

# 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](mailto:coderdojoathenry@gmail.com)

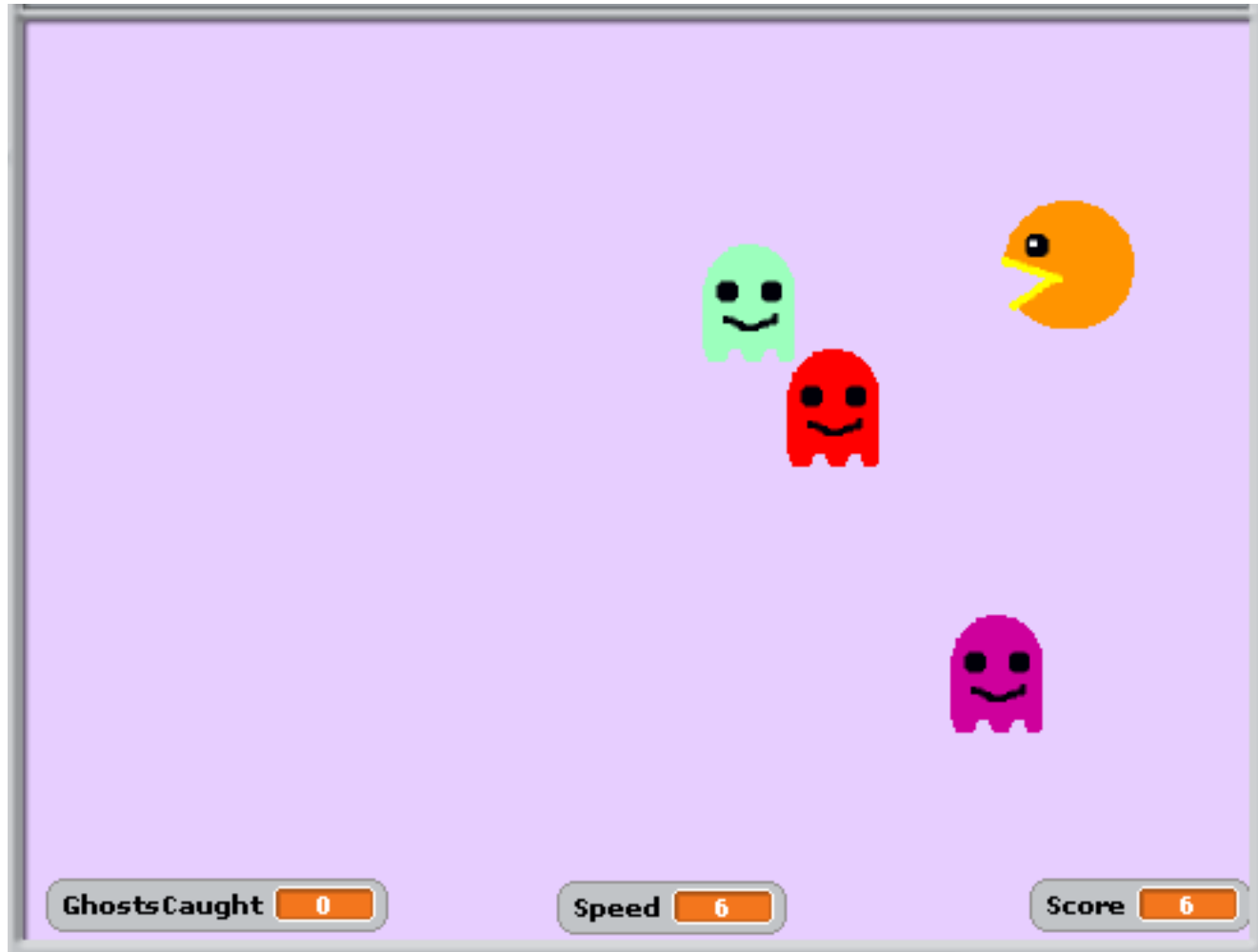
# CoderDojo Athenry

SCRATCH Beginners



