

CS 103000

Prof. Madeline Blount

Week 0



*Dall-E 2: cats learning C++ in the forest on '90's technology*



A common way to become familiar with algorithms is called turtle graphics: You instruct a robotic turtle to walk a certain path, via instructions like "Turn left", "Walk forward 10 steps", or "Pen down" (to draw a line while walking).

The 6-instruction algorithm shown below ("Pen down", "Forward 100", etc.) draws a triangle.

1. Press "Run" to see the instructions execute from top to bottom, yielding a triangle.
2. Can you modify the instructions to draw a square? Hint: "Pen down", "Forward 100", "Left 90", "Forward 100", "Left 90"—keep going!
3. Experiment to see what else you can draw.

Note: The values after a Left or Right turn are angles in degrees.

How to:

- Add an instruction: Click an orange button ("Pen up", "Pen down", "Forward", "Turn left").
- Delete an instruction: Click its "x".
- Move an instruction: Drag it up or down.

Pen up

Pen down

Forward

Turn left

Clear

Pen down

Forward 100

Left 120

Forward 100

Left 120

Forward 100

Run

Grey Walter:  
1940's, UK  
Elmer & Elsie



Electro  
Mechanical  
Robots, Light  
Sensitive





Cynthia Solomon, Wally Feurzeig, Seymour Papert, 1969 Cambridge, Mass.: LOGO



## STREAMS :

← "PUT TO" - INSERTION



```
cout << "onscreen!" <<  
endl;
```



```
cin >> variableName;
```



→ "GET FROM"  
EXTRACTION





**You**

Write me a program in C++ that says "hello world"



**ChatGPT**

Certainly! Writing a "Hello, World!" program in C++ is straightforward. Here's a simple example:

cpp

Copy code

```
#include <iostream>

int main() {
    std::cout << "Hello, World!" << std::endl;
    return 0;
}
```