Centipede

Bugs everywhere!!!!

Play the game we are building:
Click

Today's Game

Challenge: Reproduce a similar version of the iconic Centipede game

**Goal:** Add your own creativity into a game that you know.

Features:
- Bugs that auto scan across the screen
- When shot, the bugs turn into obstacles
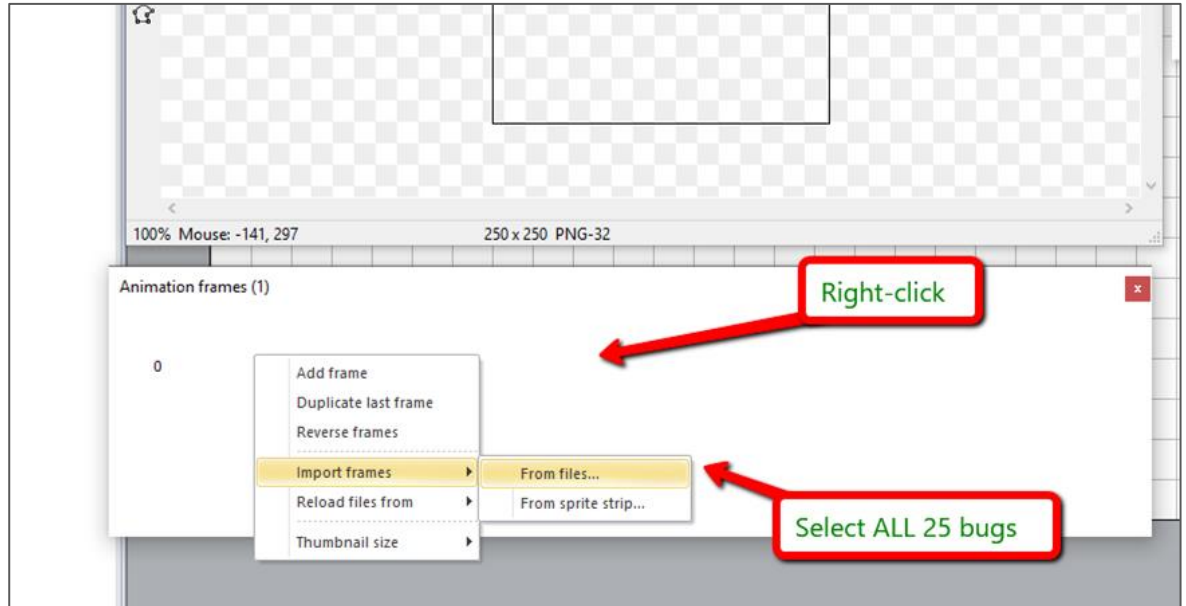- The bugs go faster as the game progresses

Setup Layout

- Layout size (**900, 510**)
- Windows size (**900, 510**)
- Enable "snap to grid"
- Enable "show grid"
- Set grid to 30 & 30

(NOTE: You must click back to another grid width to get it to set. It is a bug in Construct 2)

