

CS 105

Week 0, Part 2

Office Hours

Wade's Office Hours (2215 Siebel)

Mondays, 2:30-3:30pm

Wednesdays, 11:30-12:30pm
or by appointment

TA Office Hours (70B Wohlers Hall)

Sundays: 2-4pm

Mondays: 11am-3pm

Tuesdays: 9-3pm

Why Programming?

- To use a computer efficiently, you must understand how a computer “thinks”.
 - Logic
 - Conditionals
 - Loops
 - Variables

Scratch

Scratch

- Computer programming language

Scratch

- Computer programming language
- **Procedural** programming language
 - Runs “procedures” from top-to-bottom
 - Contains loops and conditionals

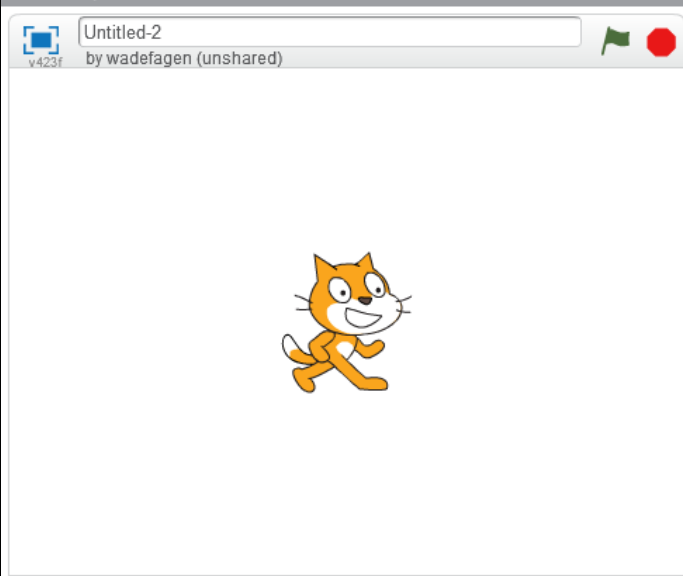
Scratch

- Computer programming language
- Procedural programming language
 - Runs “procedures” from top-to-bottom
 - Contains loops and conditionals

JavaScript

- Computer programming language
- Procedural programming language
 - Runs “procedures” from top-to-bottom
 - Contains loops and conditionals

DDR



Sprites New sprite: [icon] [icon] [icon] [icon]

Stage 1 backdrop

New backdrop: [icon] [icon] [icon] [icon]