Code and notes by Michael Madden and Martha Fahy, 2013

# 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

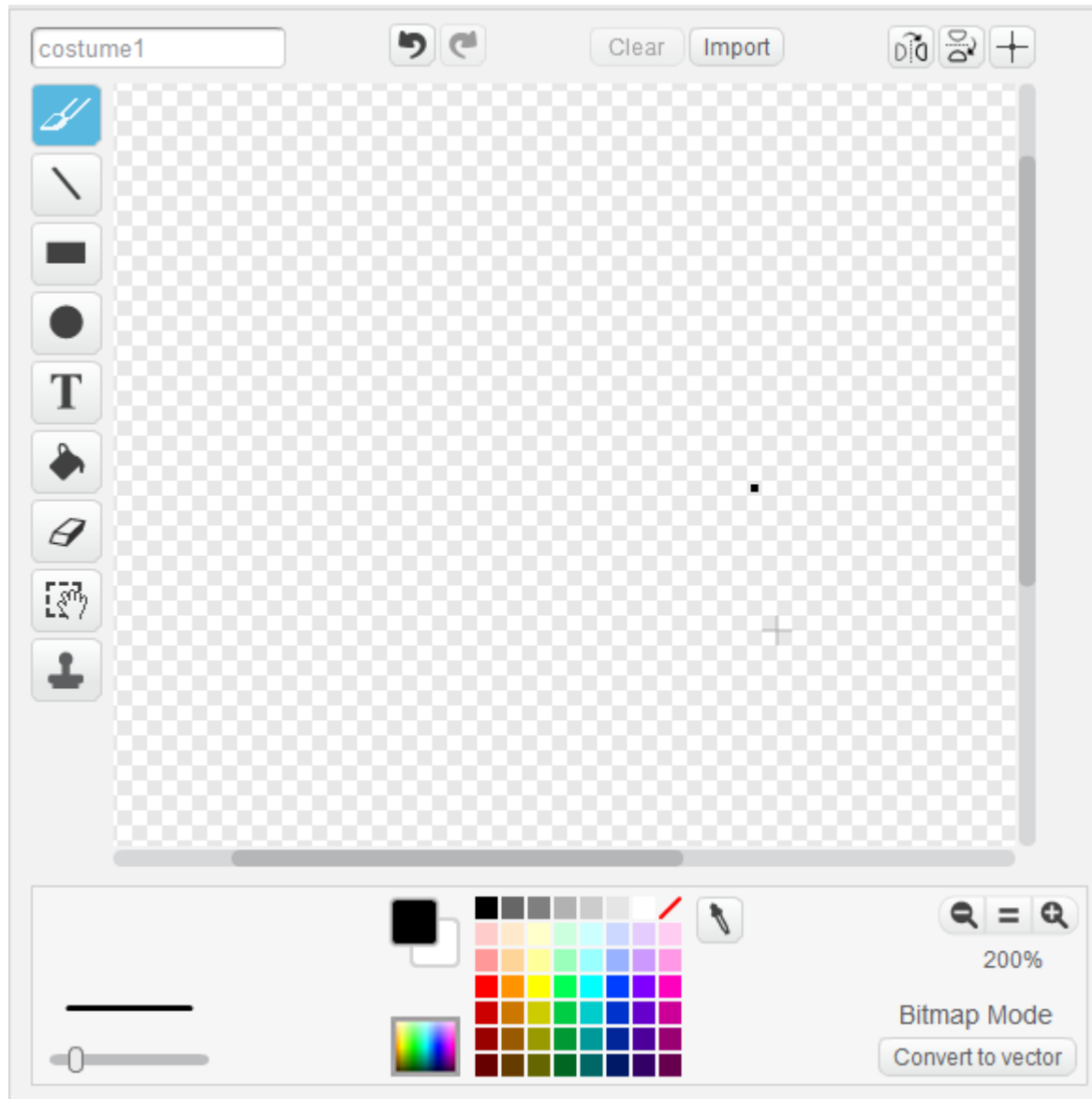
Change the **Stage**:  
Plain coloured background?