Layout Size & WIndow Size (900, 510)
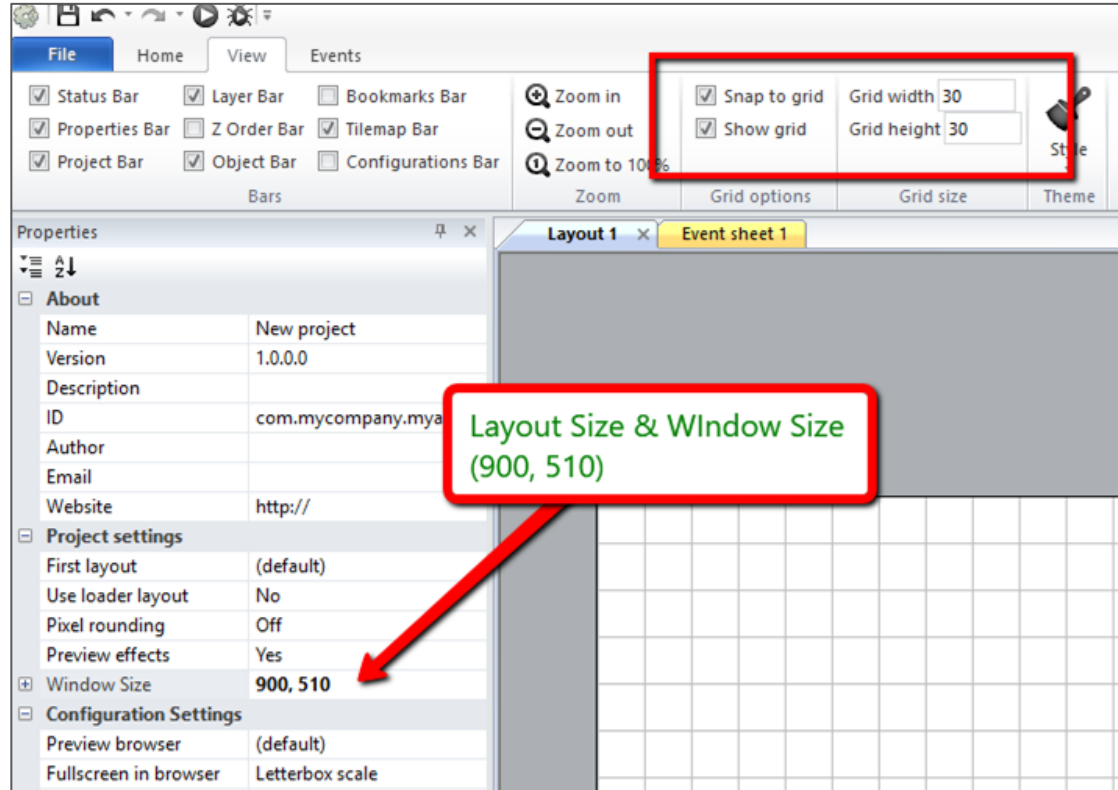
Create Bugs

- Import all 25 bugs
- Delete frame 0, which is blank

Setup Bugs

2. Set Speed to '0'

1. Click on Animations

Setup Bugs

- Name it "bugs"
- Add Behaviors
  - Bullet
  - Destroy Outside of Layout
- Set:
  - Speed: 300
  - Set angle: No

Create Instance Variable

- This variable will tell the bug what direction it is going.
- Add one instance variable

Create Player

- New Sprite, name "player"
- Place at the bottom
- Add Behaviors
  - 8-Direction
  - Bound To Layout
- Set:
  - Maxspeed: 500
  - Set angle: No

Add Boundaries

- New Sprite
- Fill in red
- Name "**border**"
- Set Initial Visibility to "**invisible**"
- Add Behavior
  - Solid
- Place one on left & right

