StarLogo

Corey McCaffrey
Daniel Wendel
Kevin Wang
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A little about ourselves

* Dan - MIT Computer Science Graduate Student
* Corey - MIT Computer Science Graduate Student
* Kevin - Harvard Education Graduate Student from California

A little about me

* Didn't introduce myself last time
* EECS BS UC Berkeley 2002
* Currently Technology in Education Graduate student at Harvard
* Teaching experience
* Industry experience

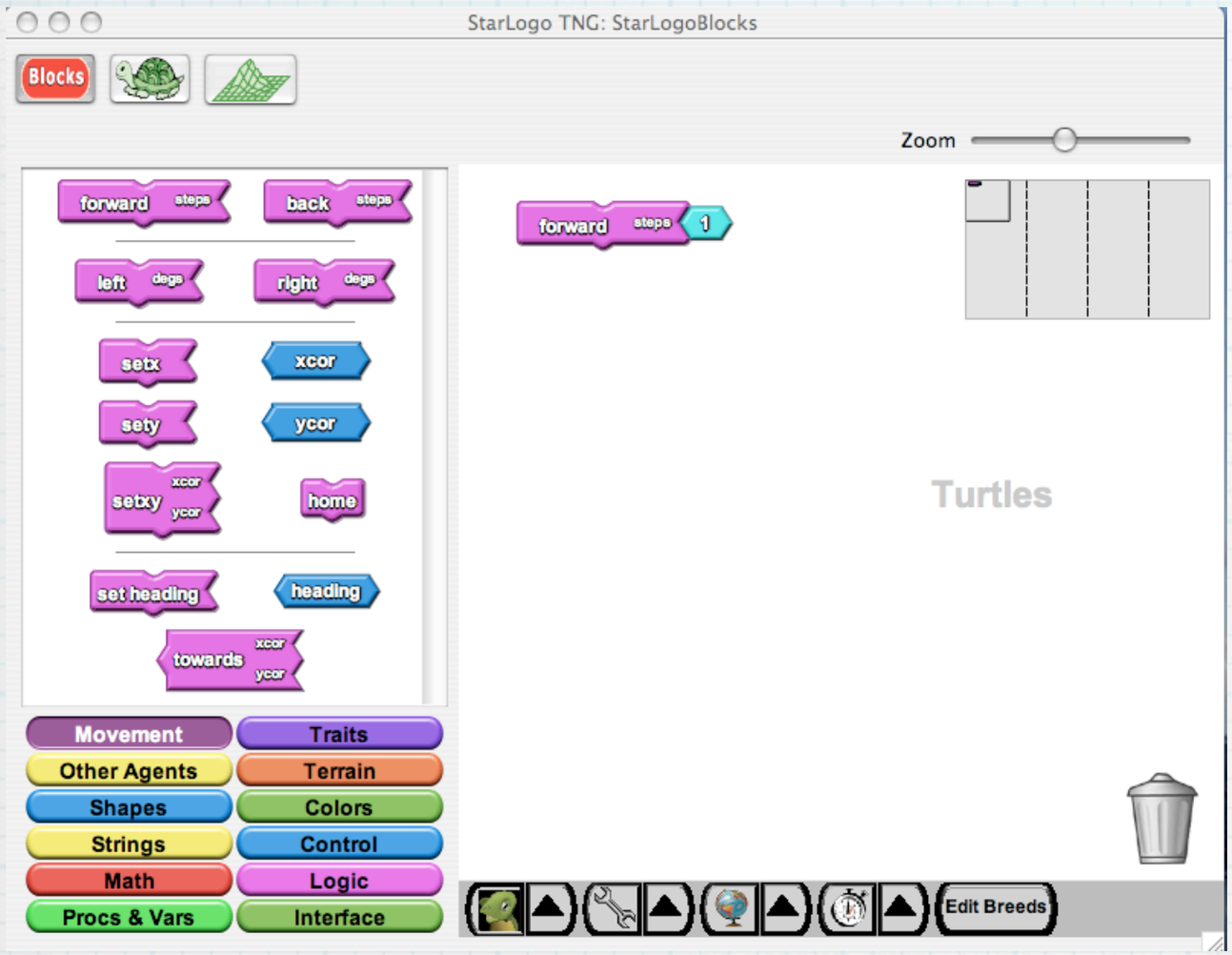
What we expect from you

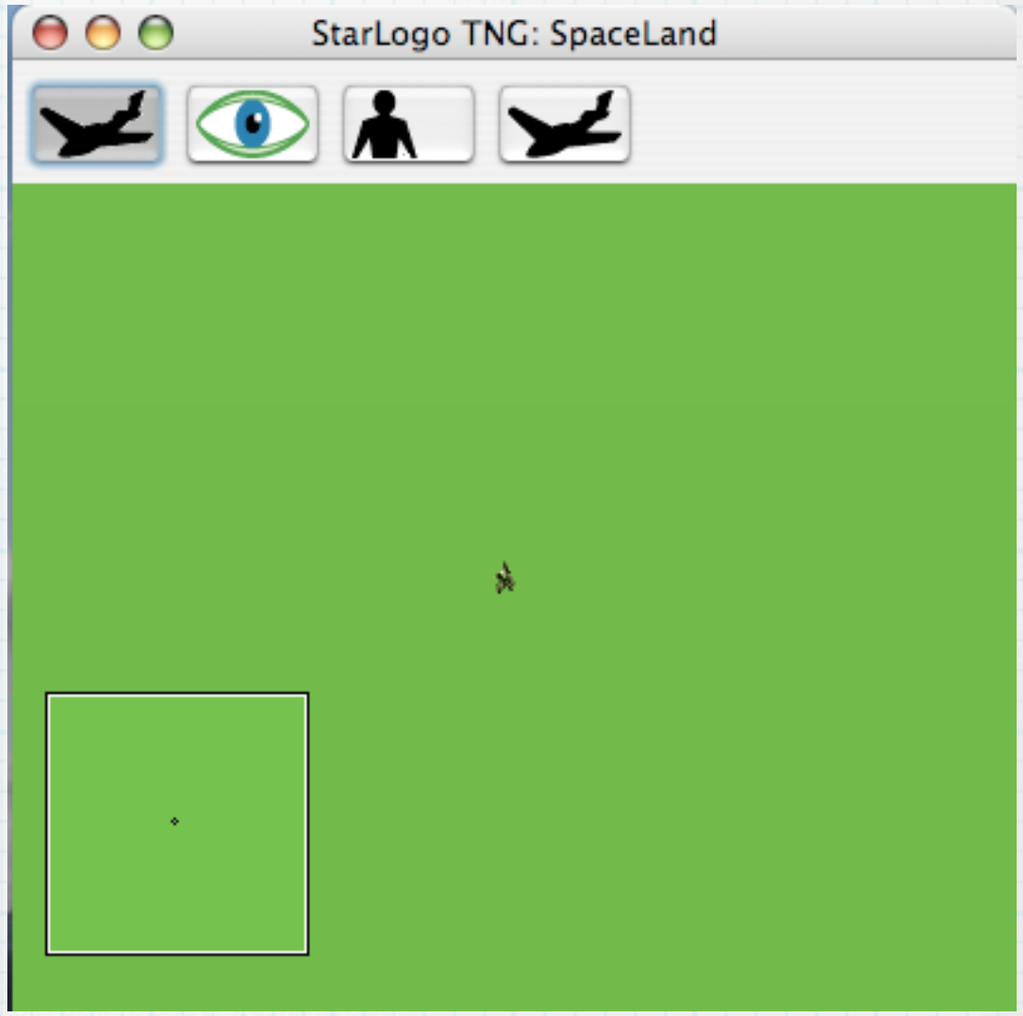
* You guys are in middle and high school now, no grade school behaviors
* Pay attention when we ask you to
* Respect each other
* Don't be afraid to try things
* Don't be afraid to ask questions
* Try it out at home!

