

CoderDojo Athenry

"Above all, be cool"



Every week:

- ✓ Sign in at the door

If you are new:

- ✓ Fill in Registration Form
- ✓ Ask a Mentor how to get started

Make sure you are on the Athenry Parents/Kids Google Group: email coderdojoathenry@gmail.com

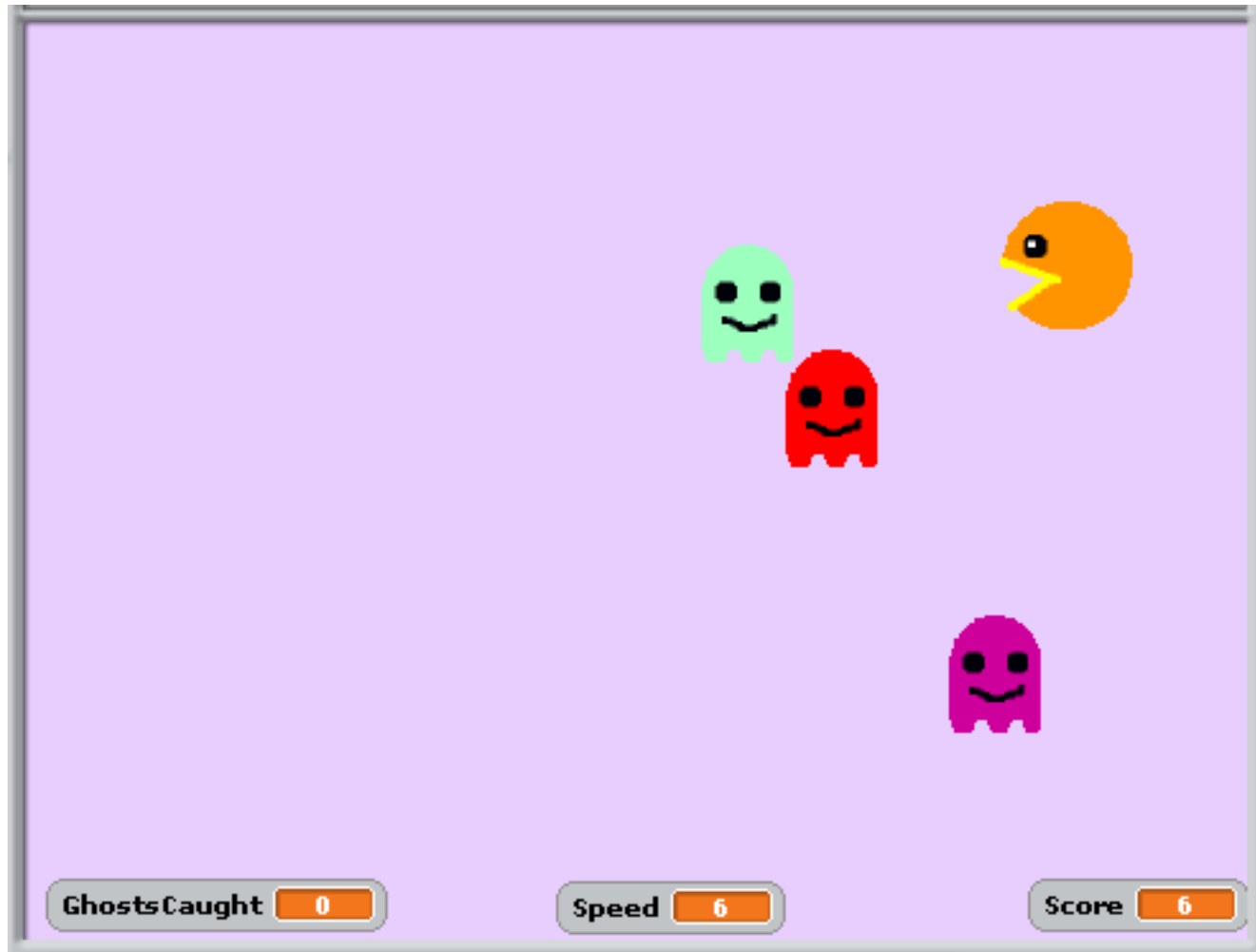
CoderDojo Athenry

SCRATCH Beginners



Code and notes by Martha Fahy, 2015

Today's Ninja Challenge: Create a **GhostBuster** Game Like This



Today's **Big** Ideas

Designing
your game

Loops &
Decisions

Variables



How to Get Started

Reminder
from Week 1

Plan the Design

- Think first!
- Start simple: add more later

Create First Character

- Design it: appearance & behaviours
- Write script (Code) to control its behaviours

Test It

- Any bugs? (Not working as expected)
- Debug and Improve

Extend It

- More Characters, More Behaviours, More Testing!