Sprite1

Scripts **Costumes** **Sounds**

Motion Events Control Sensing Operators More Blocks

move 10 steps

turn 15 degrees

turn 15 degrees

point in direction 90

point towards

go to x: 0 y: 0

go to mouse-pointer

glide 1 secs to x: 0 y: 0

change x by 10

set x to 0

change y by 10

set y to 0

if on edge, bounce

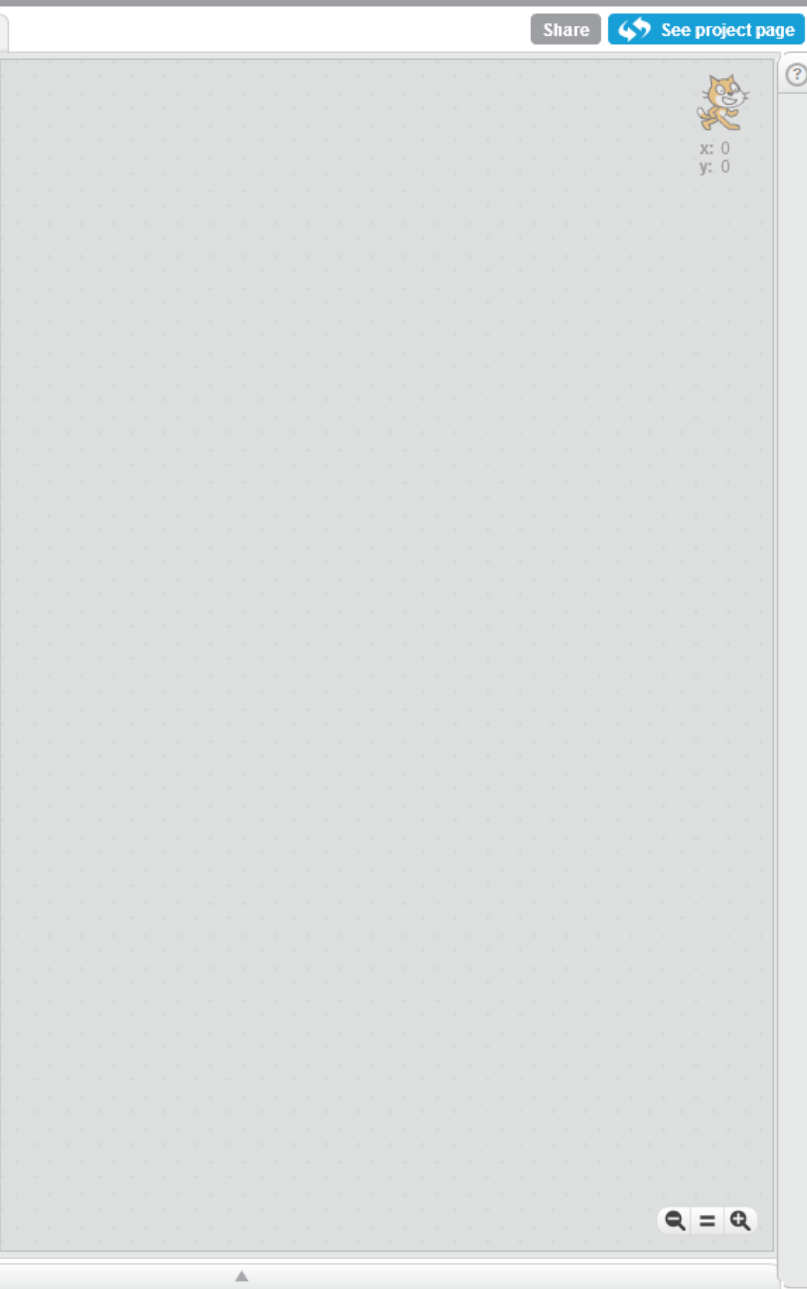
set rotation style left-right

☐ x position

☐ y position

☐ direction

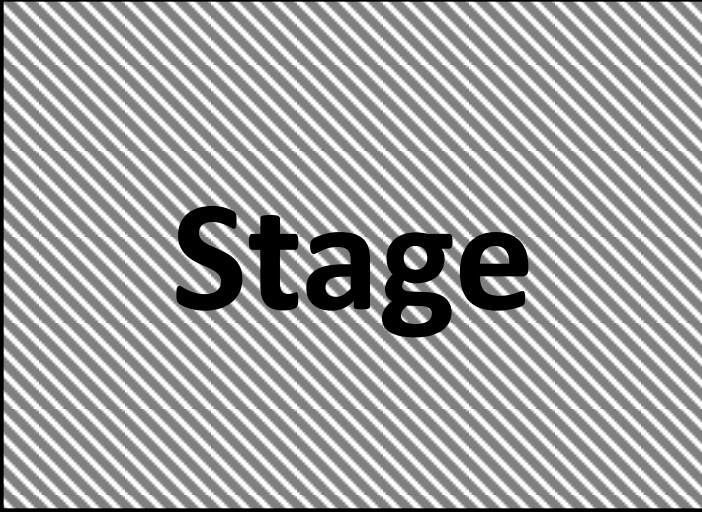
Backpack



Untitled-2
by wadefagen (unshared)