What you can expect from this class

* Learn about concepts in computer programming
* Make a fun game at the end of the semester
* Learn to think logically like a programmer
* Pilot program (work in progress)

What's what



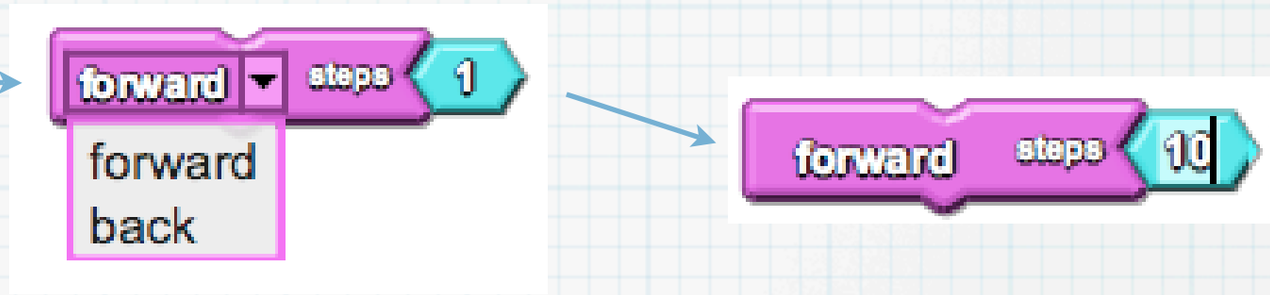


* The programming window and SpaceLand

The agent!

* What is the agent?
  * A character that you can program and control
  * Can have more than one
  * Can have behaviors

How do we control it?



* With programming blocks!
* Parameters and options you can change!
* Grouped by function

Some basic building blocks

* Forward and back - in steps
* Left and right - in degrees
* home - returns to center
* pen up, pen down - leaves trail (in "Traits")

Screen management

* Clear patches under "Interface" clears drawings
* Clear all also under "Interface" gets rid of everything

Agent creation and deletion

* Get more agents, under the turtle drawer, create turtle block

* Get rid of agents, "die" block under logic

How do we draw a square?

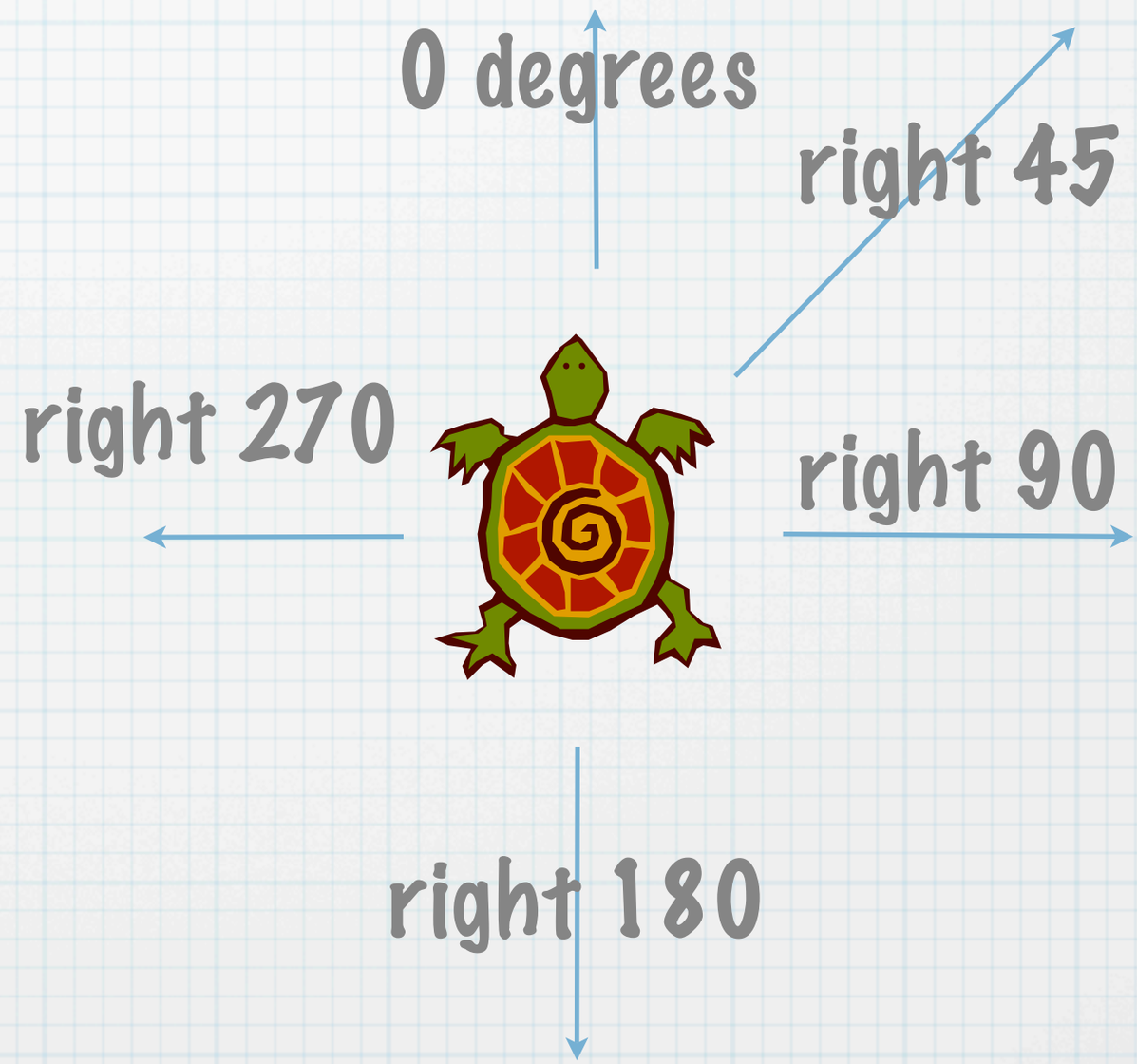
* How do we do it in real life?
* What are some properties of a square?
* Are there things in StarLogo that can help us with these?