Steps To Make This Game

Create your **Ghost Catcher**: appearance?

Code to control it with mouse

Change the **Stage**:

Plain coloured background?

Create first **Ghost**: appearance & code

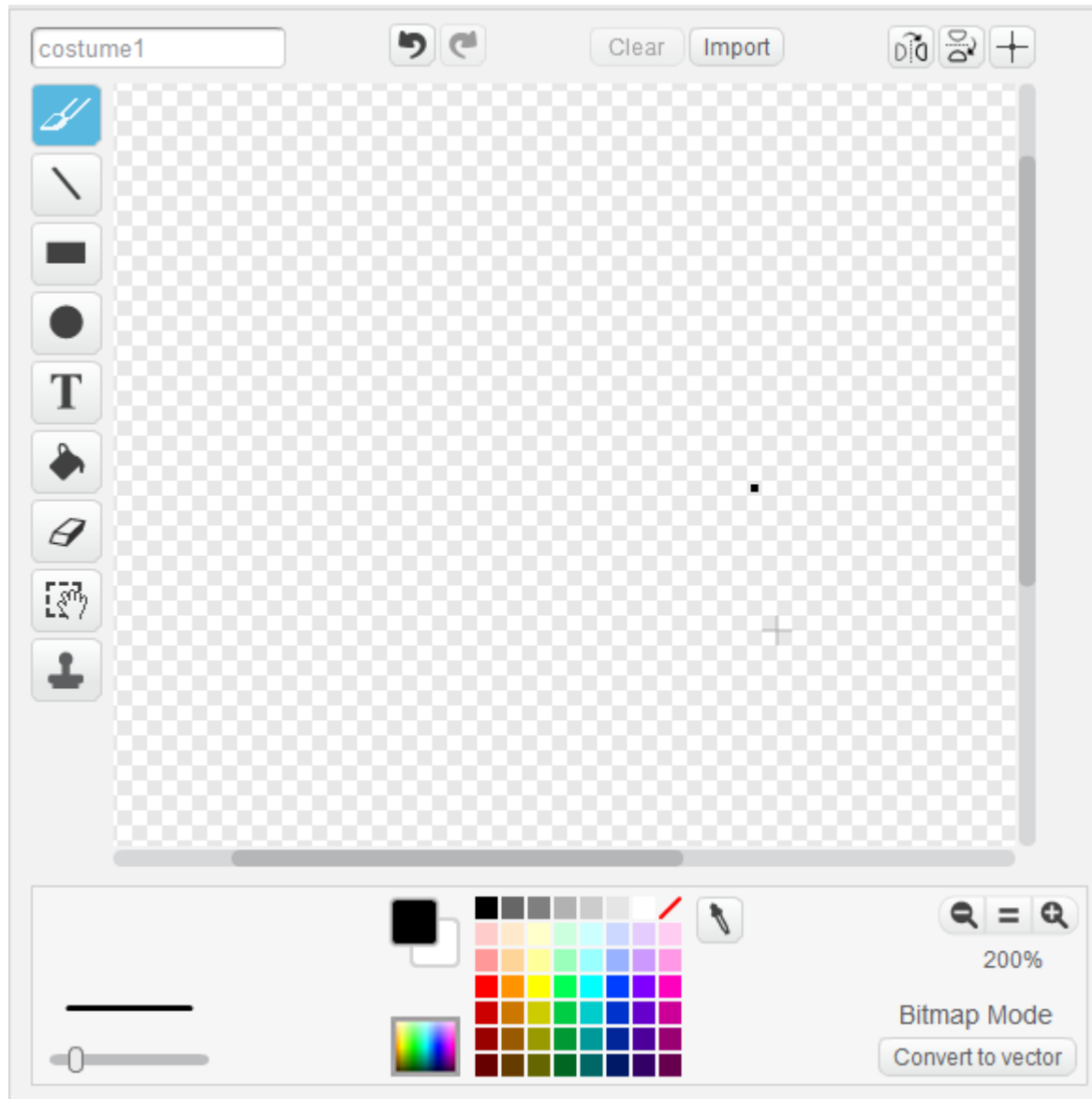
Duplicate it when it is working