Scripts Costumes Sounds

Share See project page



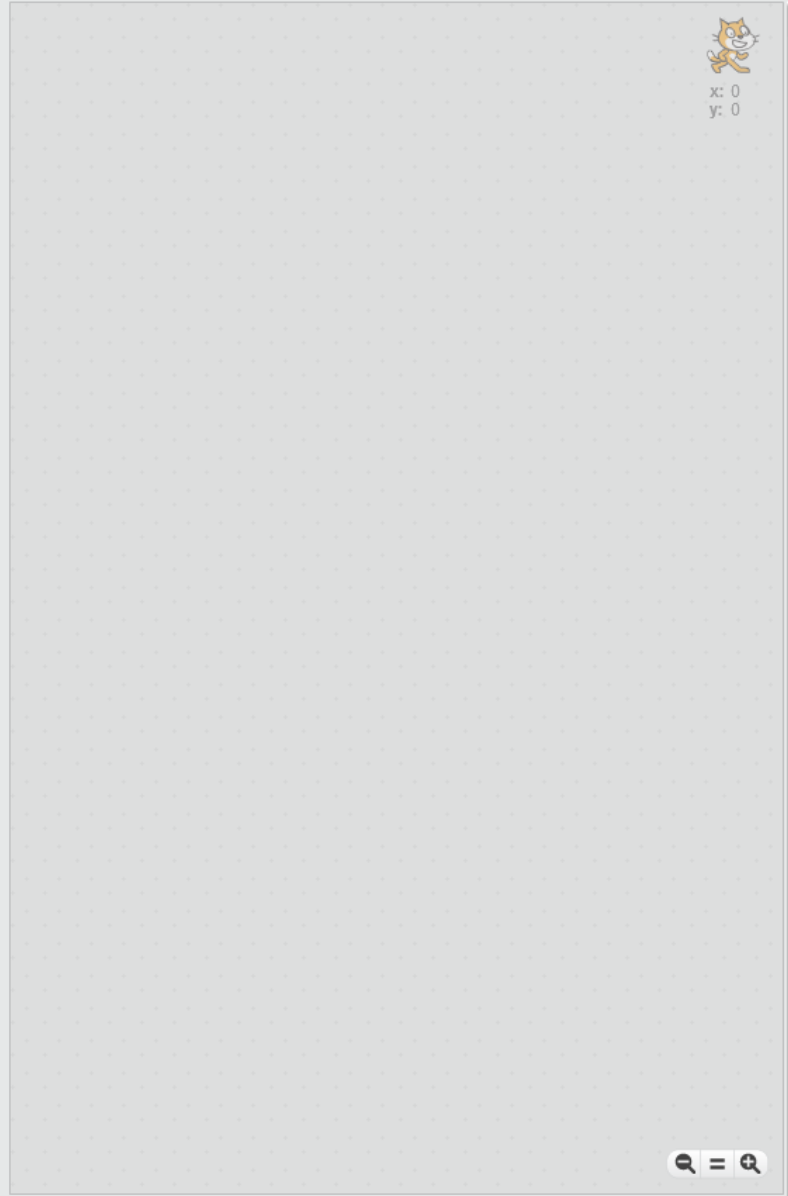
- Motion
- Looks
- Sound
- Pen
- Data
- Events
- Control
- Sensing
- Operators
- More Blocks

```
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards
go to x: 0 y: 0
go to mouse-pointer
glide 1 secs to x: 0 y: 0
```

```
change x by 10
set x to 0
change y by 10
set y to 0
```

```
if on edge, bounce
set rotation style left-right
```

- x position
- y position
- direction



Sprites

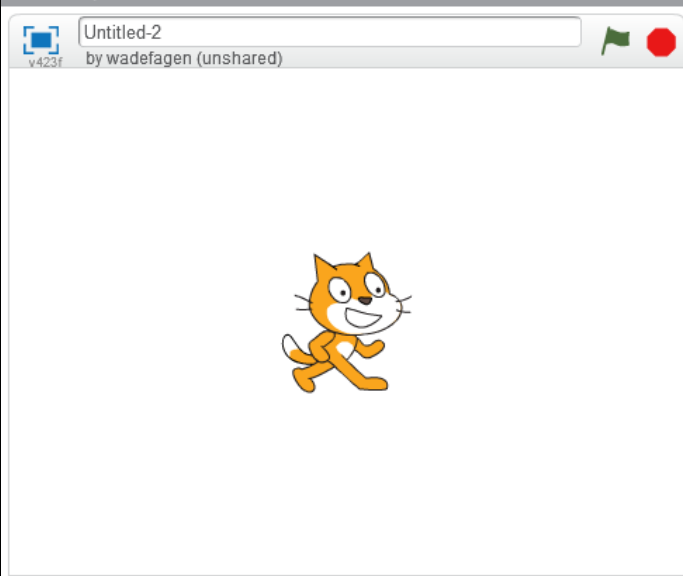
New sprite: [cat icon] [image icon] [camera icon]

