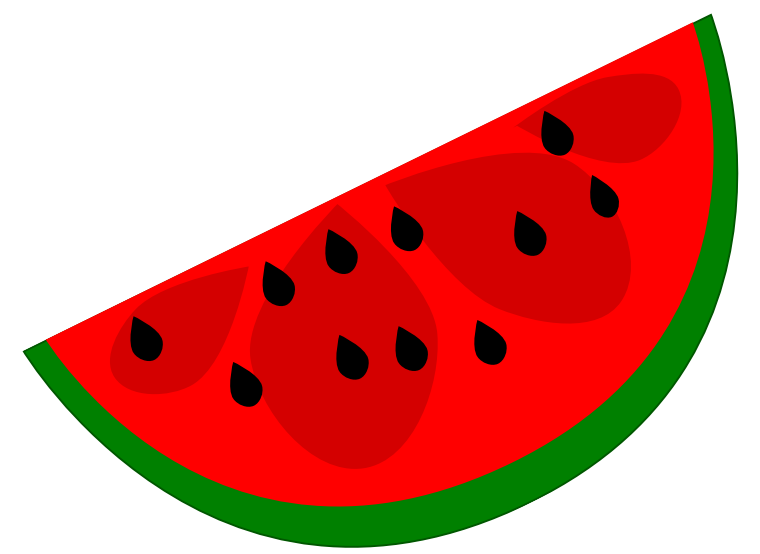# One in a Melon!

How many watermelons can you harvest on your farm?

Scratch

Step 1   Introduction

What you will make

Lots of crops are grown around Australia. In this game, you will make a harvest simulator using Scratch.

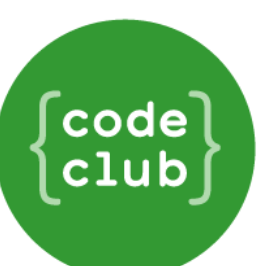
ℹ What you will learn

- Add code to detect the direction of the mouse
- Add code to detect when a sprite is touching another sprite
- Add a score system

ℹ What you will need

Hardware
- A computer capable of running Scratch 3

Software
- Scratch 3 (either **online** (http://rpf.io/scratchon) or **offline** (http://rpf.io/scratchoff))

Downloads
- Offline starter project (https://scratch.mit.edu/projects/340061645/)

ℹ️ **Additional notes for educators**

Here is a link to the completed project
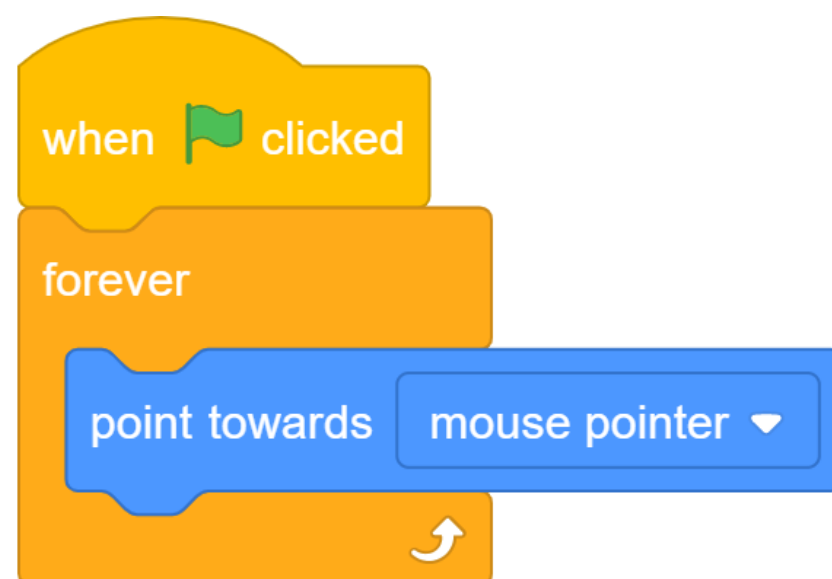https://scratch.mit.edu/projects/340062503/