Make things happen when
a Ghost is **caught**

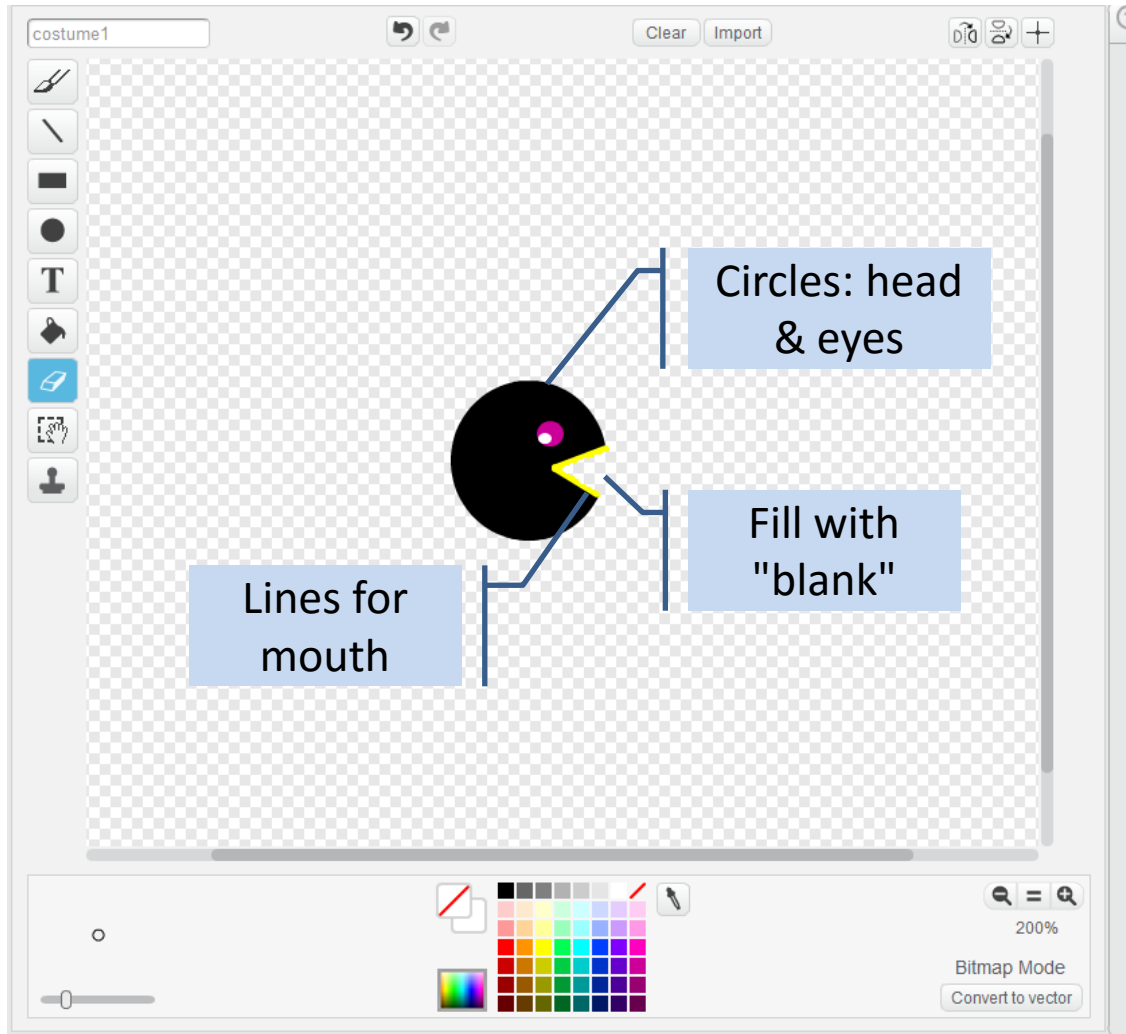
Add **variable** for **Score**

Optional: New **level** when all caught

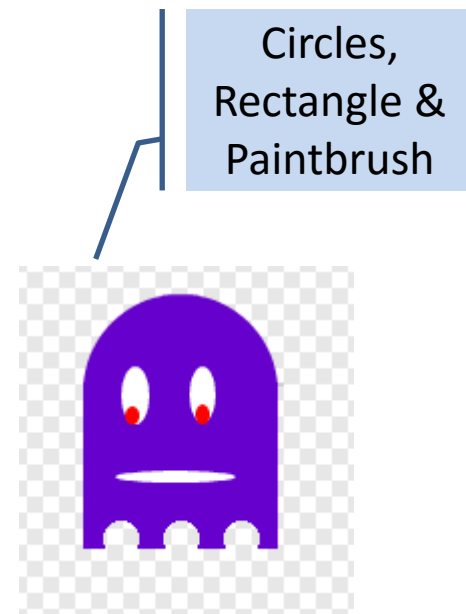
Paint Editor in Scratch



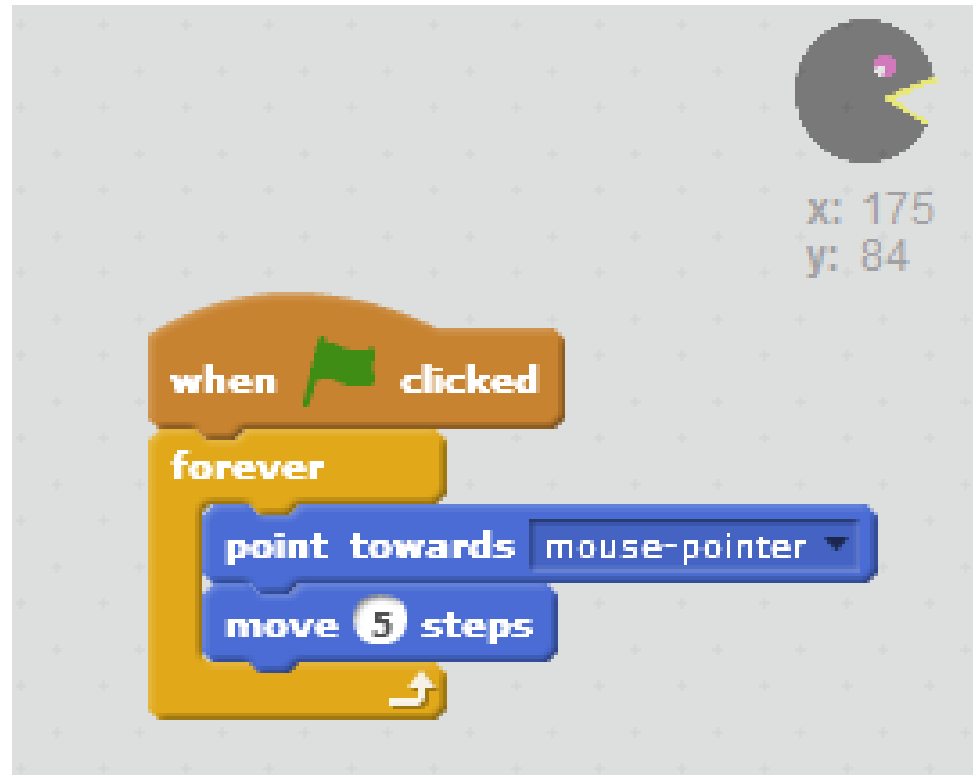
