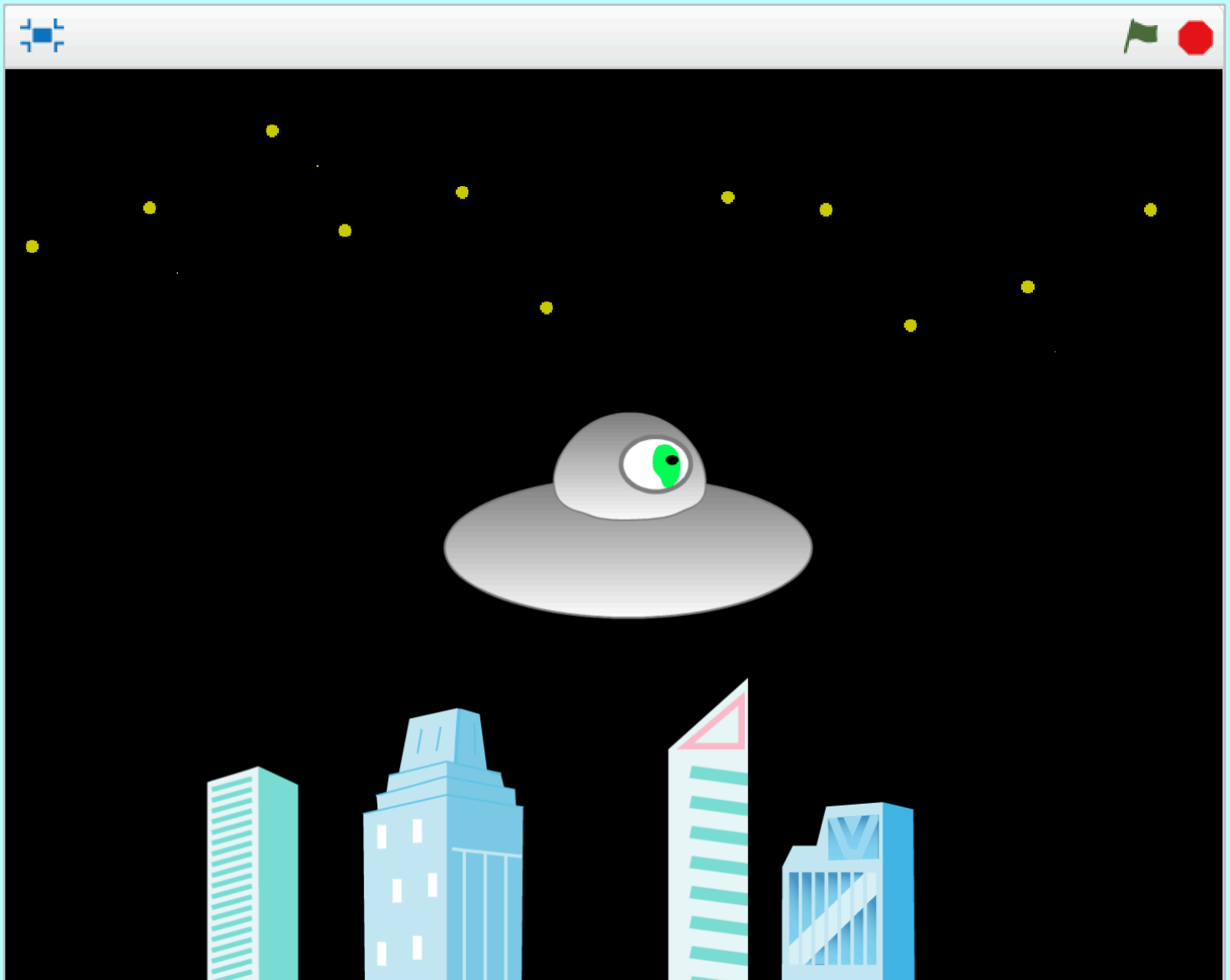


UFO Flyover



Side-scrolling animation creates the illusion of a UFO hovering over a city.

Code it

Inequalities and a *forever* loop enable building and star sprites to constantly drift stage left. Add these building sprites from the Scratch library; then draw a few new sprites to look like star clusters. When the x-coordinate of each scrolling sprite reaches a minimum (lowest negative value), the sprite hides; it is then repositioned at the maximum positive value at screen right where it reappears (shows). Additionally, add a color change command to the each sprite, making these sprites appear to twinkle.

Draw the costume for the alien spaceship sprite using vector graphics. Code the spaceship to hover gently around the center of the stage, forever gliding up and then down slowly, but never changing its x-coordinate.