Step 2   Make the combine harvester move

In order to harvest food, first we need a harvester that can move. We'll do this by making the sprite follow the mouse pointer.
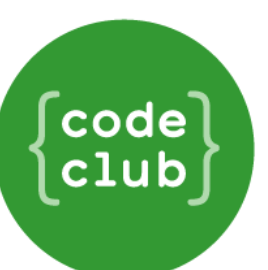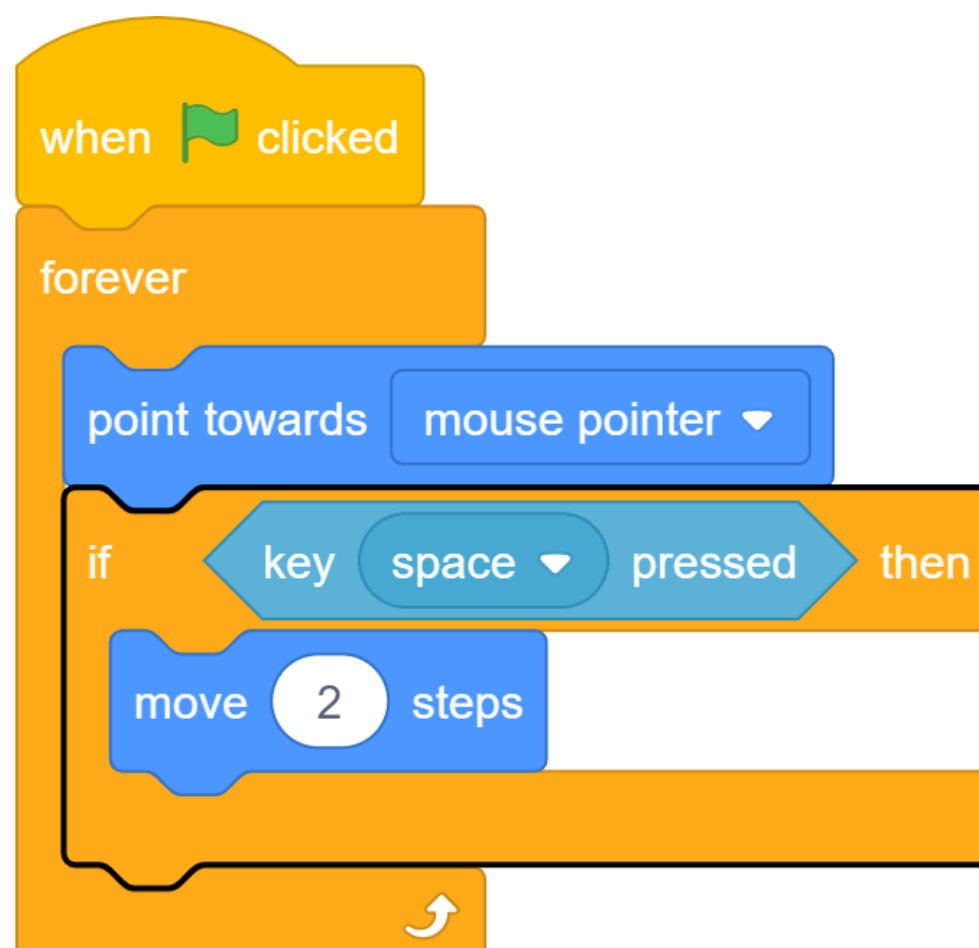
☐ Open the Starter Project - https://scratch.mit.edu/projects/340061645/

Add this code to your harvester sprite

```
when 🏴 clicked
forever
    point towards  mouse pointer ▼
```

☐ The harvester needs to move when we press the space bar

```
when 🏴 clicked
forever
    point towards  mouse pointer ▼
    if   key  space ▼  pressed   then
        move  2  steps
```
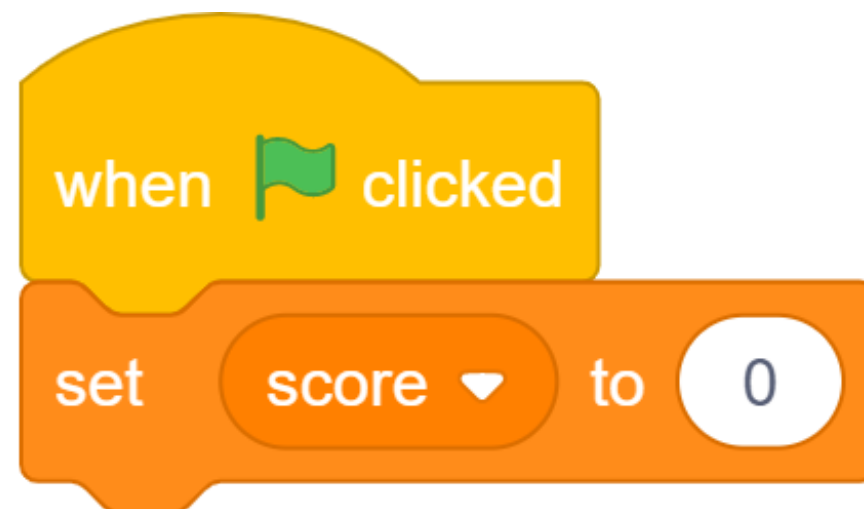
Step 3   Add a score