Will trigger bugs to turn around
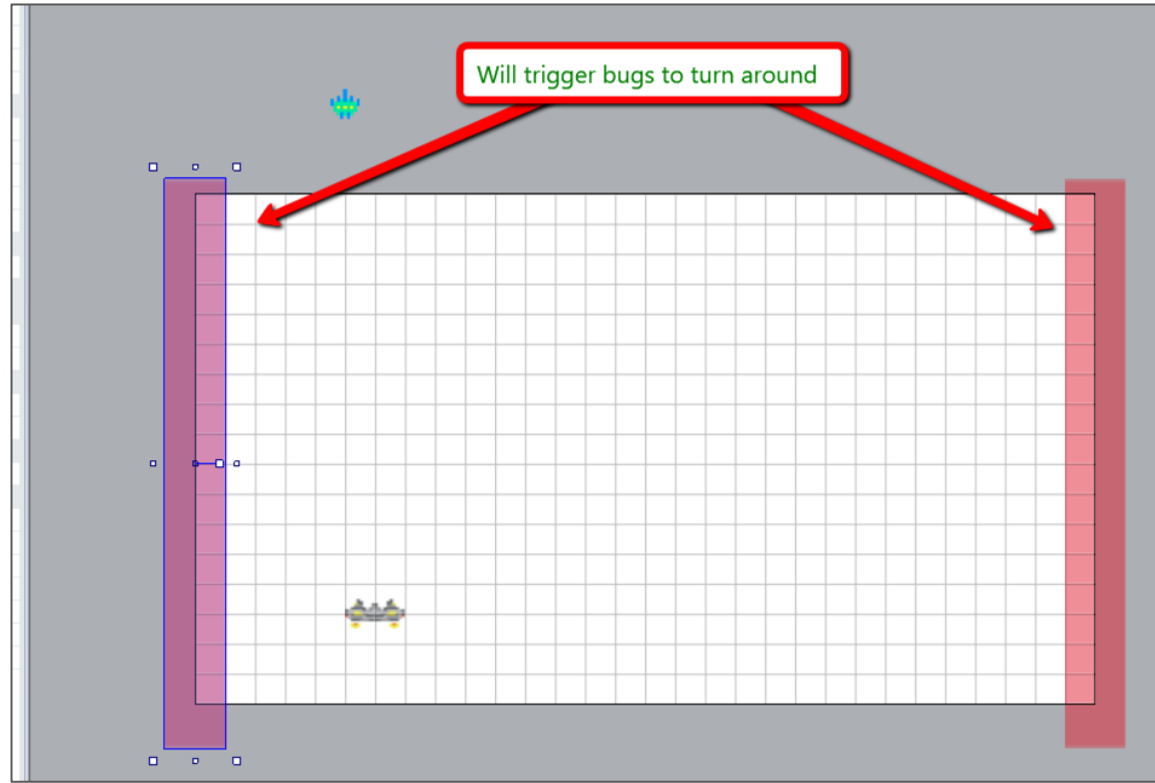
Add Player Area

- This the where the player will stay.
- New Sprite - name it "**playerArea**" & Opacity to "**25**"
- Adjust Z Order to "**Send to bottom of layout**"
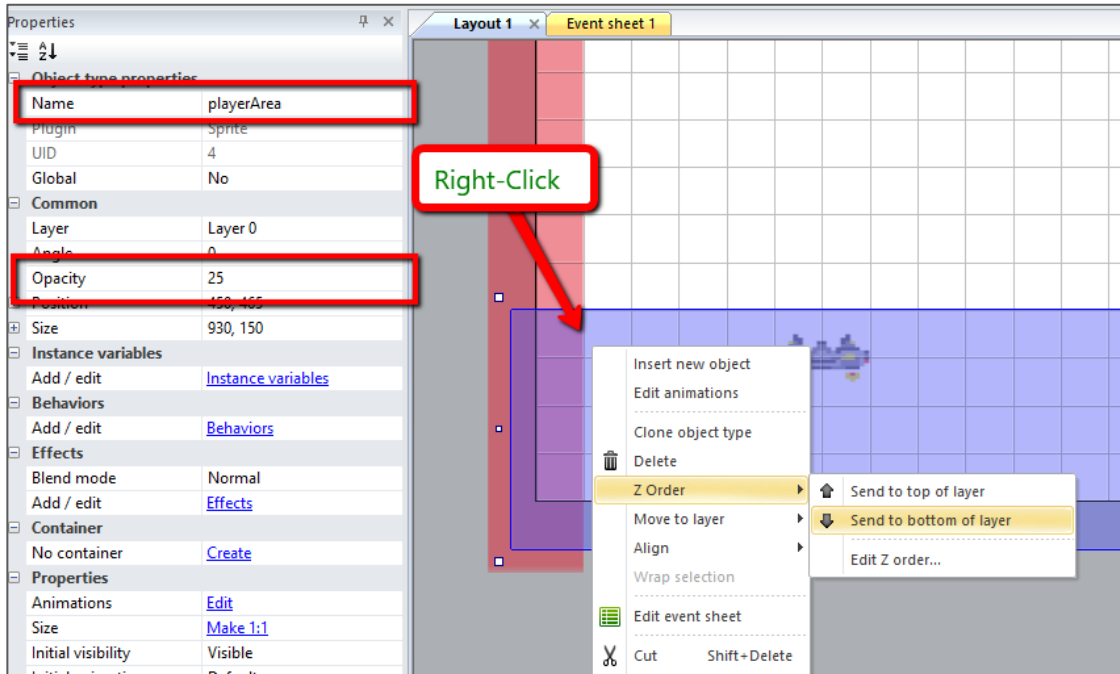
Add Rocks