Create first **Ghost**: appearance & code  
Duplicate it when it is working

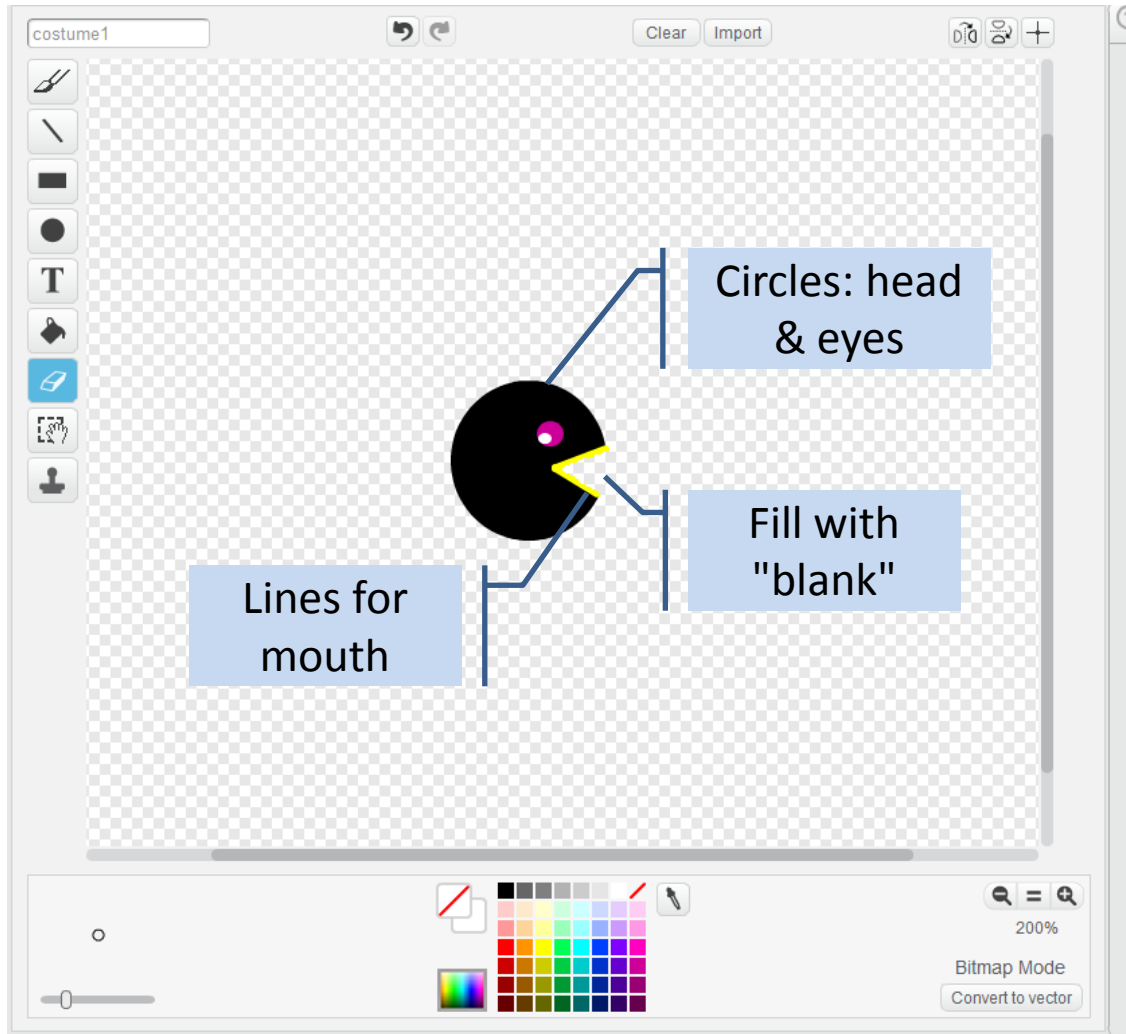
Make things happen when  
a Ghost is caught