Make your game more interesting by adding a score!

☐ Create a new variable called: `score ▾`
Add this code to the Stage

```
when 🏴 clicked
set  score ▾  to  0
```
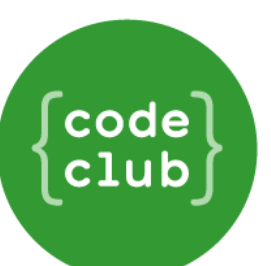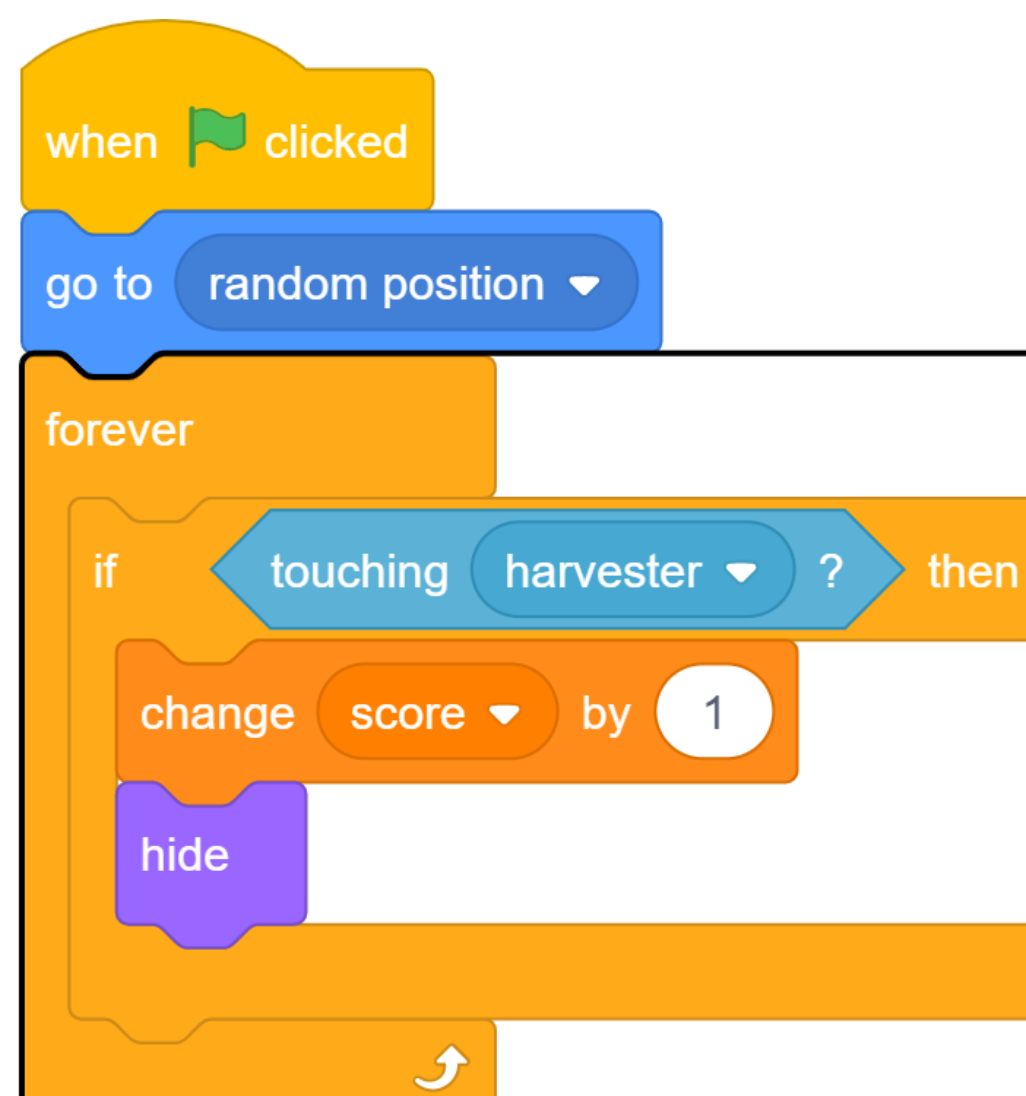
Step 3   Harvest the food