Design PacMan and a Ghost



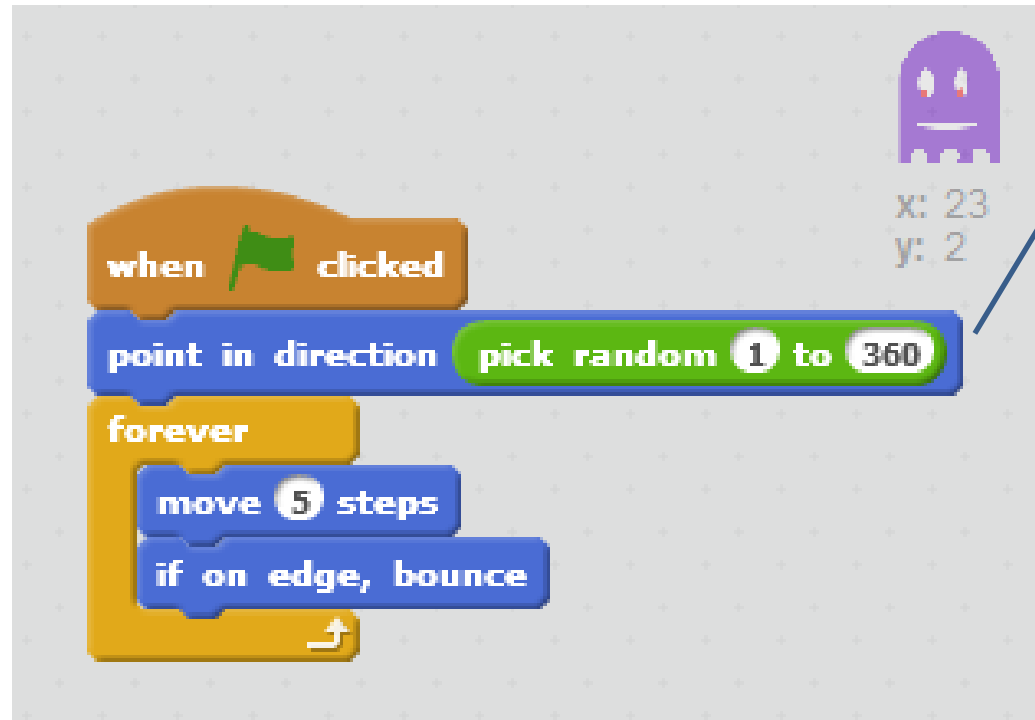
TIP: Use distinctive colour (e.g. yellow) at front/mouth: will use this when detecting if ghost is eaten



Make PacMan Follow the Mouse



Make Ghost Move Around



What is significance of 1-360?