Add **variable** for **Score**  
Optional: New **level** when all caught

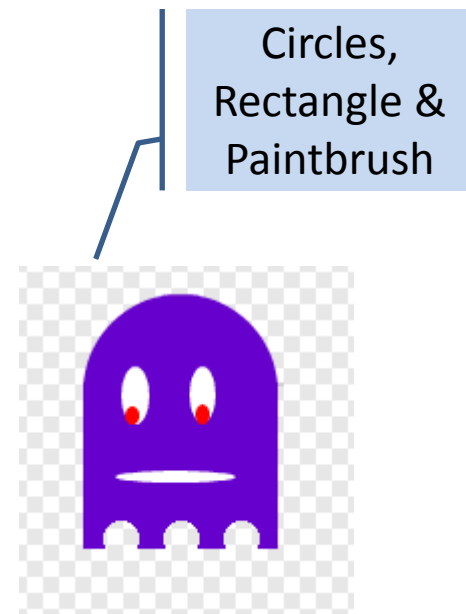
# Paint Editor in Scratch



# Design PacMan and a Ghost

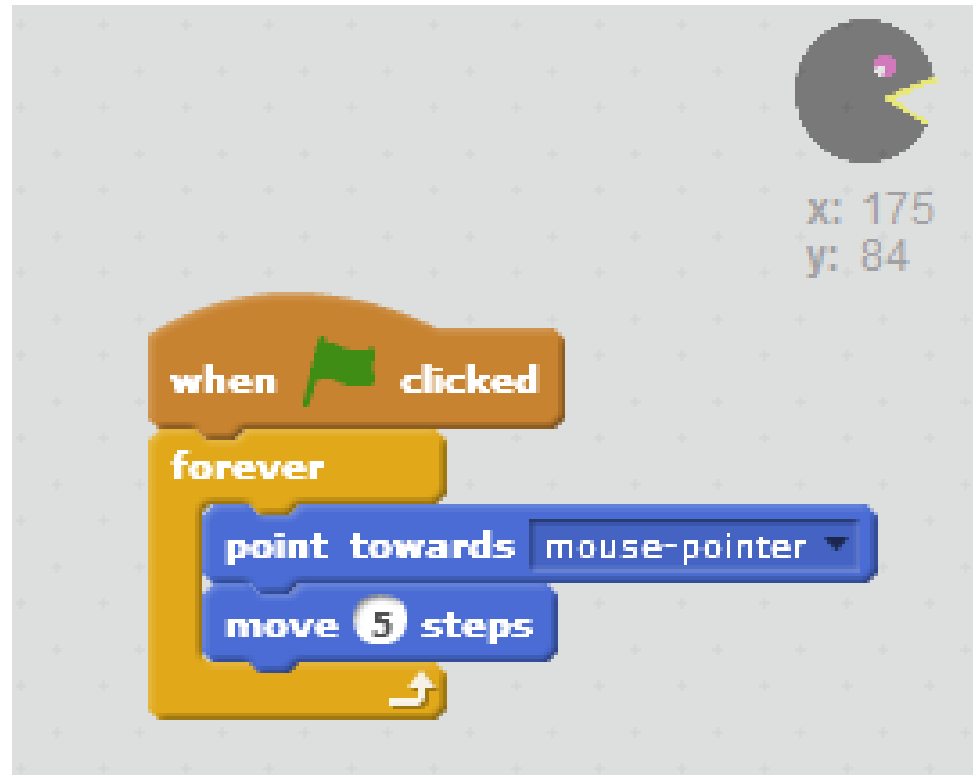


