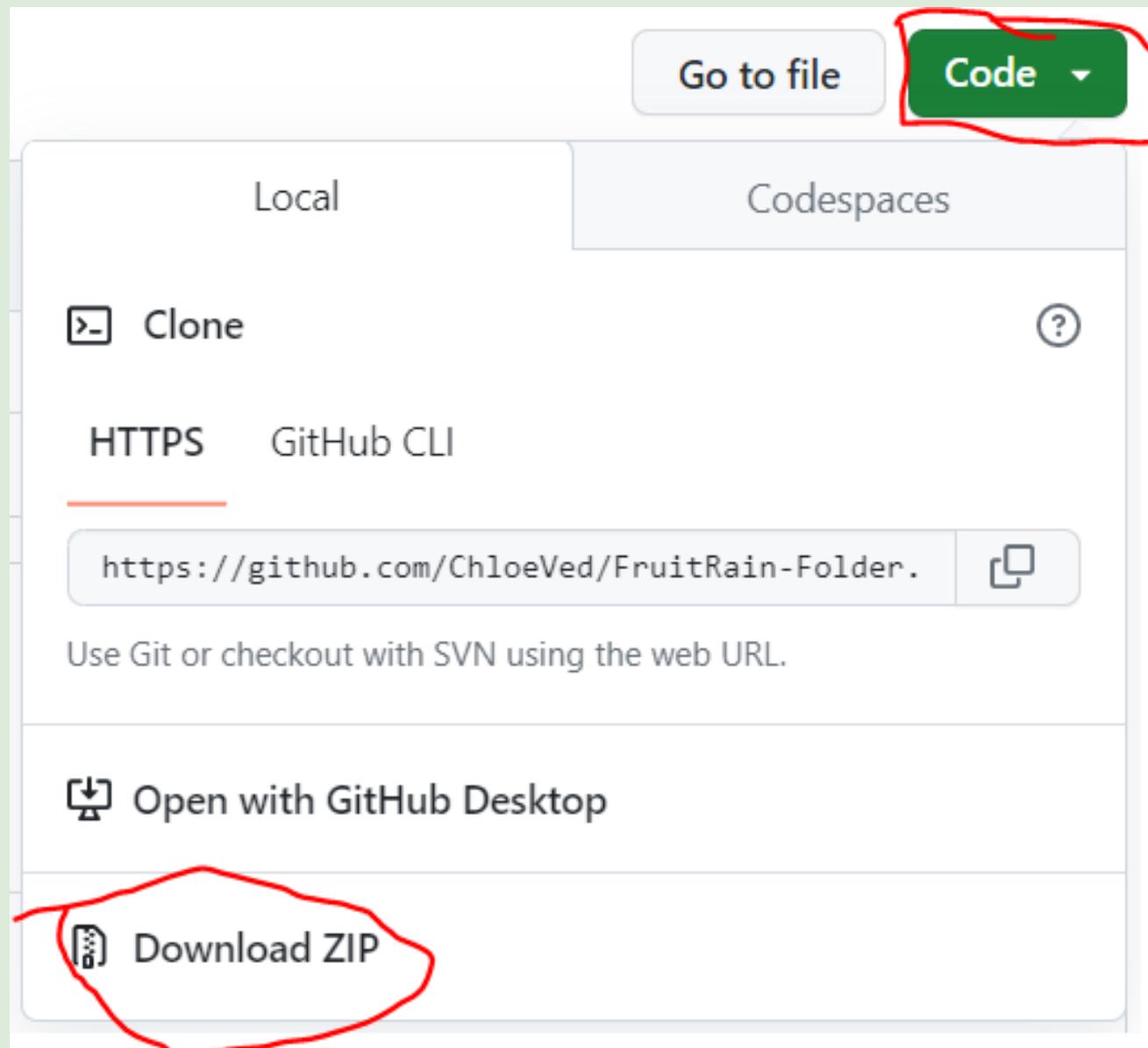
Type in: <https://github.com/ChloeVed/FruitRain-Folder>

OR: Google Drive Link/QR code, If you do not have a GitHub account, email the link to yourself (CAN'T play the game from phone)

[https://drive.google.com/drive/folders/1O69y4RvU_GptOFblleZL0kfKhPIEGogZ?
usp=sharing](https://drive.google.com/drive/folders/1O69y4RvU_GptOFblleZL0kfKhPIEGogZ?usp=sharing)