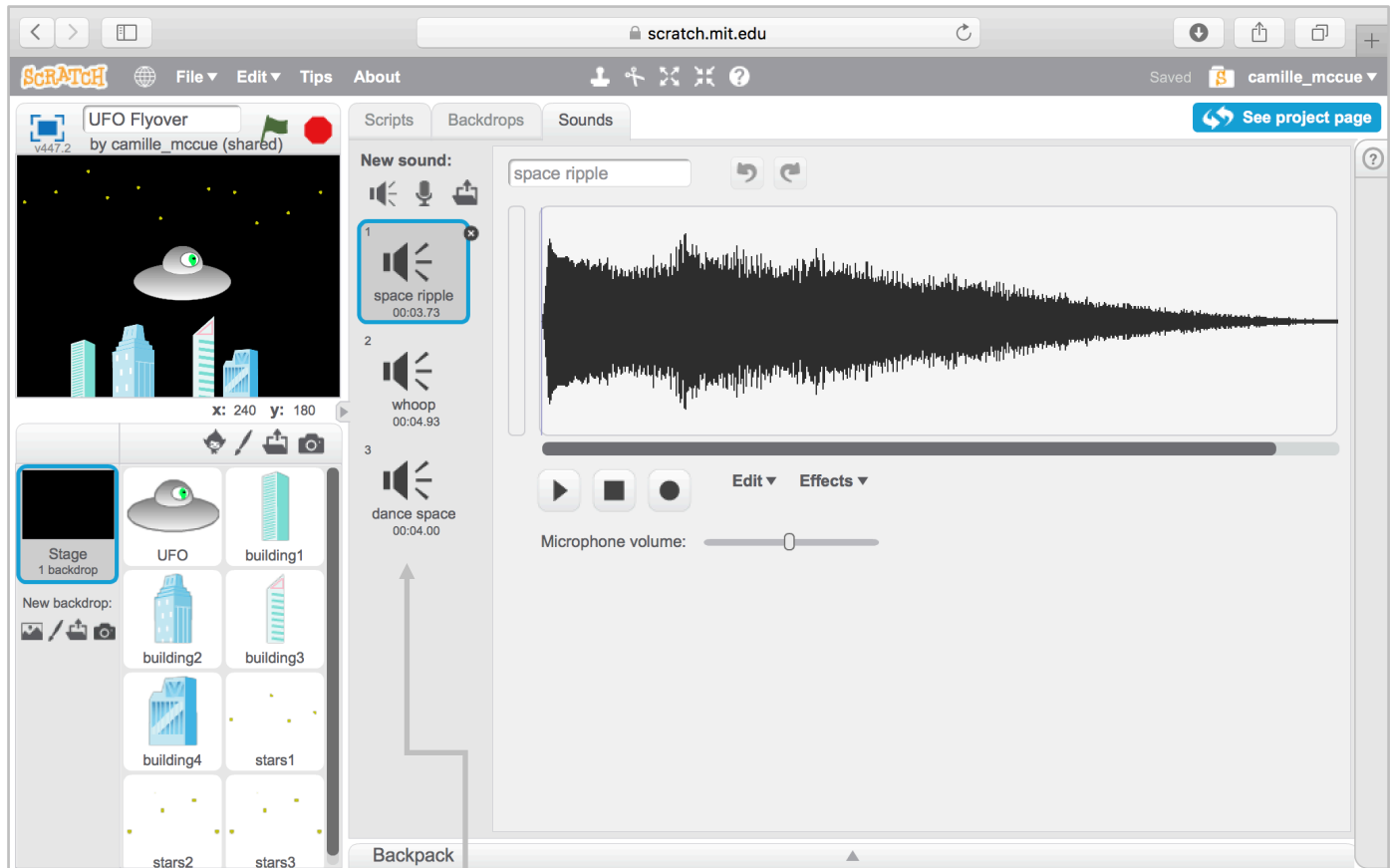
Include spacey, UFO sound effects for an alien flair!

Play It

Start the action by clicking the green flag.