**TIP:** Use distinctive colour (e.g. yellow) at front/mouth: will use this when detecting if ghost is eaten

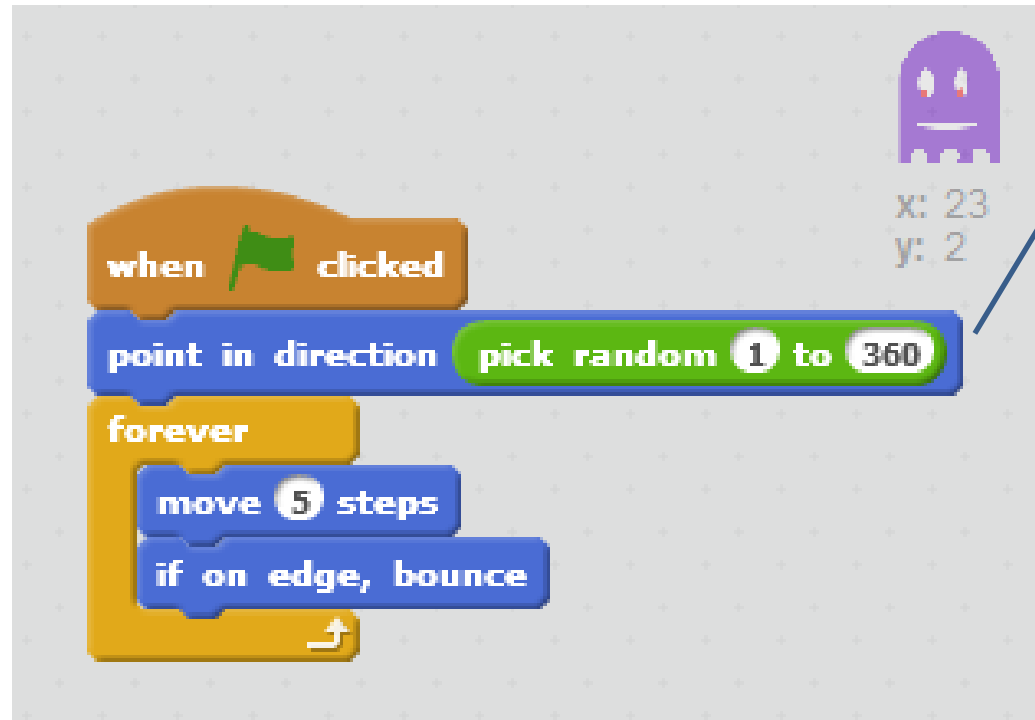




# Make PacMan Follow the Mouse



# 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

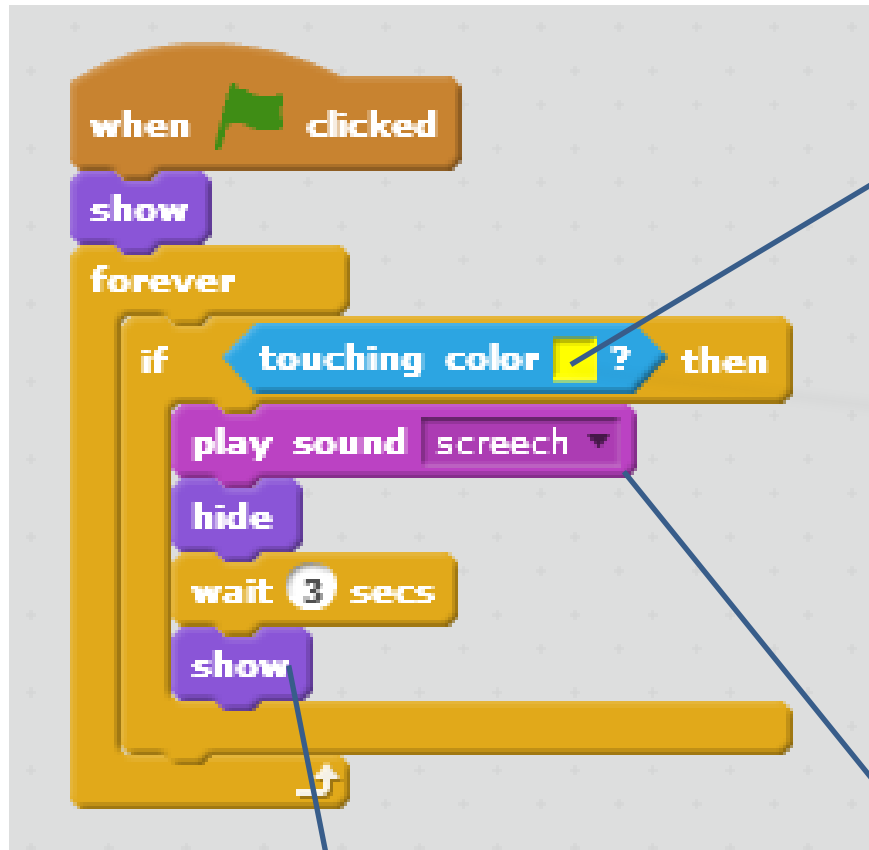