Stage 1 backdrop

New backdrop: [image icon] [image icon] [camera icon]

Sprite1

Backpack



Scripts | Costumes | Sounds

Motion

- move 10 steps
- turn 15 degrees
- turn 15 degrees
- point in direction 90
- point towards
- go to x: 0 y: 0
- go to mouse-pointer
- glide 1 secs to x: 0 y: 0

Events

- Control
- Sensing
- Operators
- More Blocks

change x by 10

set x to 0

change y by 10

set y to 0

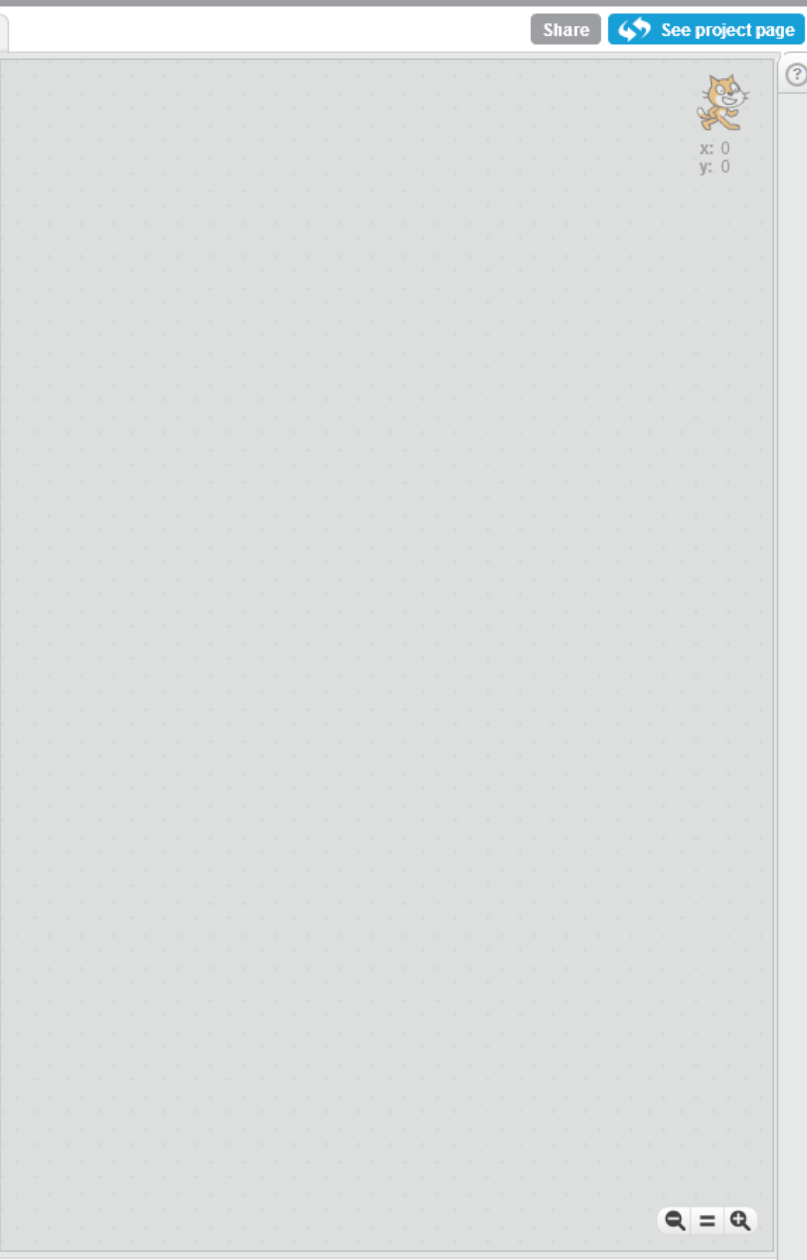
if on edge, bounce

set rotation style left-right

x position

y position

direction



Sprites

New sprite:

Stage 1 backdrop

New backdrop:

Sprites

Backpack

Sprites


v423f

Untitled-2

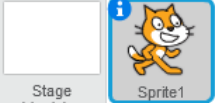
by wadefagen (unshared)



x: 240 y: -180

Sprites

New sprite:    