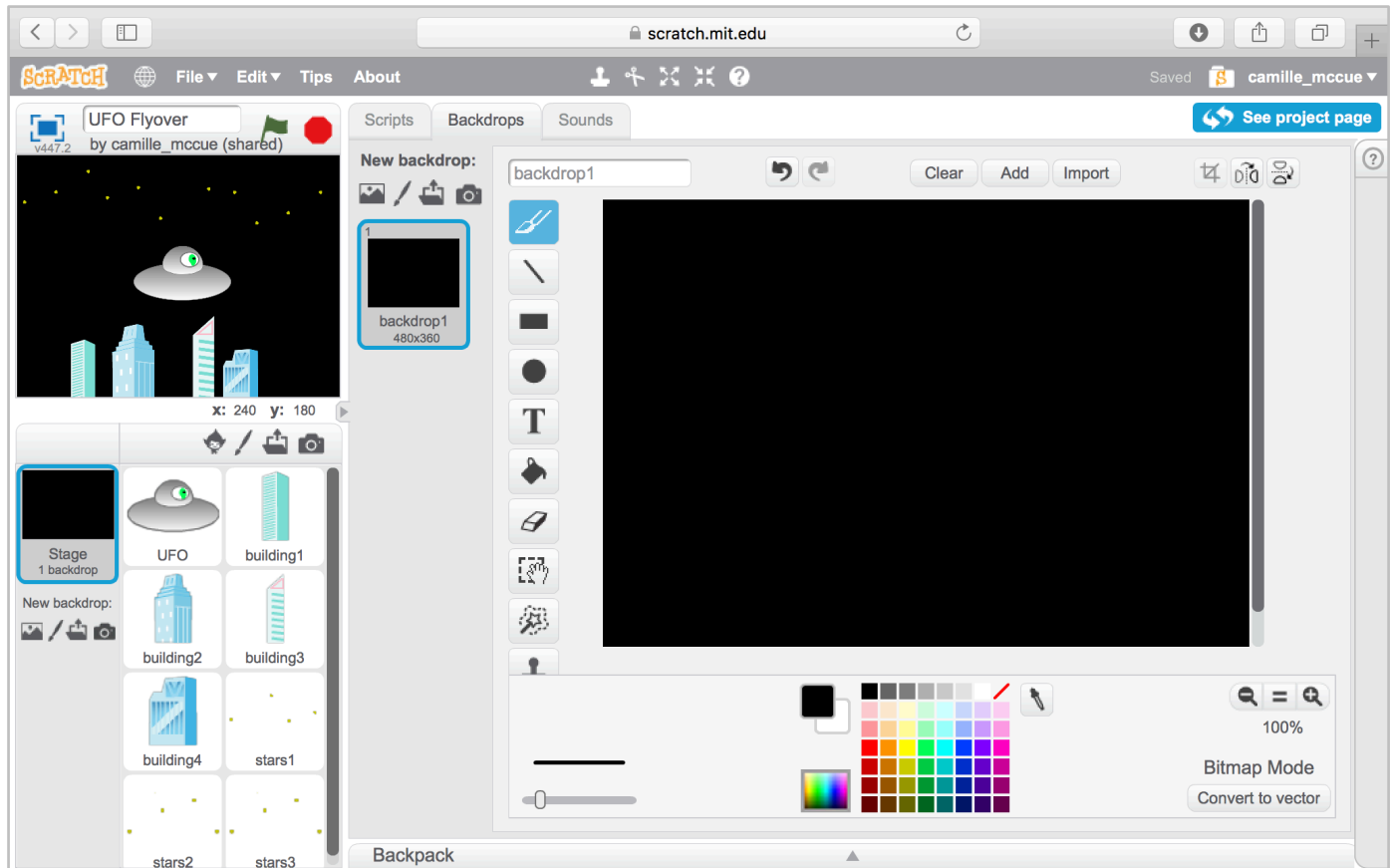
UFO Flyover

Stage – Sounds

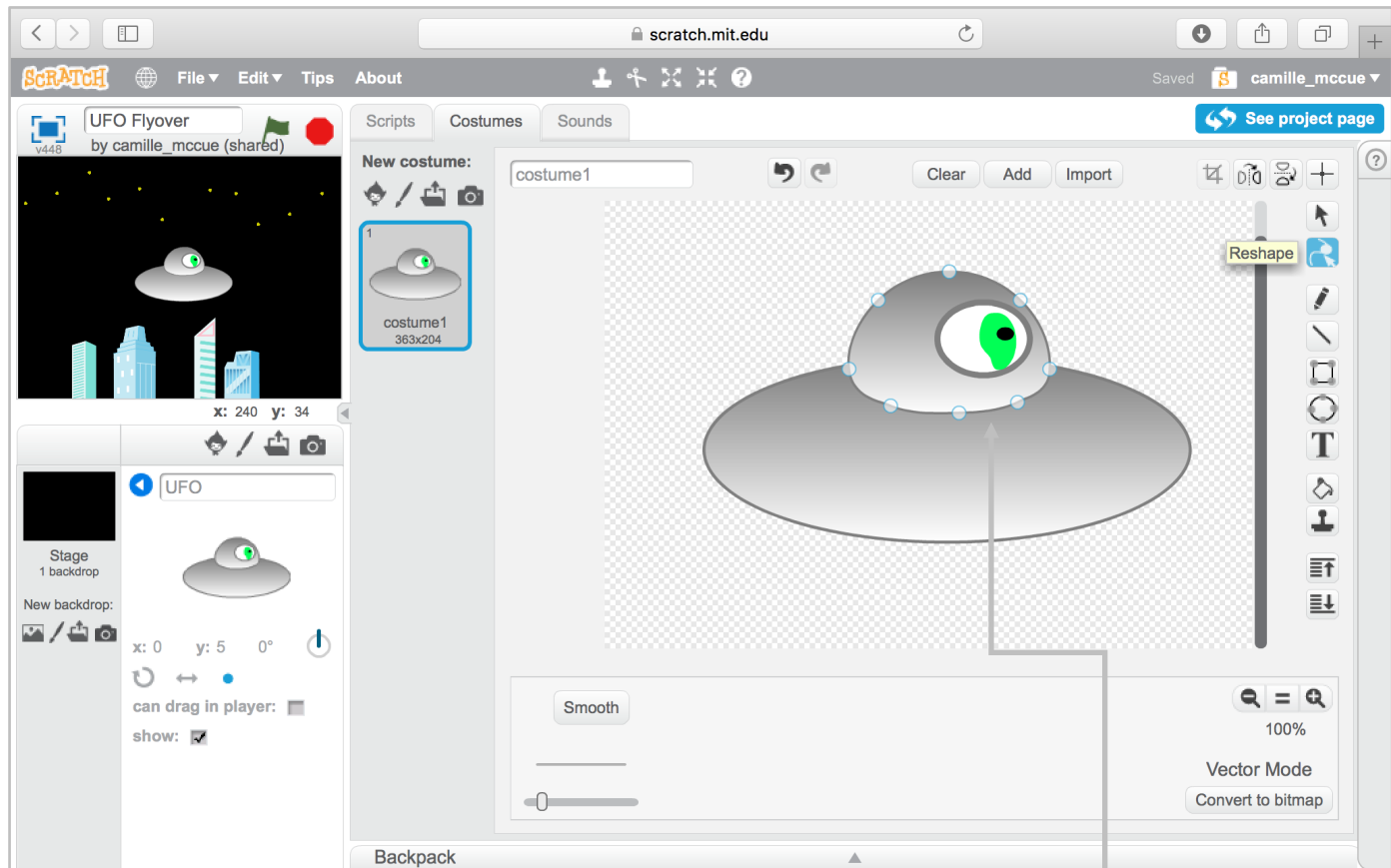


Choose sound from library, adding all three sounds

Stage – Backdrop

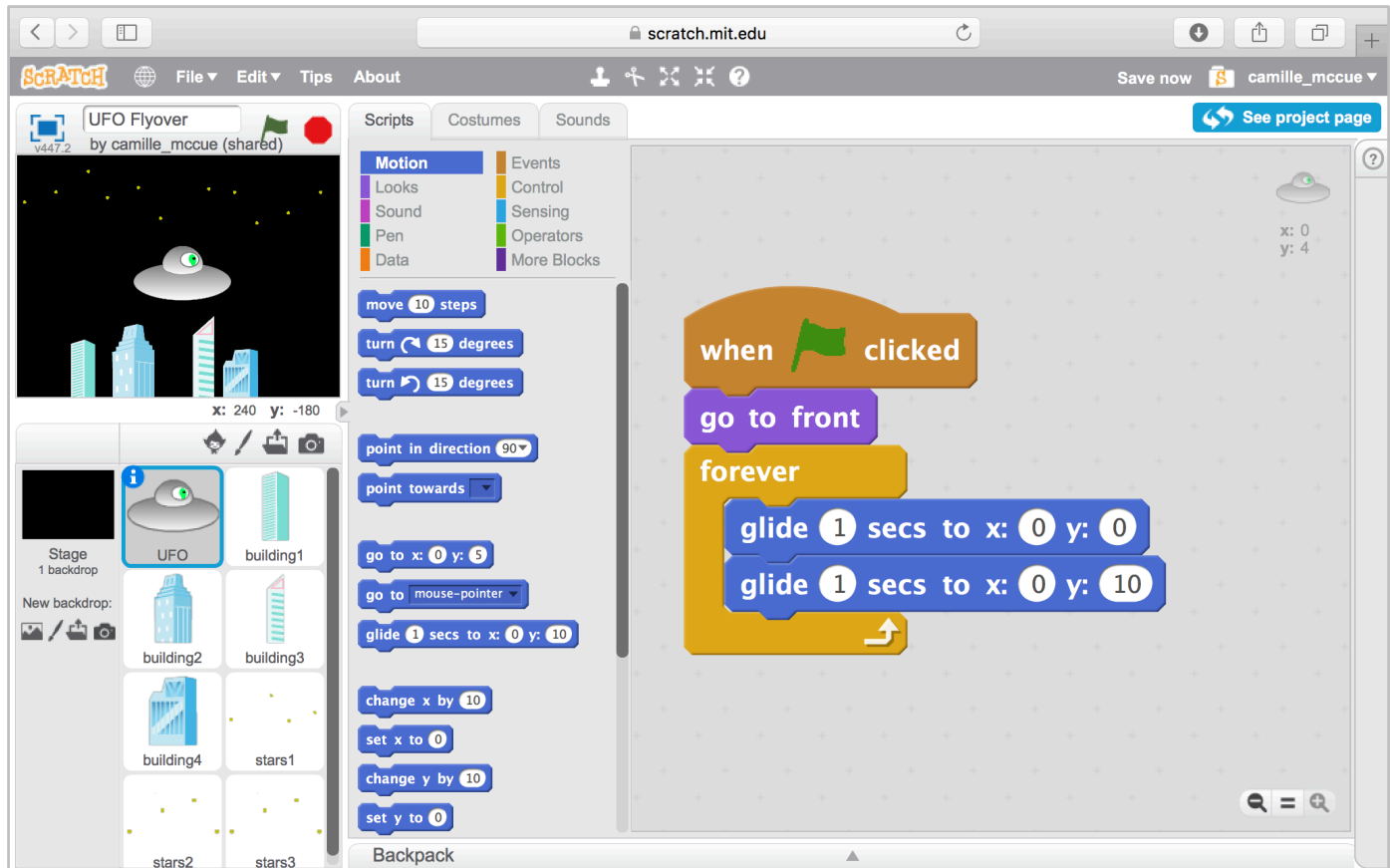


UFO Sprite – Costume