TIP: Get one ghost working fully – you can duplicate it later.
Right-click on a sprite to duplicate it.

Loops and Decisions

Key programming concepts

Loop:

Repeat code multiple times

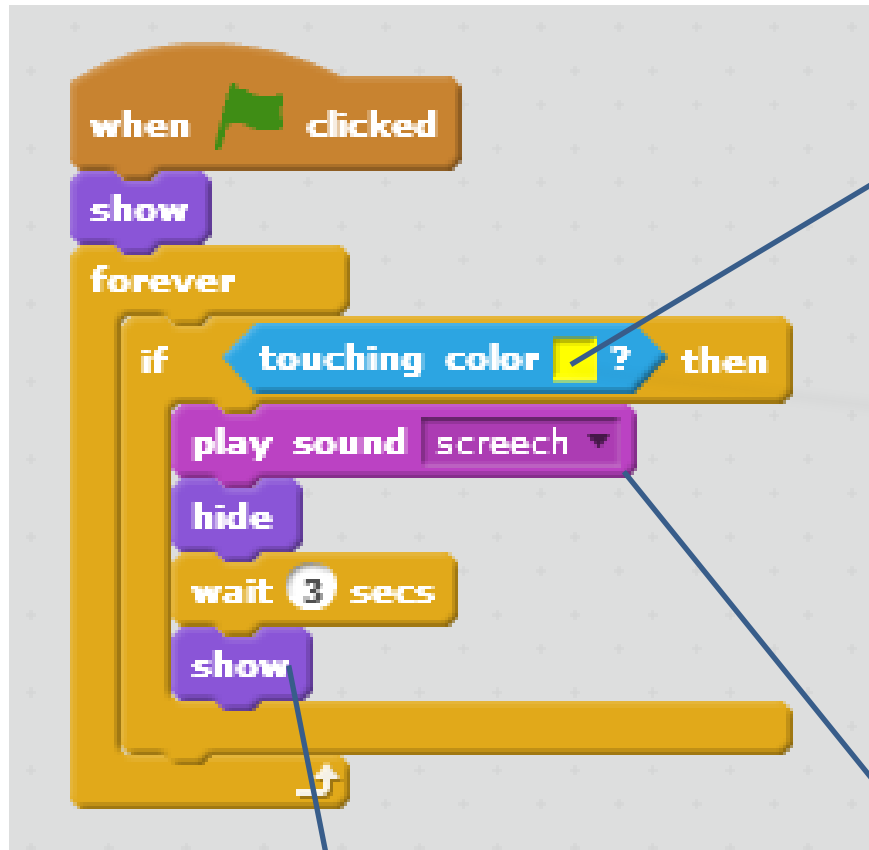


Decision:

Decide whether or not to do something



When PacMan Gets Ghost ...