Stage
backdrop

New backdrop:



Coding Region

Backpack

Stage



Sprite1

Sprites

The image shows the Scratch coding region. On the left is a palette of block categories: Motion, Looks, Sound, Pen, Data, Events, Control, Sensing, Operators, and More Blocks. Below the palette is a list of motion blocks: 'move 10 steps', 'turn 15 degrees' (left and right), 'point in direction 90', 'point towards', 'go to x: 0 y: 0', 'go to mouse-pointer', 'glide 1 sec to x: 0 y: 0', 'change by 10', 'set x to 0', 'change y by 10', 'set y to 0', 'if on edge, bounce', 'set rotation style left-right', and a list of variables: 'x position', 'y position', and 'direction'. In the center of the workspace, the text 'Coding Region' is written in a large, bold, black font. In the top right corner, there is a Scratch cat icon and coordinates 'x: 0' and 'y: 0'. In the bottom right corner, there are icons for search, zoom in, and zoom out.

Statement

move 10 steps

Conditional



Boolean (aka “bool”)

Anything that has an answer of
either YES or NO.

Boolean (aka “bool”)

Anything that has an answer of
either **TRUE** or **FALSE**.

Boolean (aka “bool”)

Anything that has an answer of either **TRUE** or **FALSE**.



Boolean (aka “bool”)

Anything that has an answer of either **TRUE** or **FALSE**.

key pressed?

mouse down?

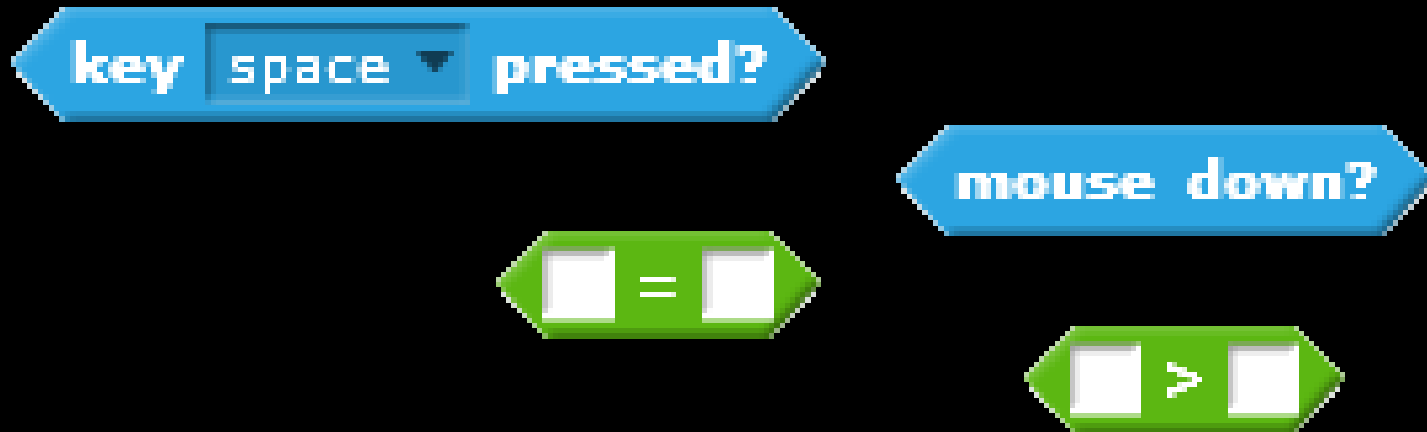
Boolean (aka “bool”)

Anything that has an answer of either **TRUE** or **FALSE**.



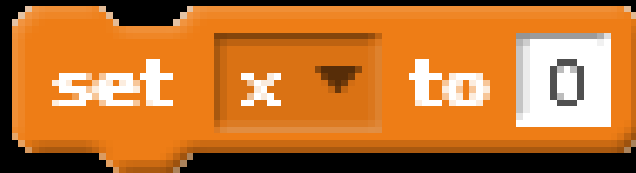
Boolean (aka “bool”)

Anything that has an answer of either **TRUE** or **FALSE**.



Conditional + Boolean

Defining a Variable



Activity 1

Released: Today at 5:00pm

Due: By 9:00am Next Wednesday