## Decision:

Decide whether or not to do something



# When PacMan Gets Ghost ...

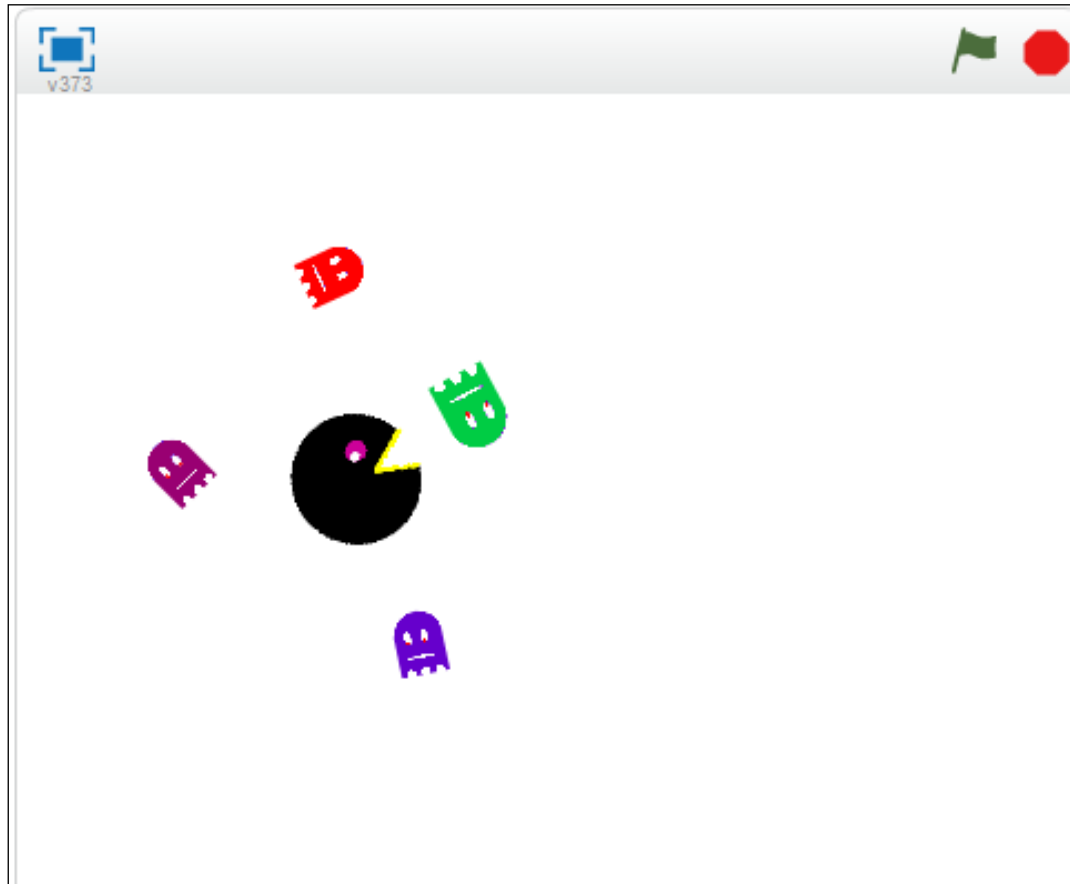


How we detect  
PacMan: colour  
of its mouth

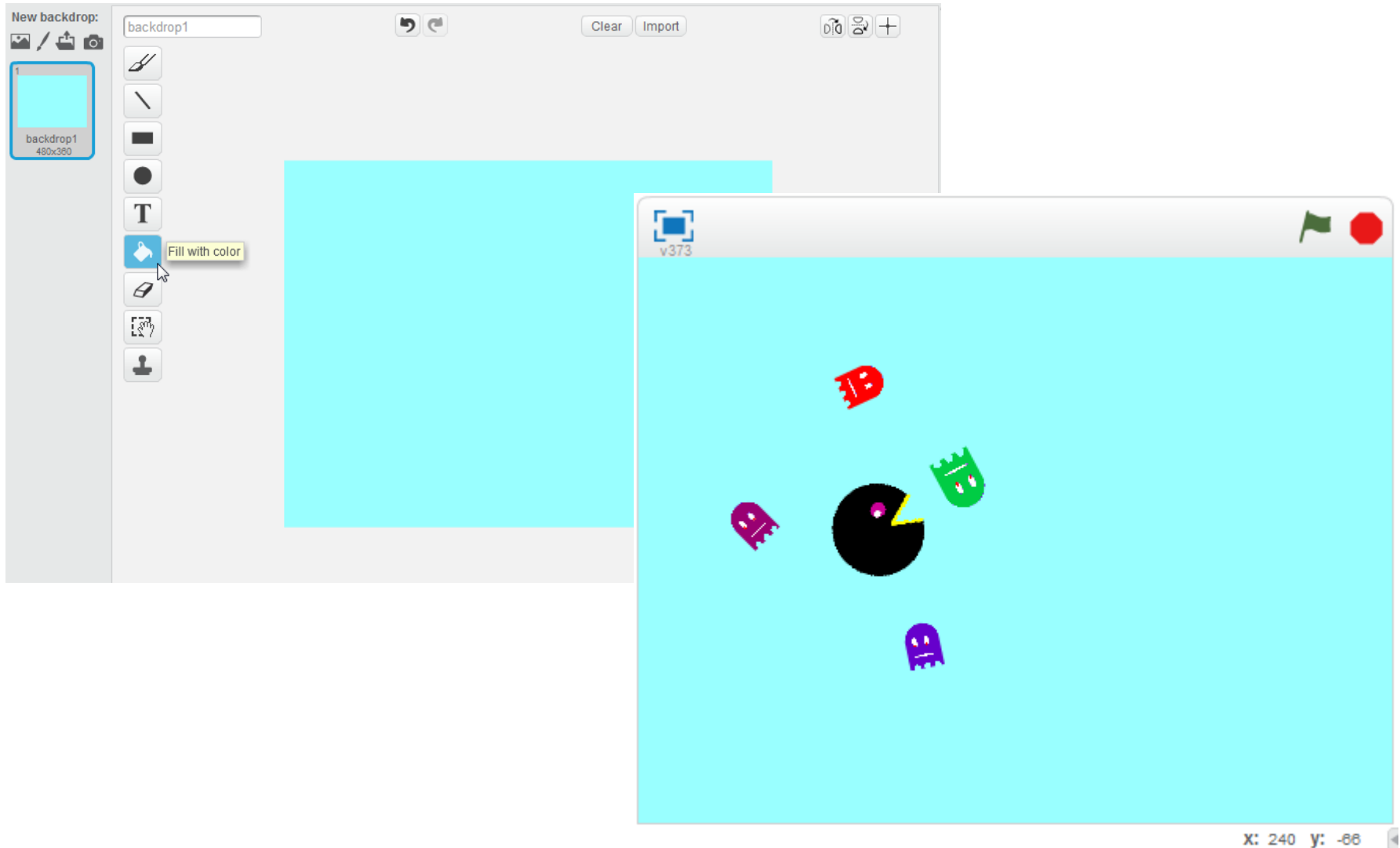
Show at start.  
