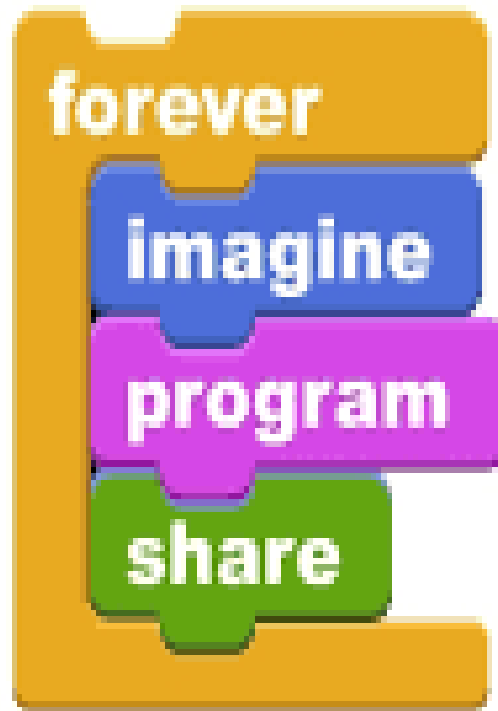




Programming Is Fun!



SCRATCH

What is Programming?

- ▶ Set of instructions
- ▶ Composed of commands and functions
- ▶ Used to solve a specific problem
- ▶ Not the same thing as coding

Why Do We Program?

- ▶ Keep with the times
- ▶ Stimulates the brain
- ▶ It is fun!

How Do You Learn To Program?

- ▶ Research software
- ▶ Download or use online software
- ▶ Start programming!