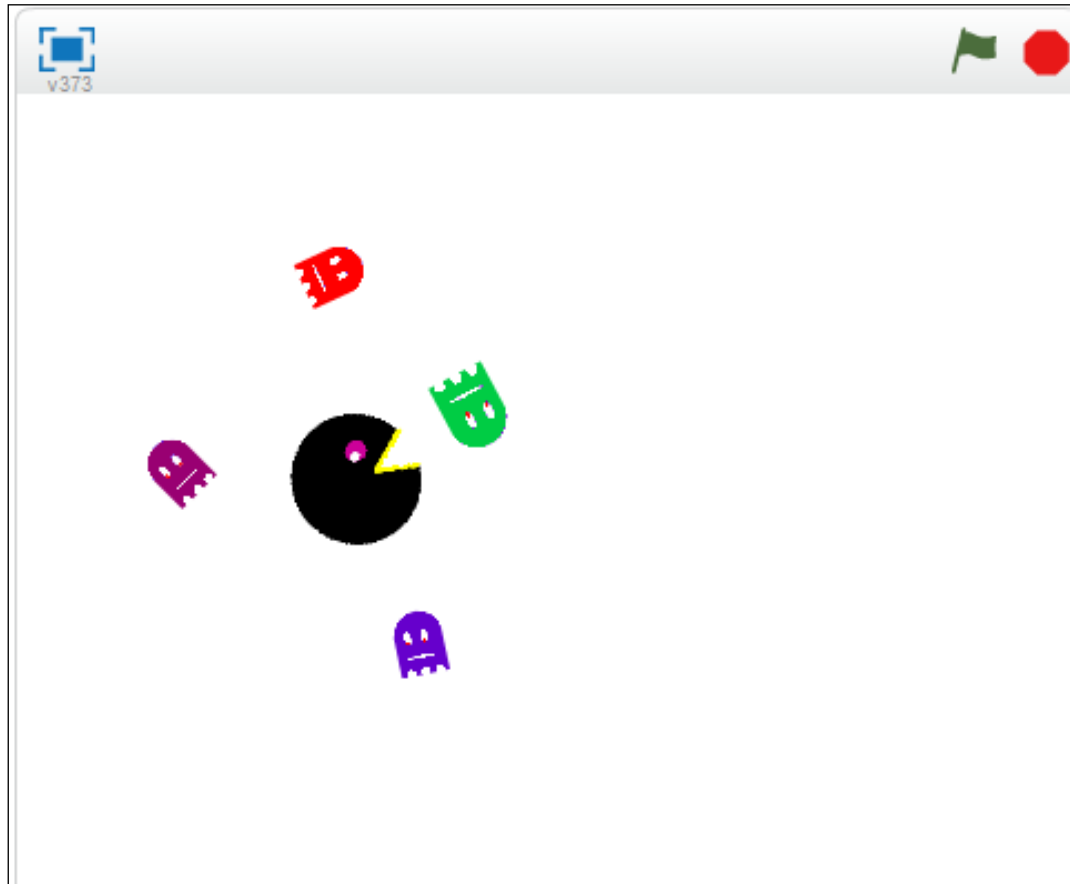


How we detect
PacMan: colour
of its mouth

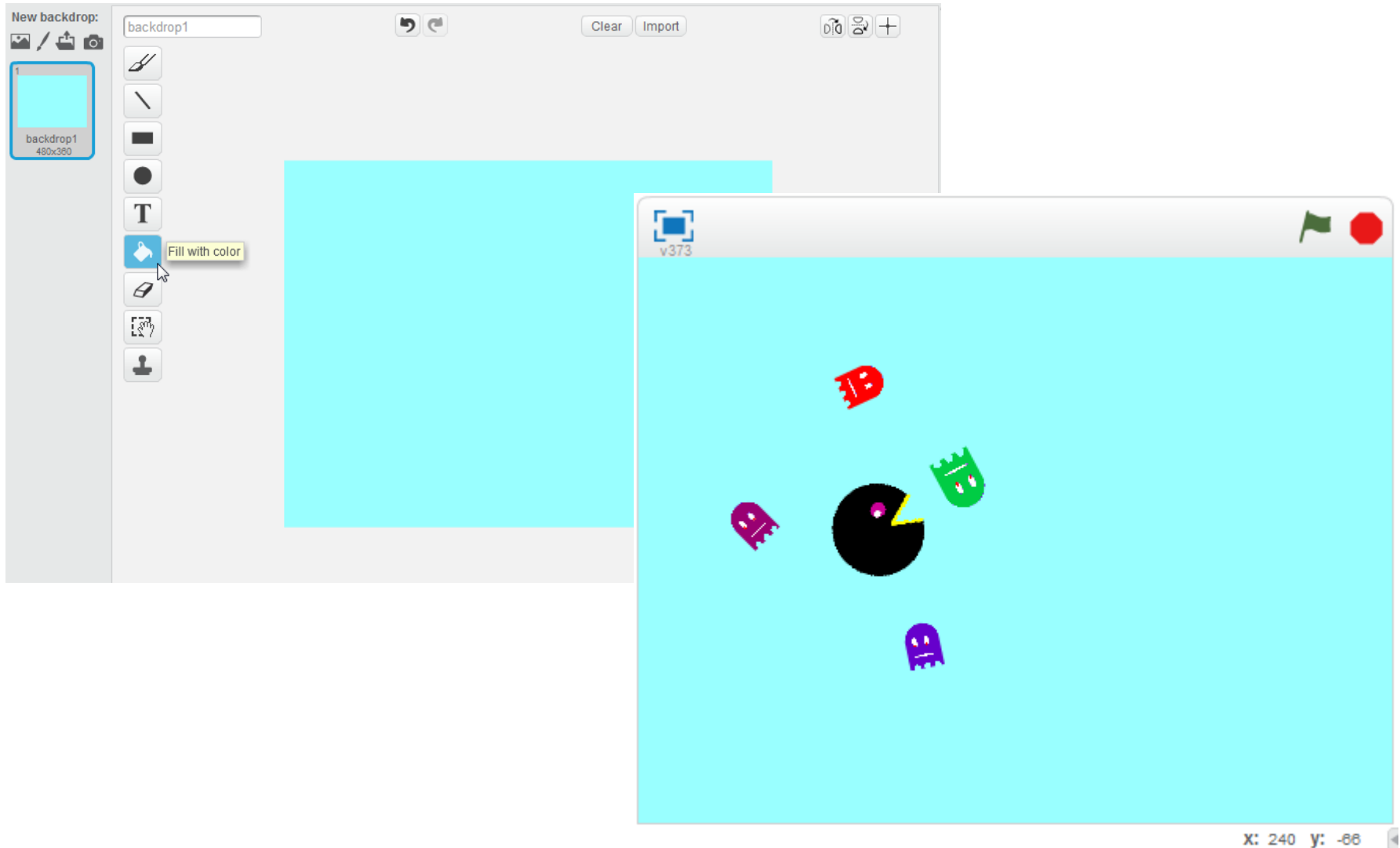
Show at start.
Hide when eaten.
Wait & show again.