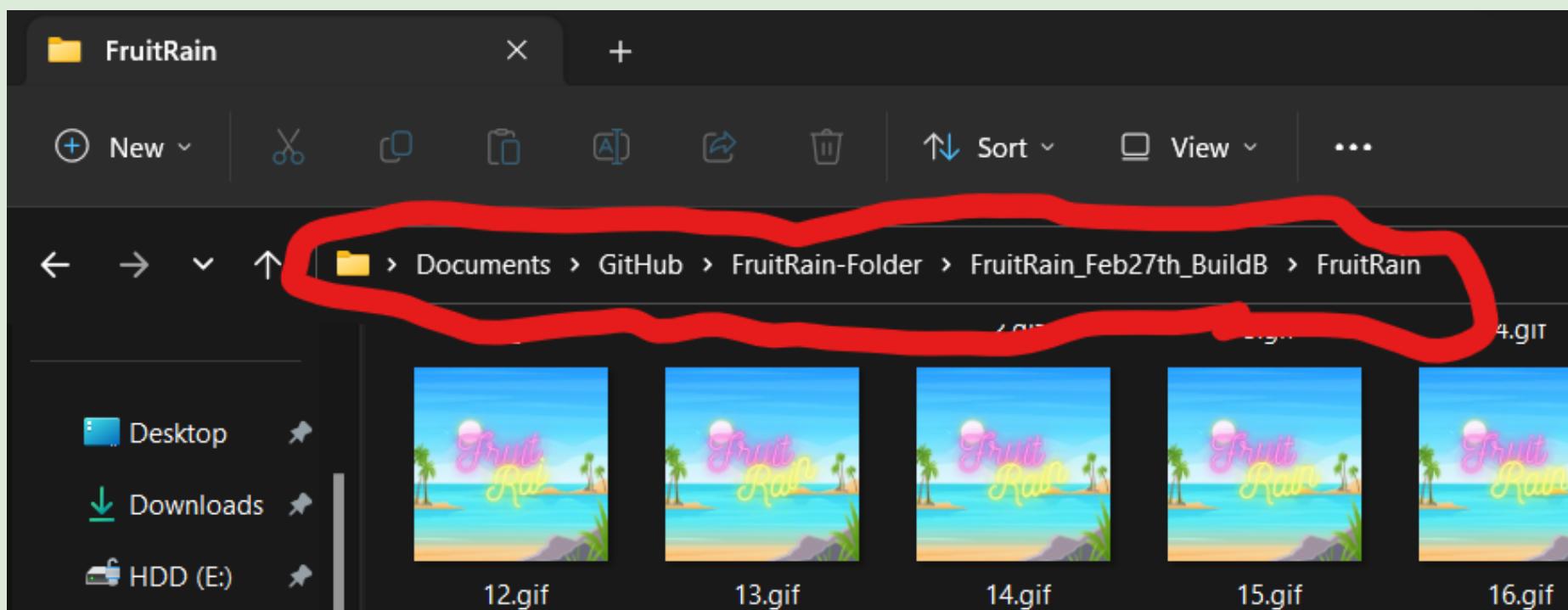
Step 1: Download The game



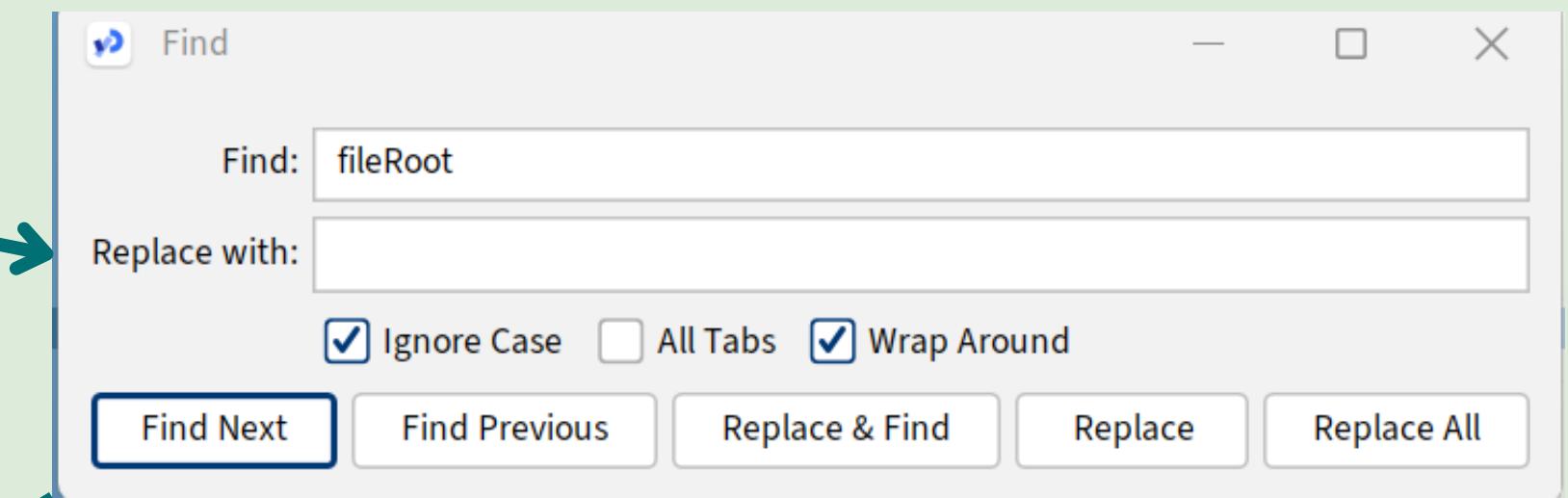
Once you've downloaded the ZIP folder, find it in your downloads and unzip it. Open it up.