- New Sprite
- Import 4 images
- Name "**rocks**"
- Place outside of layout
- No Behaviors

3. Set speed to "0"

2. Click animations

1. Import images

Add Global Variables

- These will be used for multiple levels, each getting faster
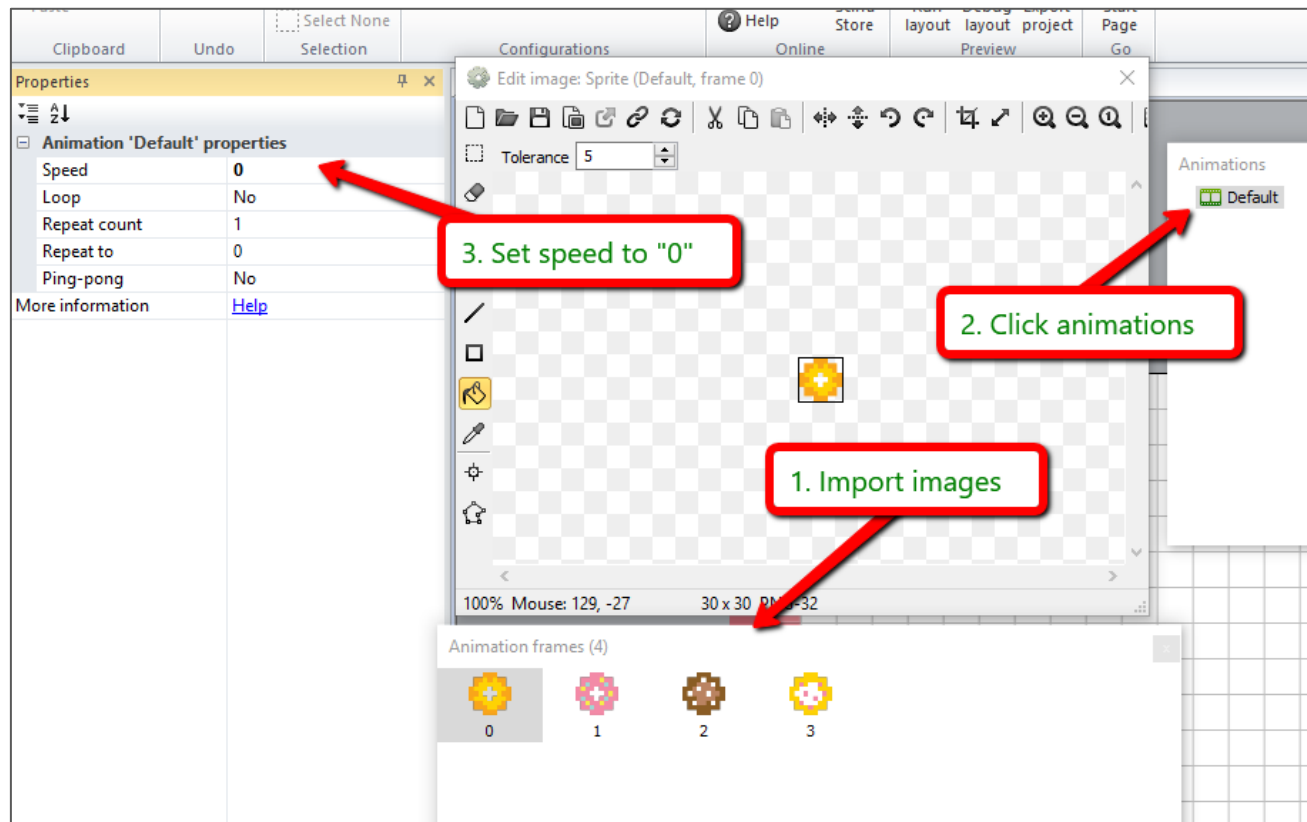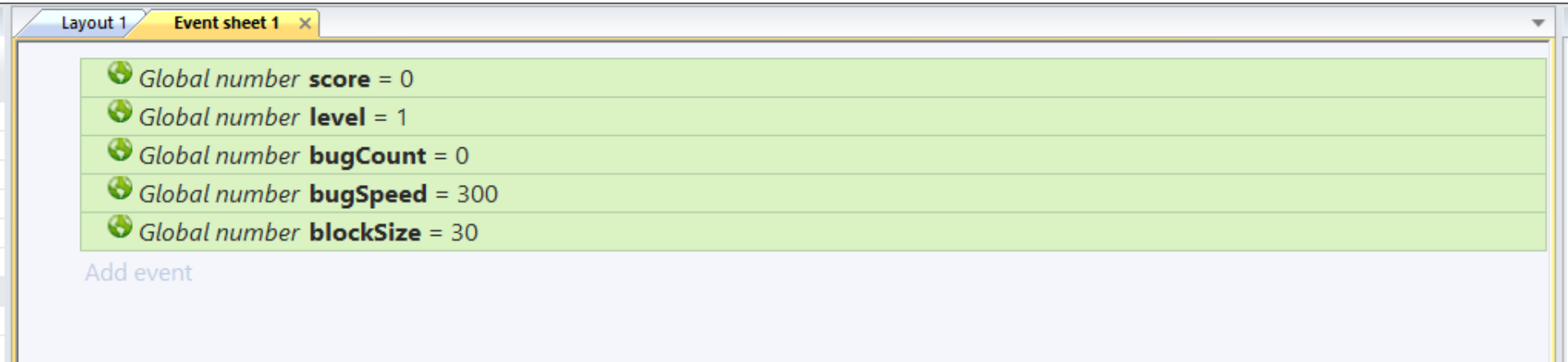- Each is type "**Number**" and set the initial value accordingly