Switch to Sounds tab
& RECORD sound

Duplicate Ghost, Make Each One Look Different



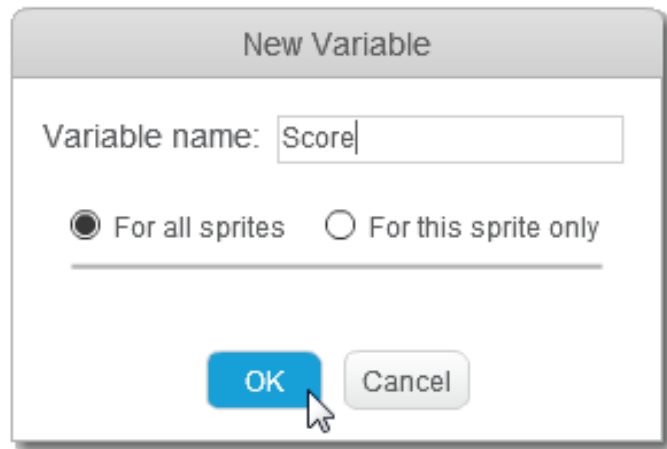
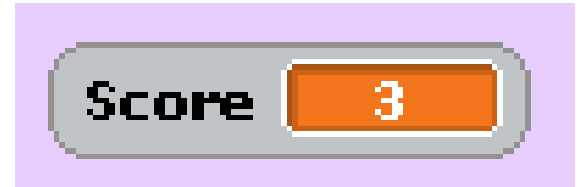
Add a Colour Background,



Variables

To keep score, need a **Variable**:

- A key programming concept
- Stores a **Value** (number/text data):
this can vary
- Has a **Name** – this is fixed:
use this in the code to compare/change values



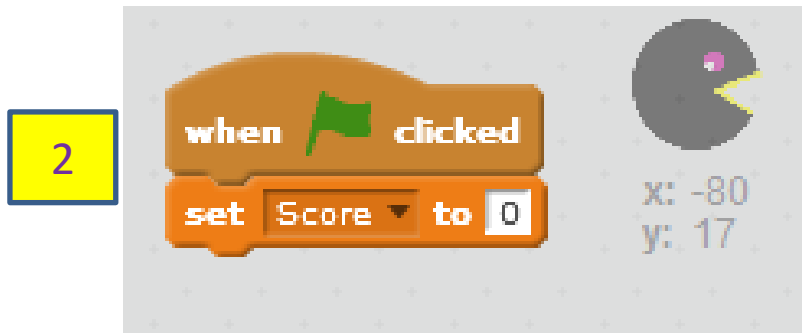
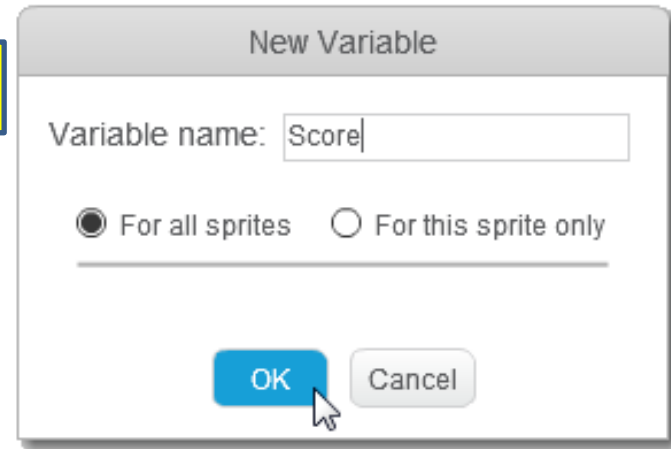
Variable to Keep Score