Hide when eaten.  
Wait & show again.

Switch to Sounds tab  
& import sound

# Duplicate Ghost, Make Each One Look Different



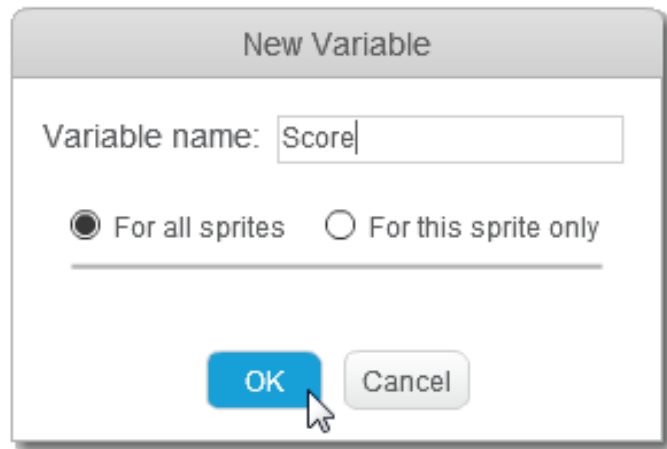
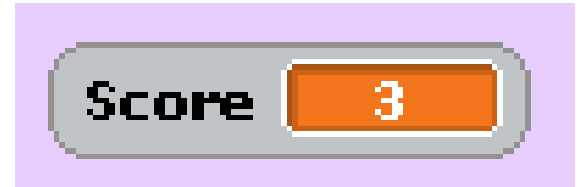
# Add a Colour Background,