Layout 1	Event sheet 1 ×	
	Global number **score** = 0	
	Global number **level** = 1	
	Global number **bugCount** = 0	
	Global number **bugSpeed** = 300	
	Global number **blockSize** = 30	
	Add event	

Auto Spawn Bugs

- Every 1 second, spawn a bug
- When we get to 25 bugs, we'll go to the next level

Turn Bugs Around At Edges

- On collision with a border OR a rock, the bug turns around
  - Sets bullet angle either 0 (right) or 180 (left)
- The first block is an "OR" block after adding 2nd condition

- TEST GAME (bugs should spawn and move down the screen)

→ 🐛 bugs	On collision with 🟥 **border**	🐛 bugs	Set Y to *bugs.Y + blockSize*	
	- or -	🐛 bugs	Toggle **goingLeft**	
→ 🐛 bugs	On collision with 🌼 **rocks**	🐛 bugs	Set 🔫 Bullet angle of motion to *0* degrees	
		Add action		
4	🐛 bugs	Is **goingLeft**	🐛 bugs	Set 🔫 Bullet angle of motion to *180* degrees
			Add action	

Player Can Shoot!

- Add Keyboard
- Add Sprite for bullet
  - Solid black (or other color)
  - Size is 10,10
  - Name "**bullet**"
- Add Behaviors
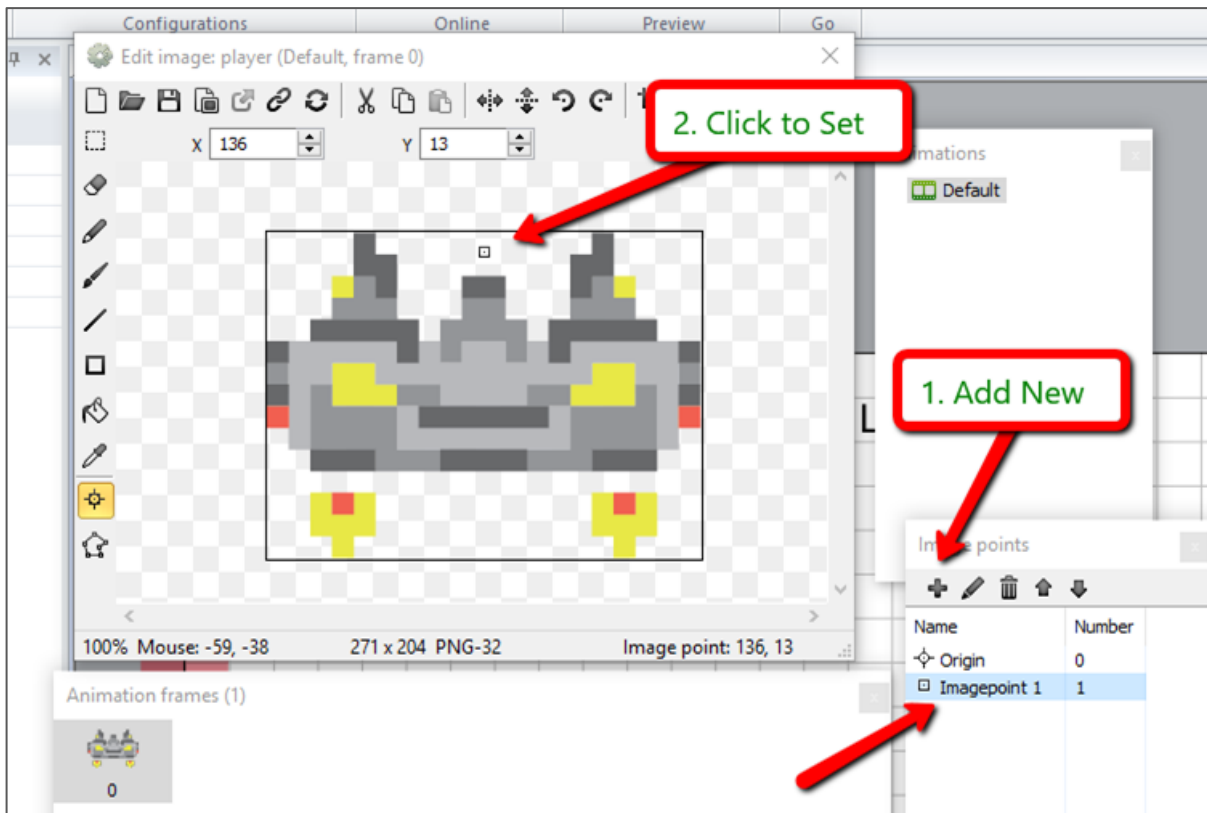 - Bullet
  - Destroy Outside Layout