Let's group all of the blocks together

* What if we want to do this again later?
* We can group the blocks together
* Notice how certain blocks only fit with other blocks

A little bit of geometry

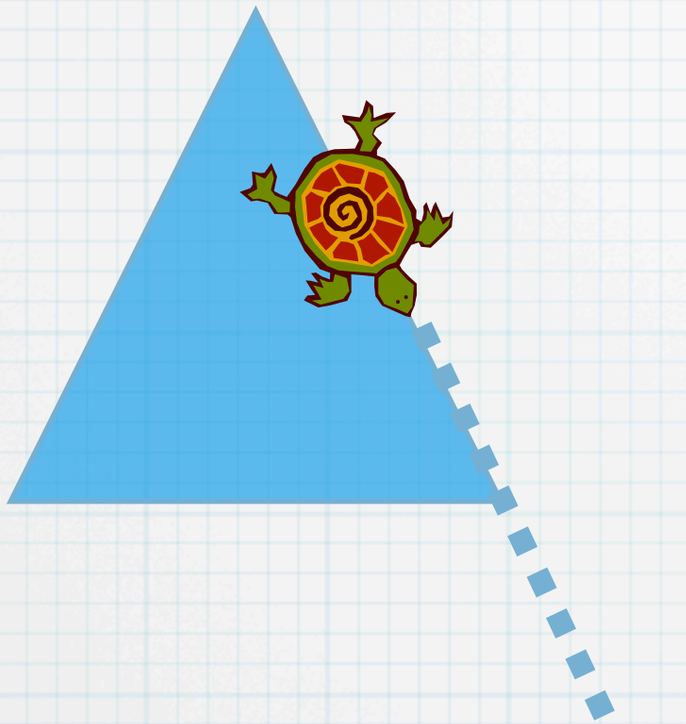
* 360 degrees
* Degrees for turning relative to where the agent is facing
* What are these degrees if we only had the left block?