Construct UFO from circles; fill with gradient of gray and white; use the Reshape tool to adjust UFO dome

UFO Sprite – Script



The screenshot displays the Scratch IDE interface for a project titled "UFO Flyover" by camille_mccue. The main workspace shows a UFO sprite on a stage with a cityscape and stars background. The script area contains the following code:

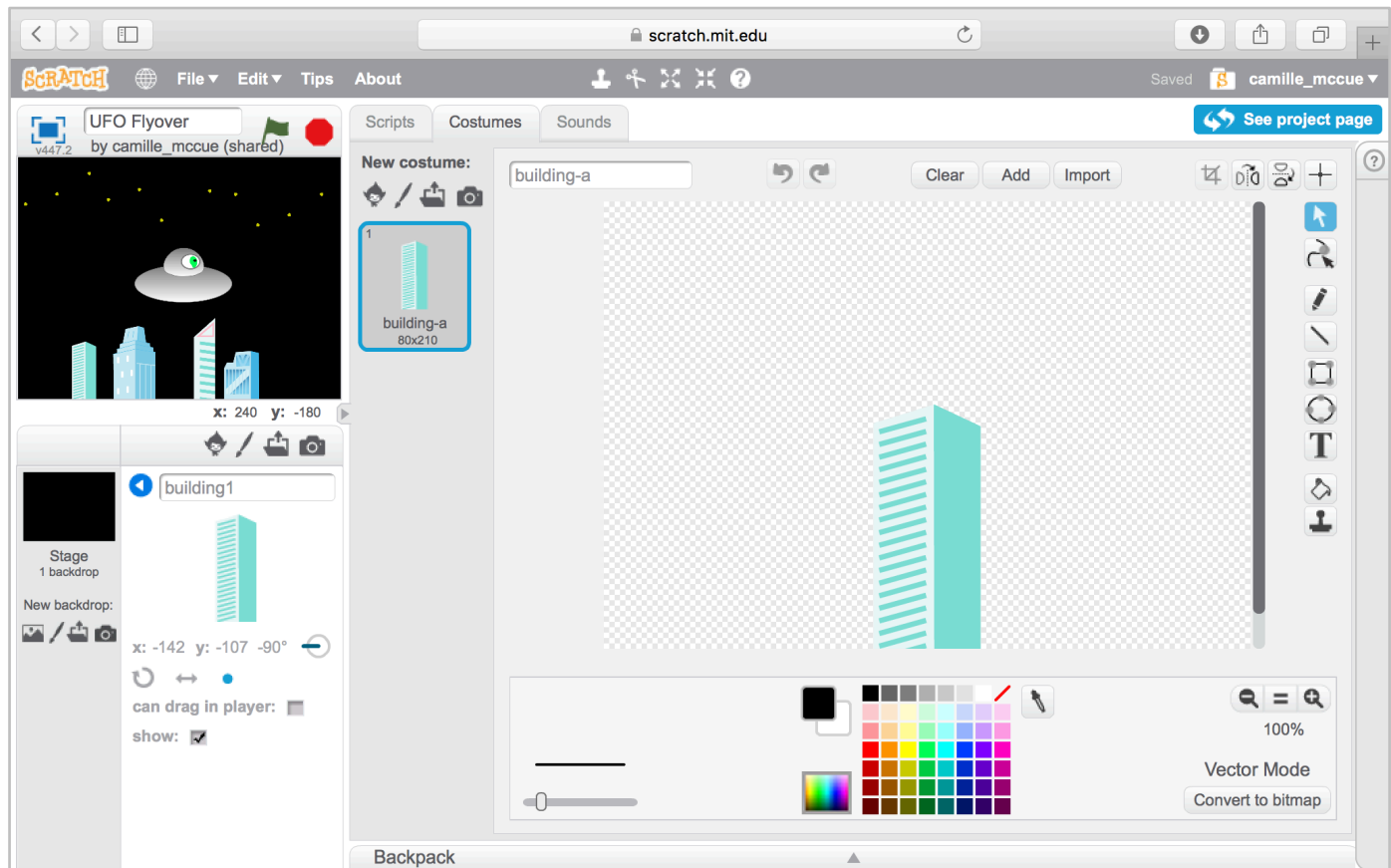
```
when green flag clicked
  go to front
  forever loop
    glide 1 secs to x: 0 y: 0
    glide 1 secs to x: 0 y: 10
```