Player Can Shoot!

- Add a new image point for our bullet

Player Can Shoot!

- Spawn a bullet at "**image point 1**"
- Allow a max of 3 bullets to be on the screen at once
- Set the bullet to got up (angle = 270 degrees)

5	Keybo...	On **Space** pressed	player	Spawn · **bullet** on layer **0** (*image point 1*)
	System	bullet.Count ≤ 3	· bullet	Set ✏ Bullet angle of motion to *270 degrees*
			Add action	

Destroy Bugs & Spawn Rocks

- When a bug is shot, it spawns a rock in its place
- Keep track of the score - the bug animation decided the number of points.

- TEST GAME (shoot bugs, turn into rocks, player moves around the screen)

6	→ · bullet	On collision with **bugs**	bugs	Destroy
			· bullet	Destroy
			bugs	Spawn **rocks** on layer **0** *(image point 0)*
			rocks	Set animation frame to **random(0,4)**
			System	Add *100*bugs.AnimationFrame* to **score**
			Add action	

Keep the Player In His Area

- Limit the player from removing his player area
- Use "**playerArea.BBoxTop**" for value.

7	🏰 player	Y ≤ playerArea.BBoxTop	🏰 player	Set Y to *playerArea.BBoxTop*
				Add action

Shoot Rocks!!!