Next, click on the folder named "FruitRain" (not to be confused with "FruitRain-Folder"), and look for the FruitRain processing file. Open the file.

Step 2: Change the Filepath



Highlight the top of the address bar and hit **CTRL + C**



In the **FruitRain** class, hit **CTRL + F** and enter "fileRoot"

```
String fileRoot = "";
```

Click in between the quotes and hit **CTRL + V**

```
"C:\\Users\\student\\Downloads";
```

Add an extra "\\" to the already existing "\\"

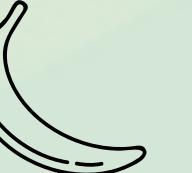
```
"C:\\\\Users\\\\student\\\\Downloads\\\\";
```

Add "\\\" at the end

How To Play:

Simply press the keyboard that corresponds with the fruit that has the correct answer.

Your keyboard will represent the fruit.

- **Bananas** - Hit **Left** Key 
- **Lime** - Hit **Right** Key 
- **Apples** - Hit **Up** Key 
- **Oranges** - Hit **Down** Key 

First, what is a variable?

- A **variable** is a way to store and manipulate data in a program
- Example: $x = 1$ means variable "x" stores "1" as its value
- You can name a variable anything and have it store almost anything

First, what is a variable? cont.

- **String name = "Mark"; //text value**
- **double price = 8.25; //decimal value**
- **boolean isItRaining = false; //true or false (or any other binary)**

First, what is a variable? cont.

- There are different "types" of variables that allow you to store different things
- When you make a variable you have to "declare" what type it's going to be (only need to declare it once)
- Integer for whole numbers, String for text, Double for decimal numbers, and Boolean for true/false
 - You can store whole numbers onto decimal variables, however they will be displayed with a ".0" at the end

First, what is a variable? cont.

- **String name = "Mark"**
- **double price = 8.25**
- **boolean isItRaining = false**
- **int x = 1**

First, what is a variable? cont.

- You can change what is stored in a variable by reassigning what it stores
- Example:

`int x = 1`

`x = 5`

- Or

`String name= "Mark"`

`name =`

Arithmetic and Assignment Operators

- Most arithmetic operators, such as `+`, `-`, `*`, and `/`, work the way you'd expect, adding, subtracting, multiplying, and dividing
- Special operators of note include:
- `%` : Modulus, which returns the division remainder (E.g. `(int) 25/10 = 2`, but `25%10 = 5`)
- `++` : Increment, which increases the value of a variable by 1 (E.g. `int x = 7; x++; // x = 8`)
- `--` : Decrement, which decreases the value of a variable by 1 (E.g. `int x = 7; x--; // x = 6`)
- An `=` sign is used to assign values to variables. Combinations of various other operators and the `=` work as shorthands for their expressions. (ie. `+=`, `-=`, `*=`, `/=`, etc)
- e.g. `x += 3` is the same as `x = x + 3`

Test what you have learned

- Pull back up the game and press "down" to choose the Variables quiz
- Read the questions carefully and take your time.
- Finished? There are two other quizzes you're free to take. If you're interested in learning more about programming, go to <https://www.w3schools.com/java/>
- Alternatively, you can try and make your own quiz and put it in the game. Ask one of us for help and we'll guide you through the process!

Let's apply what we've learned

Let's take a look at the game's code and change a few things

What we hope you learned.

We hoped that by teaching you the fundamentals of coding, such as variables, you were able to get your foot in the door and see how much fun it can be. You now have a great story to tell when people ask you if you know how to code. You may inform them that you do! If you're interested in learning more about programming, your first step would be to take ITEC 2120 or ITEC 2140.

Post Survey

Another One!

Just a quick questionnaire to see if you've learned anything new.

Type in this link in the search box :

https://ggc.az1.qualtrics.com/jfe/form/SV_86BeKF3h2msKTAy

Or use QR code:



Thank you!

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