The script area also shows a list of available blocks under the "Motion" category, including:

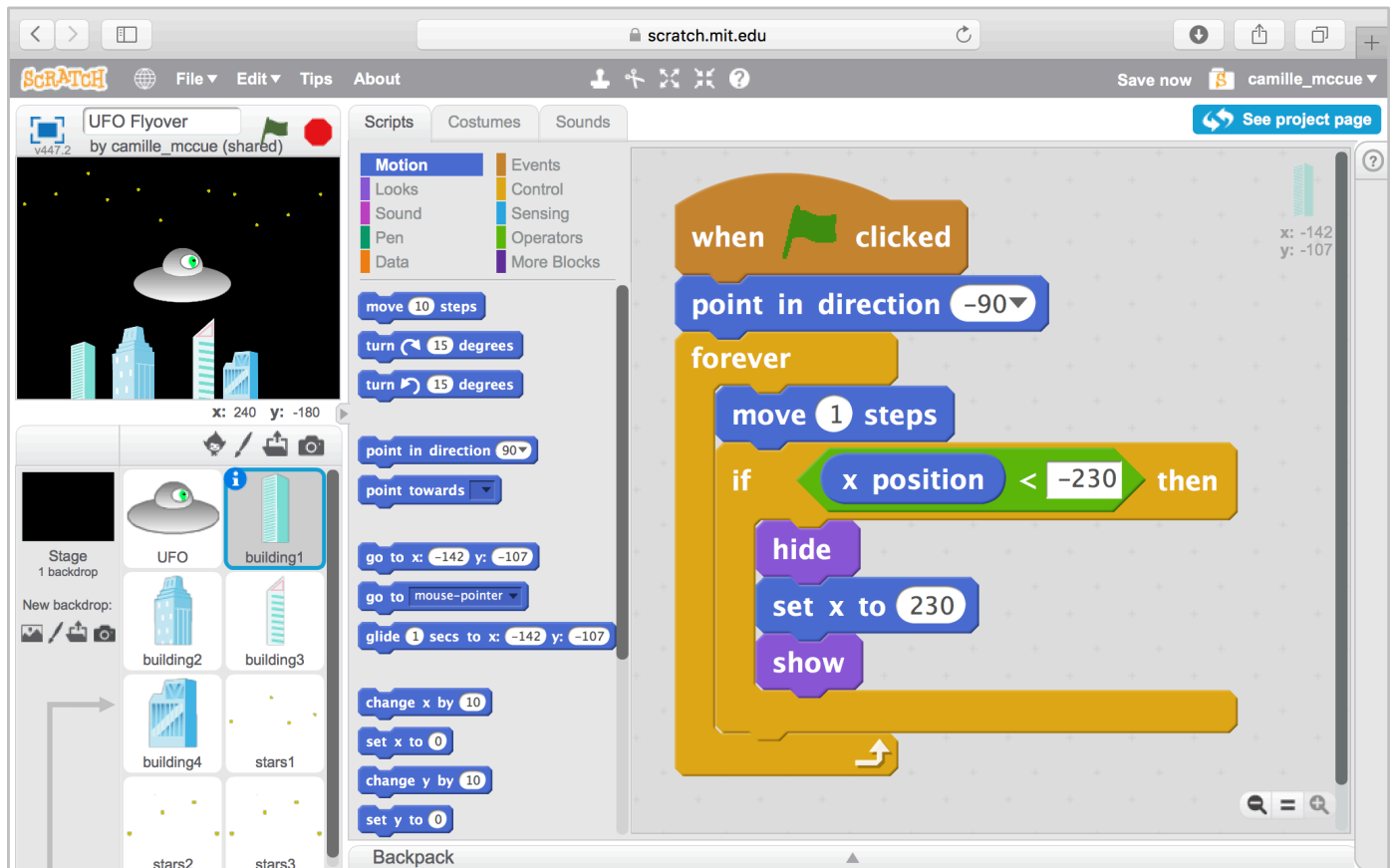
- move 10 steps
- turn 15 degrees
- turn 15 degrees
- point in direction 90
- point towards
- go to x: 0 y: 5
- go to mouse-pointer
- glide 1 secs to x: 0 y: 10
- change x by 10
- set x to 0
- change y by 10
- set y to 0

The stage area shows the UFO sprite at coordinates x: 240, y: -180. The backdrop area shows the "UFO" sprite selected, along with other assets like "building1" through "building4" and "stars1" through "stars3".