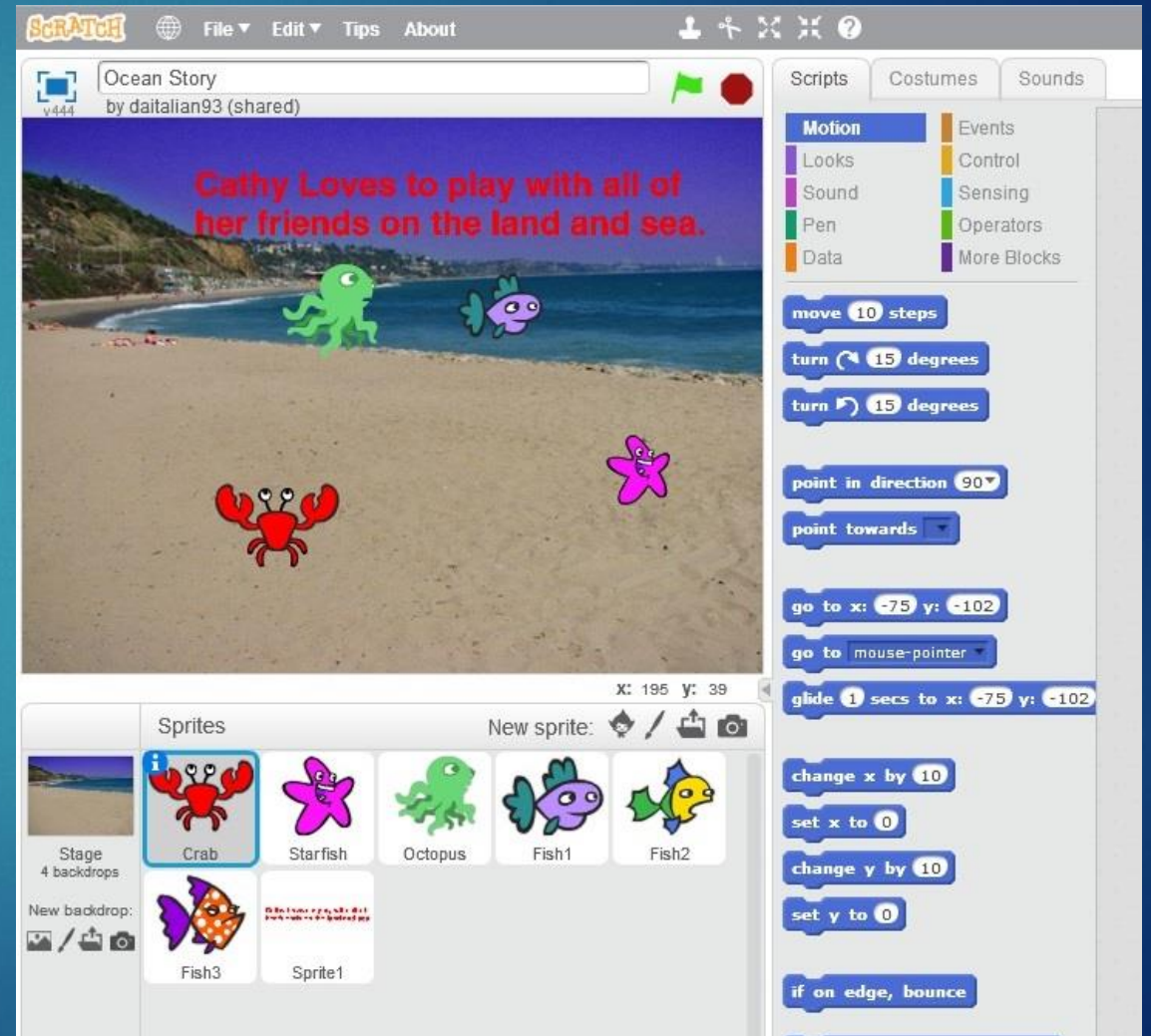


SCRATCH

https://en.wikipedia.org/wiki/Scratch_%28programming_language%29

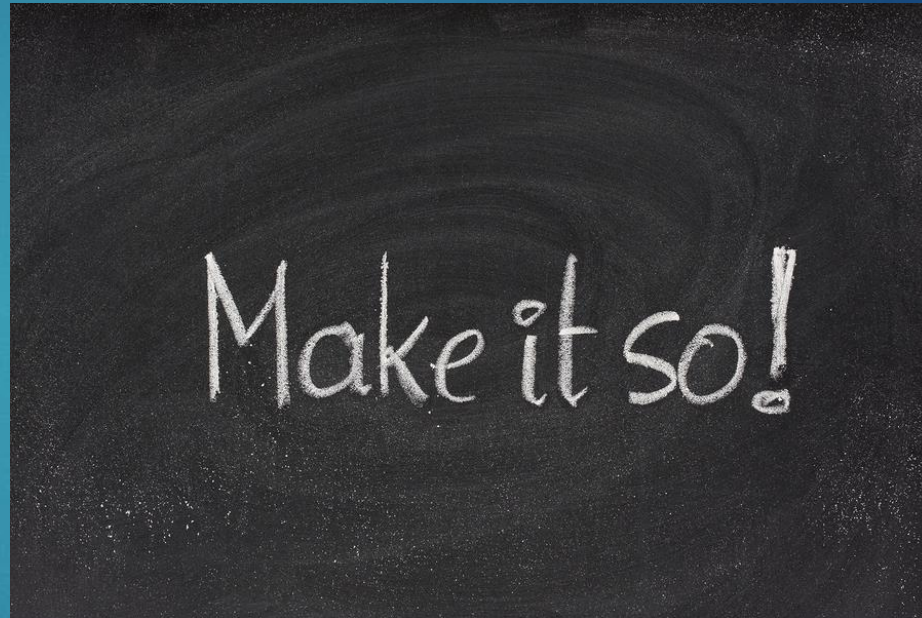
Lets Program!

- ▶ Scratch is a Visual Programming Language (VPL)
- ▶ Great to learn with
- ▶ Best way to learn is practice



What Are Commands?

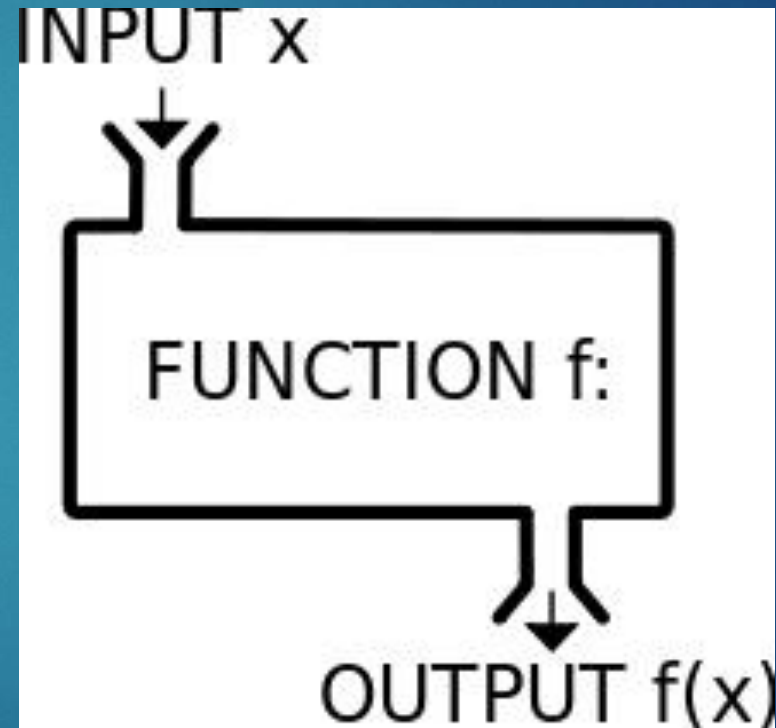
- ▶ Commands perform a specific task.