We need to get the watermelons to appear randomly and then dissapear when we harvest them.

☐ Click on the food sprite
Add these two block to make the sprite appear in random places

```
when 🏴 clicked
go to  random position ▾
```
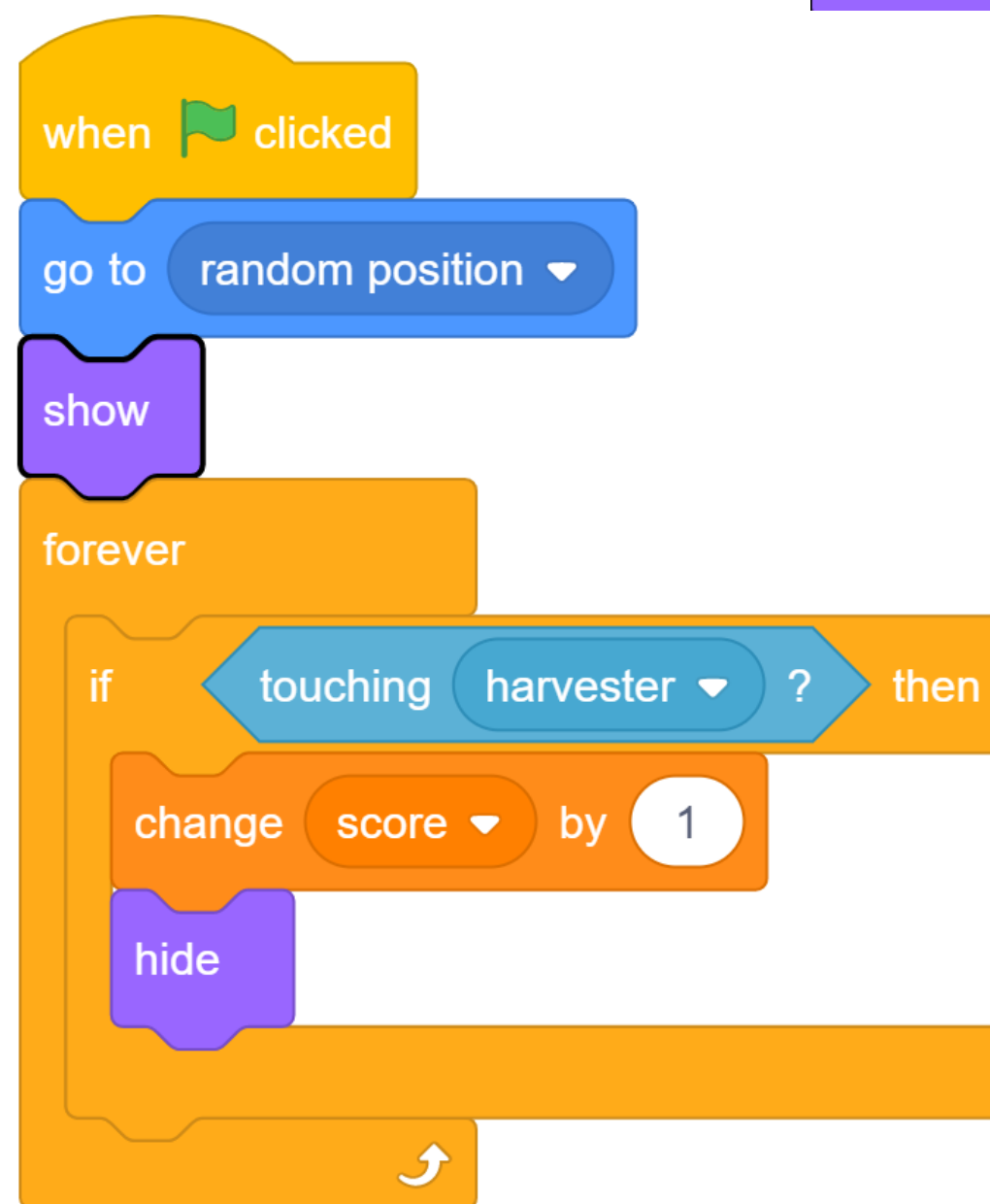
☐ When the harvester touches the food, we want it to `hide` and the `score ▾` change

```
when 🏴 clicked
go to  random position ▾
forever
    if  touching  harvester ▾ ?  then
        change  score ▾  by  1
        hide
```