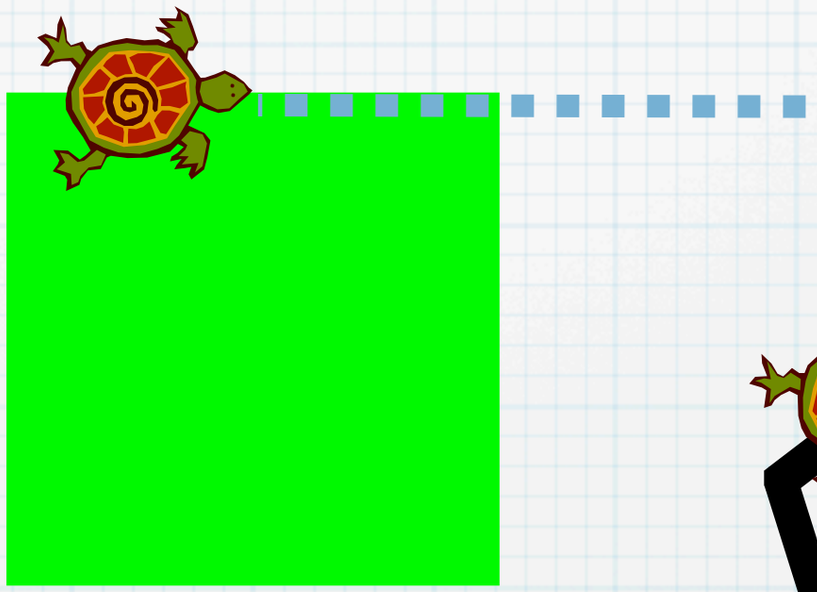


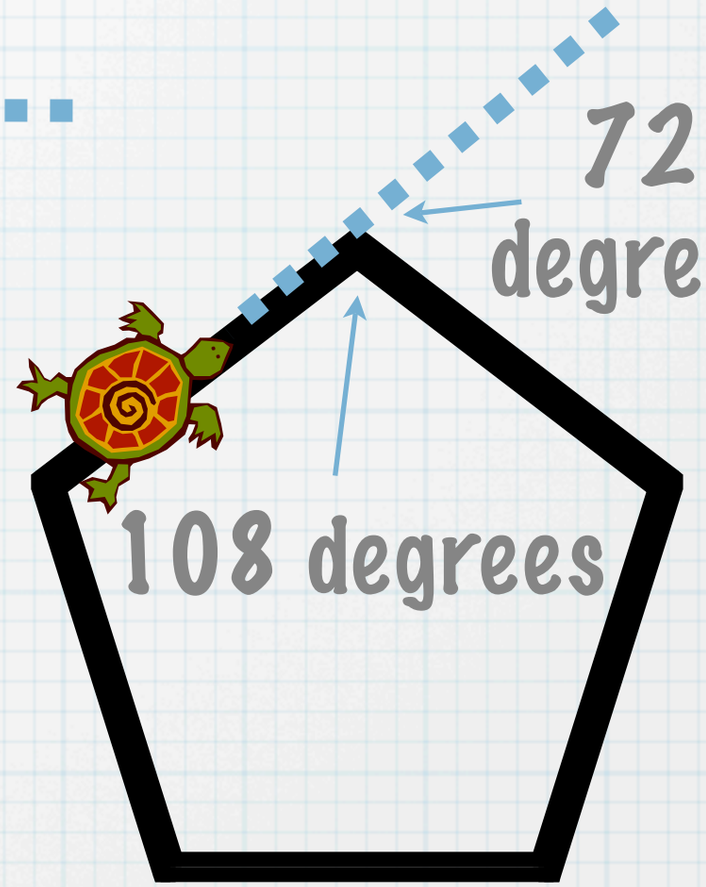
What if agent is facing right?

* What's different from the previous screen?

Angles and turning







* Agent always want to turn the inside angle...
* What are the angles?
* What do they add up to?

Repeating...

* What if we want to do the same thing a number of times?
* Notice repeat is logic
* Notice how it has 2 parts, times and do

What are we missing if we want to draw a square?

Get programming!

* Try to draw a triangle and a pentagon as well as a square (which we've done)
* Draw a circle (think about this one)
* Draw a bunch of squares laid out next to each other (think about using repeat)