Building Sprite – Costume



Building Sprite – Script



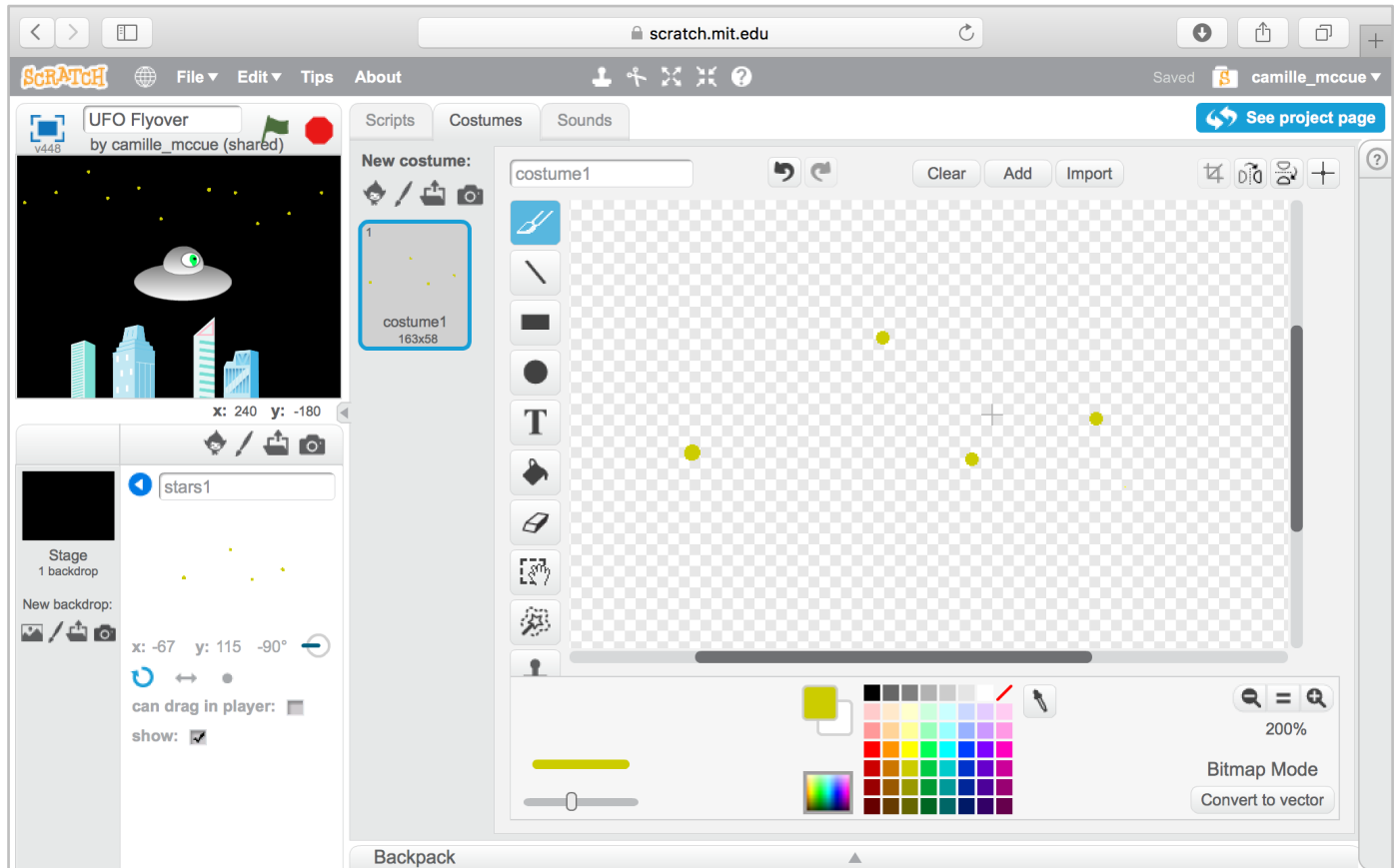
The screenshot shows the Scratch IDE interface. The main stage displays a UFO flying over a cityscape. The 'Scripts' panel on the left contains the following code blocks:

- when green flag clicked
- point in direction -90
- forever loop:
 - move 1 steps
 - if x position < -230 then:
 - hide
 - set x to 230
 - show