<http://speak-it.com/what-are-natural-language-commands/>

What are Functions?

- ▶ Functions are a collection of commands.
- ▶ Functions make programs more efficient.



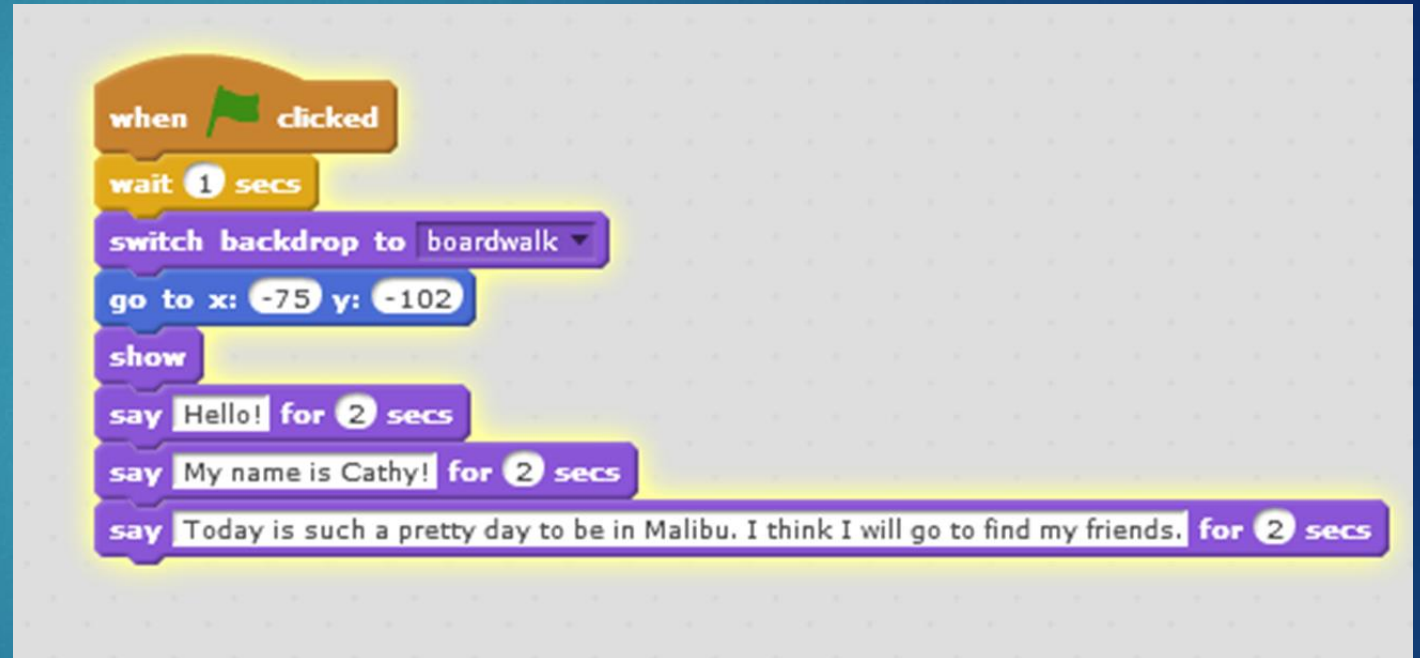
<https://www.ycode.com/2015/01/25/thinking-functional-software.html>

Commands and Functions In Scratch



Commands and Functions Cont.

- ▶ Commands and functions make up a program.
- ▶ A program can be simple or complex.