☐ If you restart the game, the food doesn't come back! Make sure the food appears every time you start the game with the `show` block

```
when 🚩 clicked
go to random position ▼
show
forever
    if  touching harvester ▼ ? then
        change score ▼ by 1
        hide
```
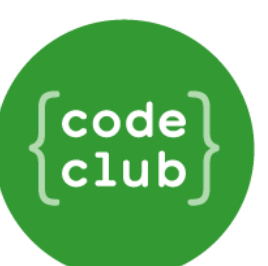
Step 4   More food!

We've made one piece of food appear, but we want more!

☐ Replace the `when 🚩 clicked` and `hide` blocks with the below

```
when I start as a clone
go to random position ▼
show
forever
    if  touching harvester ▼ ? then
        change score ▼ by 1
        delete this clone
```

☐ Code a new script to make clones of the food. The `repeat` block determines how many appear

```
when ⚑ clicked
repeat  20
    create clone of  myself ▾
```
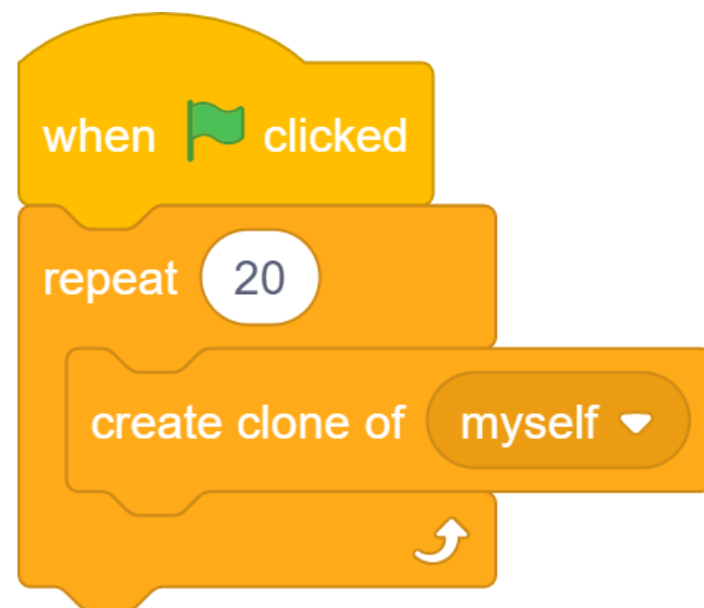
**Congratulations! You've finished the game!
Now, complete one of the challenges!**

Challenge!

More food

Currently, only 20 melons appear. Can you make 100 melons appear?

Different food

Can you make different food types appear? And get a different score for each?
There are two other costumes already saved. What else can you harvest on your farm?
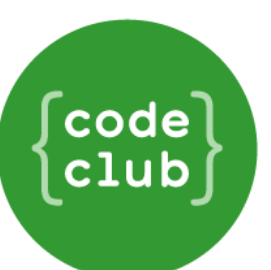
Celebration end screen

Can you let the player know they've completed the harvest and won the game? How do they know they've won?

Advanced - Fix the harvester

Currently, when the harvester touches the melon it doesn't know which way to point. Can you solve this problem by making the harvester only move when it's further away than 2 pixels from the mouse pointer?

Advanced - A rabbit!

Can you create a small rabbit sprite that hops around the game? Is a rabbit good or bad on your farm? How can you catch it?

{code club}

AUSTRALIA