# 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



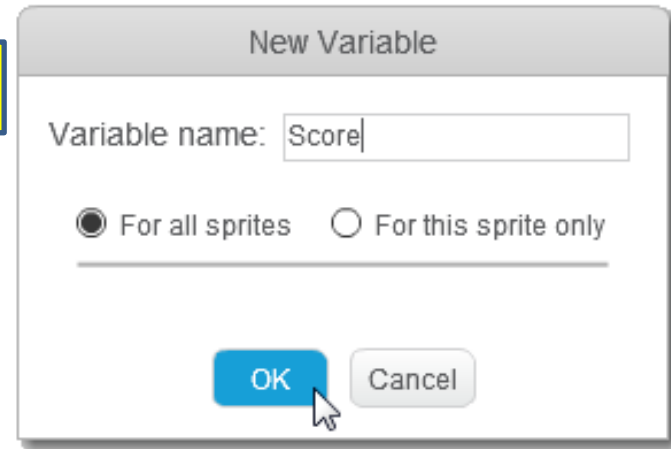
# Variable to Keep Score

Variables can be:

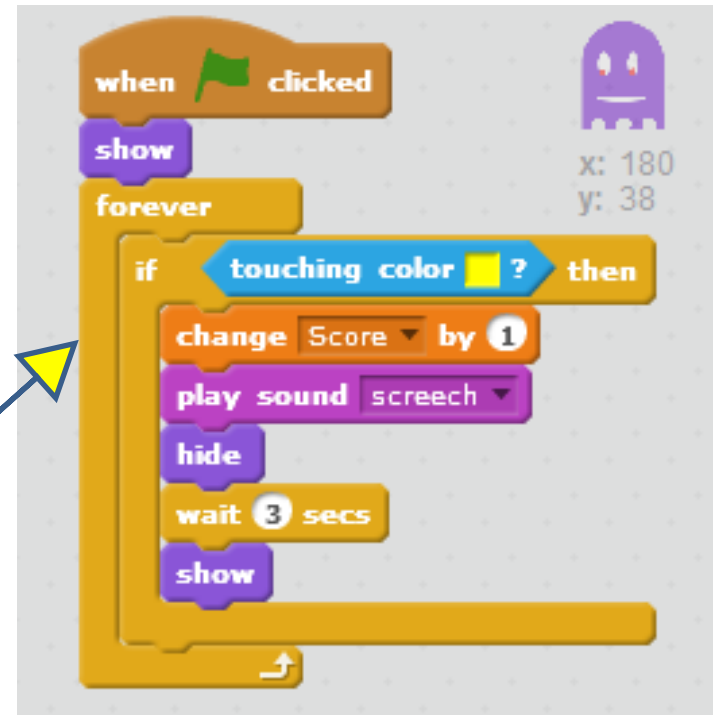
- **Global** (for all sprites): what we will use
- **Local** (one sprite only)

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 by **GhostsCaught** by 1

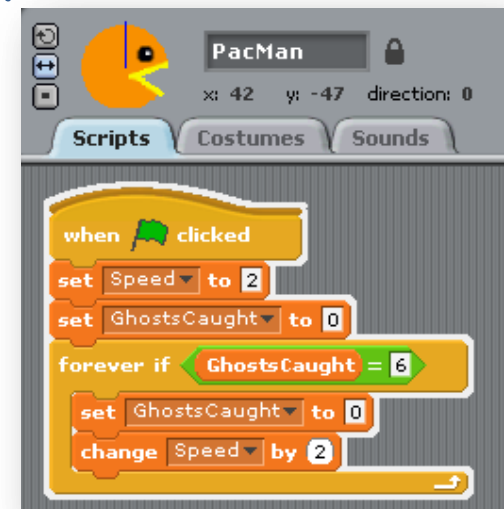
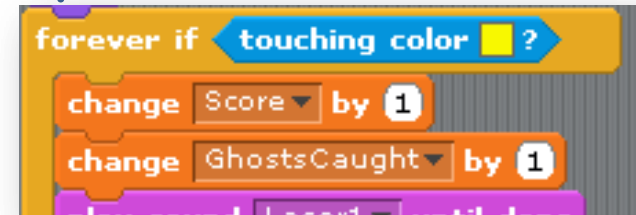
(beside where you change Score by 1)

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: **cdathenry** password: **athenry**

Access it  
from home

Improve it

Show your  
friends!