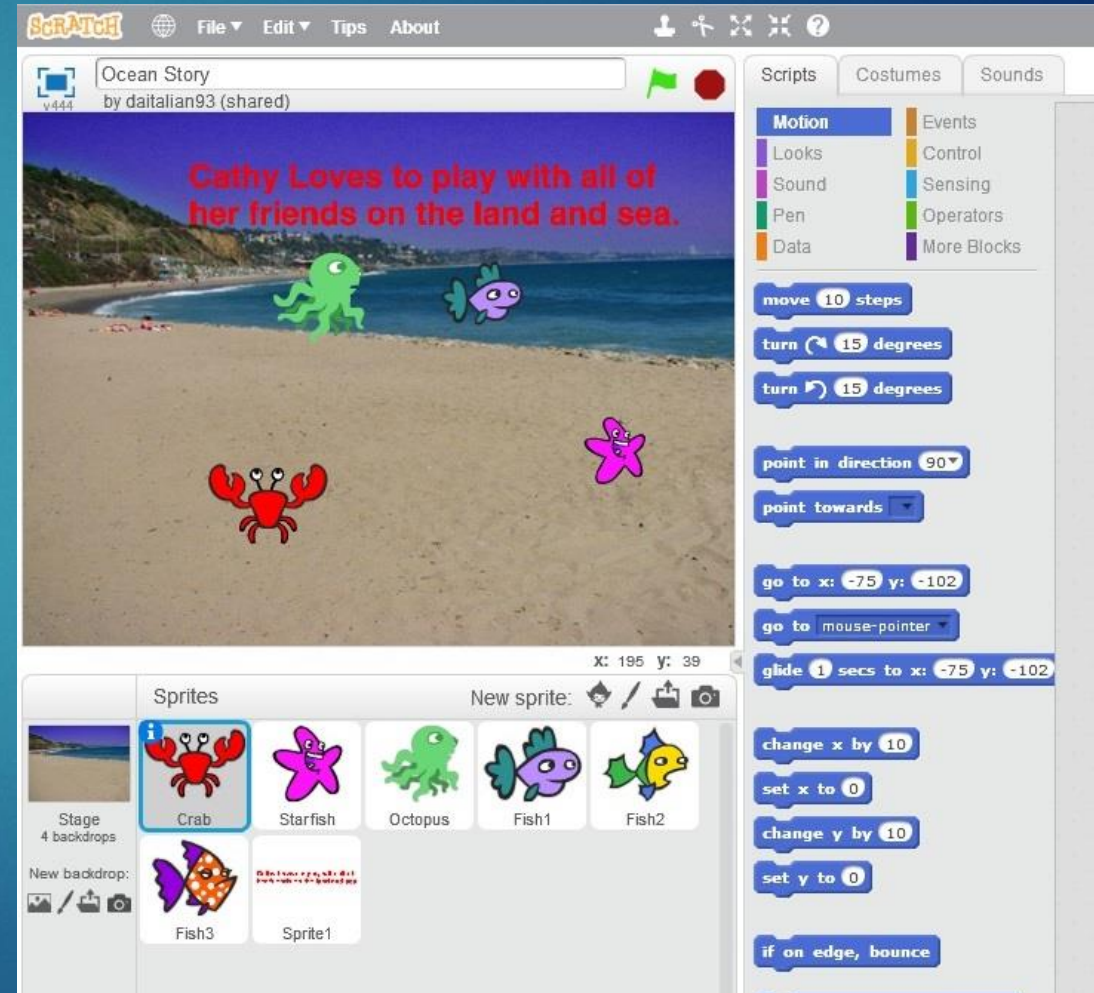


Some Scratch Commands

- ▶ Move – moves a sprite along the X or Y axis
- ▶ Hide – Makes a sprite invisible
- ▶ Show – Makes a sprite visible
- ▶ Wait – Makes the program pause for a specified time
- ▶ Switch – Switches costumes and backgrounds

Programming in action!

- ▶ Interactive adventure story
- ▶ ocean based
- ▶ Uses Event controls to manipulate scenarios
- ▶ <https://scratch.mit.edu/projects/100088852/>



Ocean Creature's code

```
when green flag clicked
hide

when backdrop switches to beach malibu2
show

when this sprite clicked
say Hello! I am starfish! for 2 secs
say If I lose an appendage, I can grow another one to replace it! for 2 secs

when backdrop switches to underwater2
hide
```

```
when green flag clicked
hide

when backdrop switches to beach malibu2
show

when this sprite clicked
say Hello! I am an octopus! for 2 secs
say I have 4 pairs of arms and they are covered in suction cups to help me find food! for 3 secs

when backdrop switches to underwater2
show

when backdrop switches to backdrop1
hide
```

```
when this sprite clicked
say Hello! I am a fish! for 2 secs
say There are about 20,000 different species of fish in the ocean! for 3 secs

when green flag clicked
hide

when backdrop switches to beach malibu2
show

when backdrop switches to underwater2
hide
```

```
when green flag clicked
hide

when backdrop switches to beach malibu2
show
switch costume to costume1
wait 3 secs
switch costume to costume2
wait 3 secs
switch costume to costume3
wait until key right arrow pressed?
hide

when backdrop switches to underwater2
show
switch costume to costume4
wait 3 secs
switch costume to costume5
wait 3 secs
switch costume to costume6
wait until key right arrow pressed?
hide
```

Conclusion

- ▶ Programming can be fun!



<http://www.clker.com/clipart-238147.html>

Sources

- ▶ Wikipedia
- ▶ Scratch.org
- ▶ Scratchjr.org
- ▶ Google Images



Questions?