- Each time a rock is shot, you get 10 points.
- Rocks change their animation frame until they get to the first frame and then they get destroyed (1 to 4 hits)

8	➡ · bullet	On collision with **rocks**	· bullet	Destroy
			⚙ System	Add *10* to **score**
				Add action
9	🟠 rocks	Animation frame > 0	🟠 rocks	Set animation frame to **rocks.AnimationFrame-1**
				Add action
10	⚙ System	Else	🟠 rocks	Destroy
				Add action

Prevents Rocks in Player Area

- Let's not allow rocks to get created in the player area
- Because we cannot easily shoot them

- TEST GAME

Auto Create Rocks On Game Start

- Do this "**25**" times
  - Create a rock at a random location

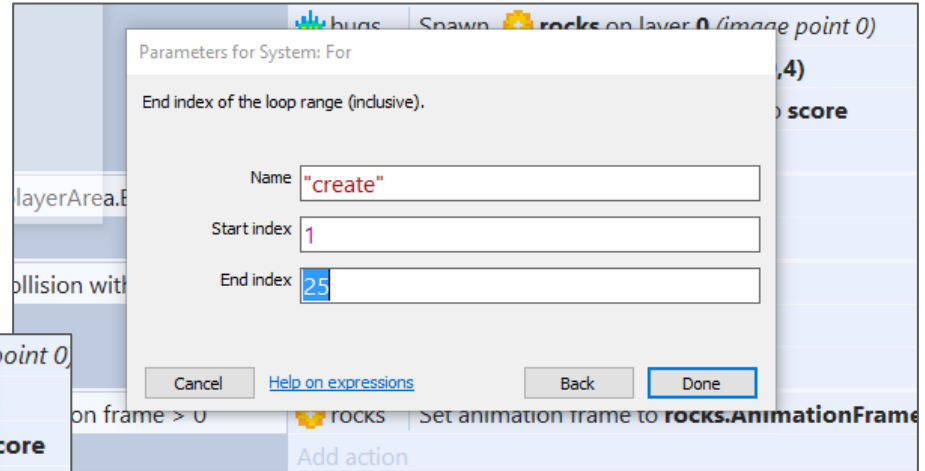Parameters for System: For

End index of the loop range (inclusive).

Name "create"

Start index 1

End index 25

Parameters for System: Create object

Choose the object type of the new instance to create.

Object to create: rocks

Layer 0

X floor(random(3,27))*blockSize

Y floor(random(3,10))*blockSize
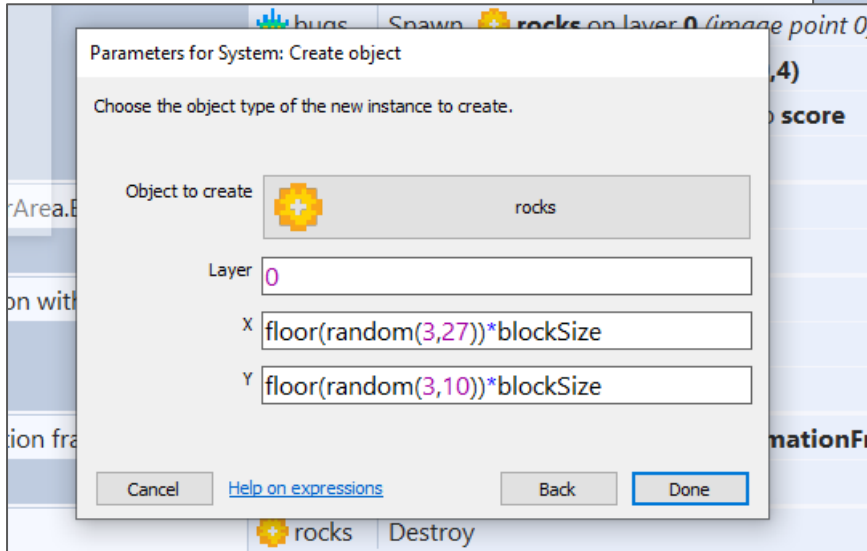
- X: **floor(random(3,27))*blockSize**
- Y: **floor(random(3,10))*blockSize**

Auto Create Rocks On Game Start

- And use the last animation frame for all new rocks so that they must be hit 3-times

- TEST!!

12 □	➡ ⚙ System	On start of layout	Add action		
13	↻ ⚙ System	For **"create"** from *1* to *25*	⚙ System	Create object 🪨 **rocks** on layer **0** at *(floor(random(3,27))*blockSize , floor(random(3,10))*blockSize)*	
			🪨 rocks	Set animation frame to **3**	
			Add action		