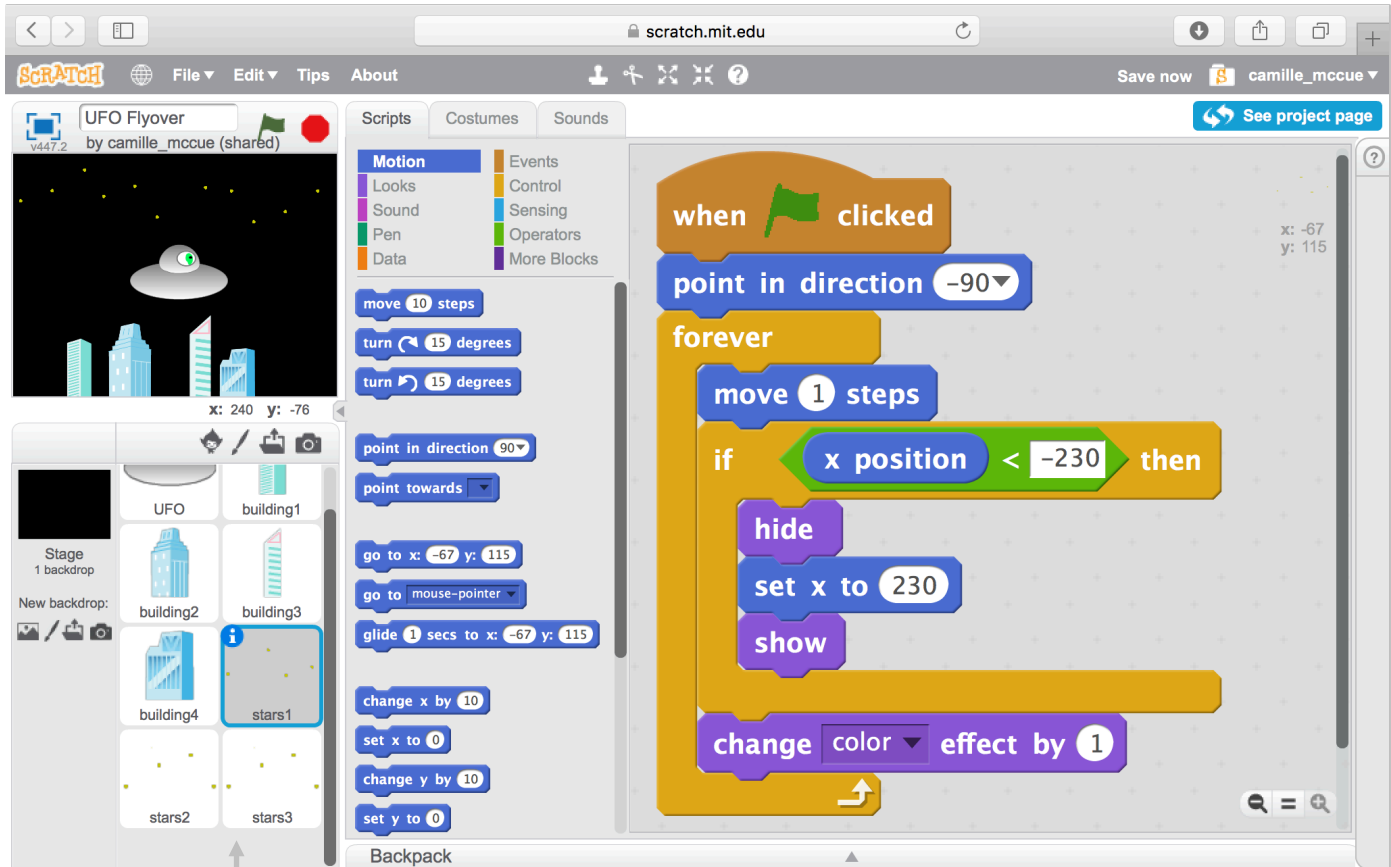
The 'Backpack' panel on the left shows a 'UFO' sprite and several 'building' sprites (building1 through building4). A red arrow points from the text below to 'building1'.

Copy and paste the first building sprite to create multiple buildings containing the same code (principle: reuse code); change the costume on each sprite

Stars Sprite – Script



Stars Sprite – Script



The screenshot shows the Scratch IDE interface. The main stage displays a UFO flyover scene with a city skyline and stars. The 'Scripts' panel on the left shows a script for a 'stars1' sprite. The script consists of the following blocks:

- when green flag clicked
- point in direction -90
- forever loop:
 - move 1 steps
 - if x position < -230 then:
 - hide
 - set x to 230
 - show
 - change color effect by 1

Copy and paste the first star cluster sprite to create multiple star clusters containing the same code (*principle: reuse code*)

Extend It

How can portions of the code in this project be reused to create a Flappy Bird-style game? Consider that the columns are like the buildings and stars.

What portions of the code will need to be rewritten? Consider that the bird will require up-down arrow key control. Further, you will need to devise a scoring method (hint: because the bird never changes its x-coordinate, increase the score when a column moves past the bird without colliding).