Variables can be:

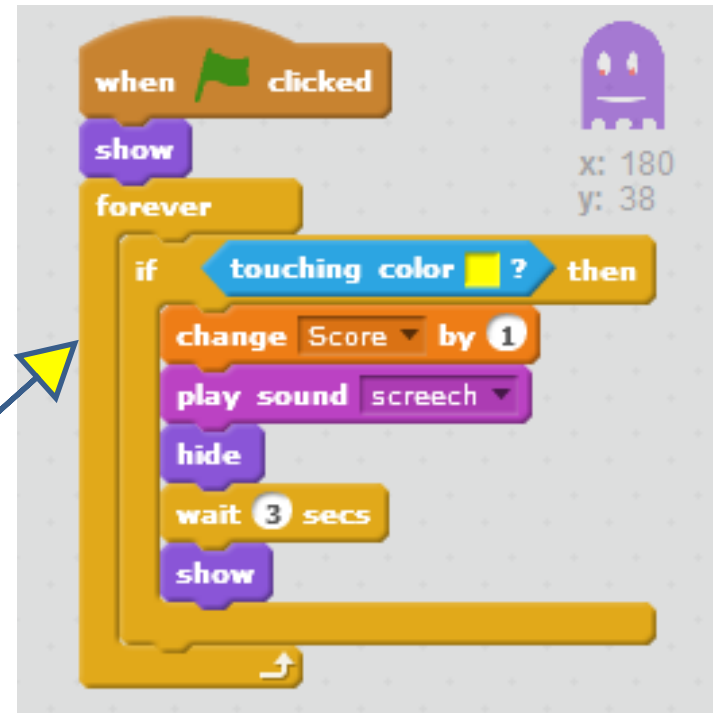
- **Global** (for all sprites): what we will use
- **Local** (one sprite only)

To do:

1. Make variable
2. Set it to 0 at start
3. Add 1 each time a ghost is killed



Add this to every ghost



If You Want to Do More ...

Add Levels:

When you have caught 6 ghosts,
make the ghosts go faster

You will need:

Variable for **Speed**, initially 2

Variable for **GhostsCaught**

Code: when **GhostsCaught** = 6,
set it back to 0 and increase **Speed** by 2

If You Want to Do More ...

Make a variable **Speed**

Set it to 2 at start

Change ghosts to move at that speed

Make variable **GhostsCaught**

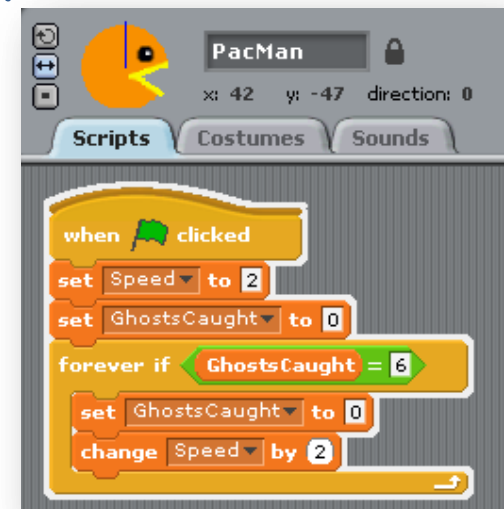
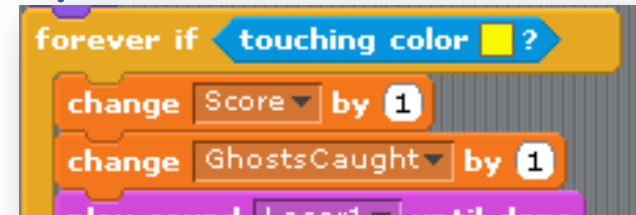
When ghost is caught,
Change **GhostsCaught** by 1
(beside where you change Score by 1)

Add code to PacMan:

Set **GhostsCaught** to 0 at start

If **GhostsCaught** is 6

- Change back to 0
- Increase **Speed** by 2



At the End ...

Upload your project to the Scratch Website

user: **cdathenry1516** password: 1516

Access it
from home

Improve it

Show your
friends!

