

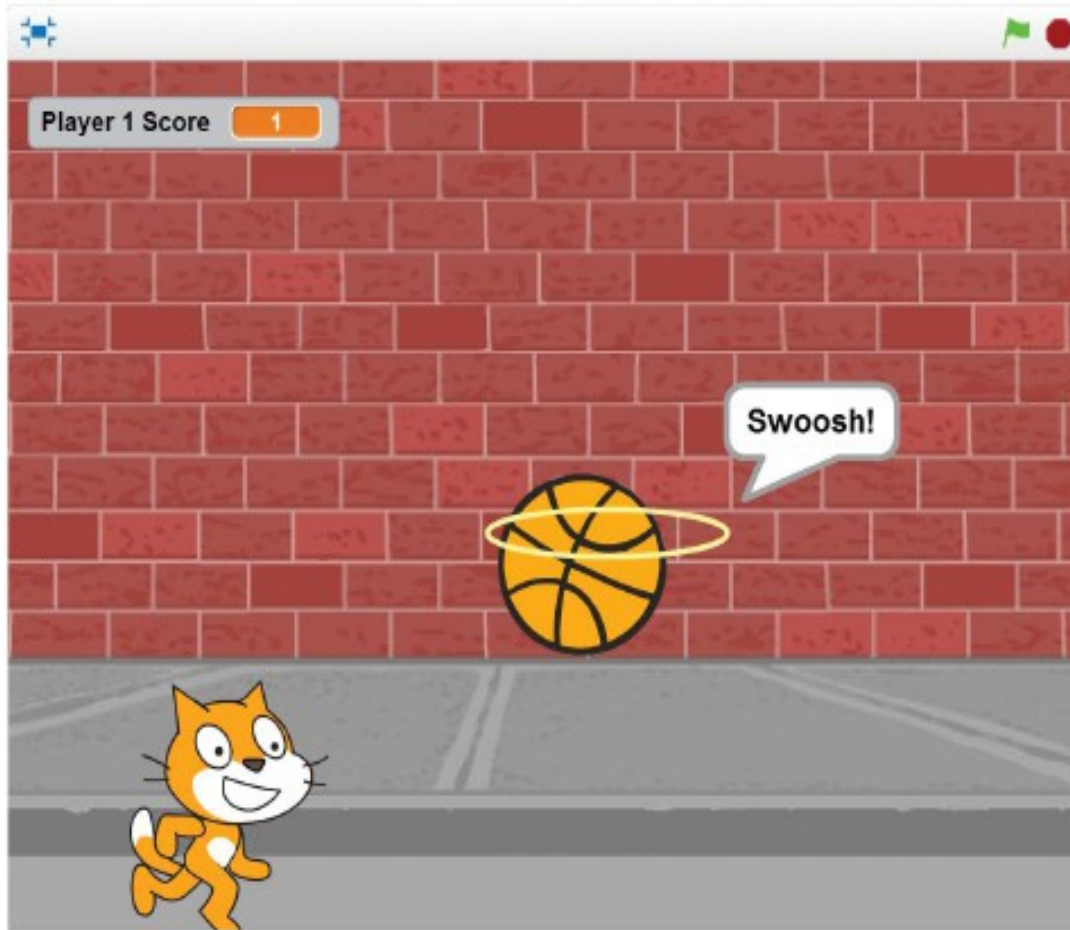
# Introduction to Programming and Computer Science/Electronics

Lesson 63

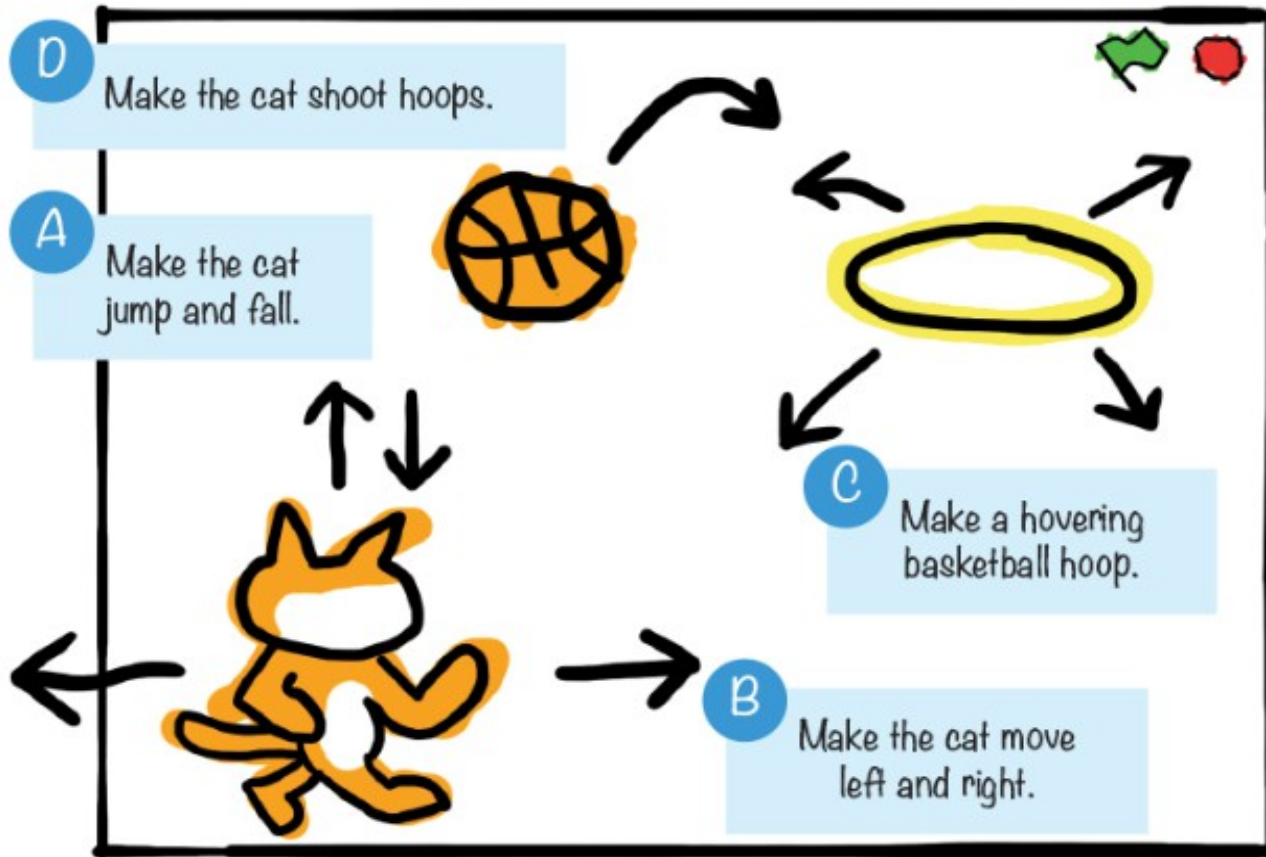


# SHOOTING HOOPS

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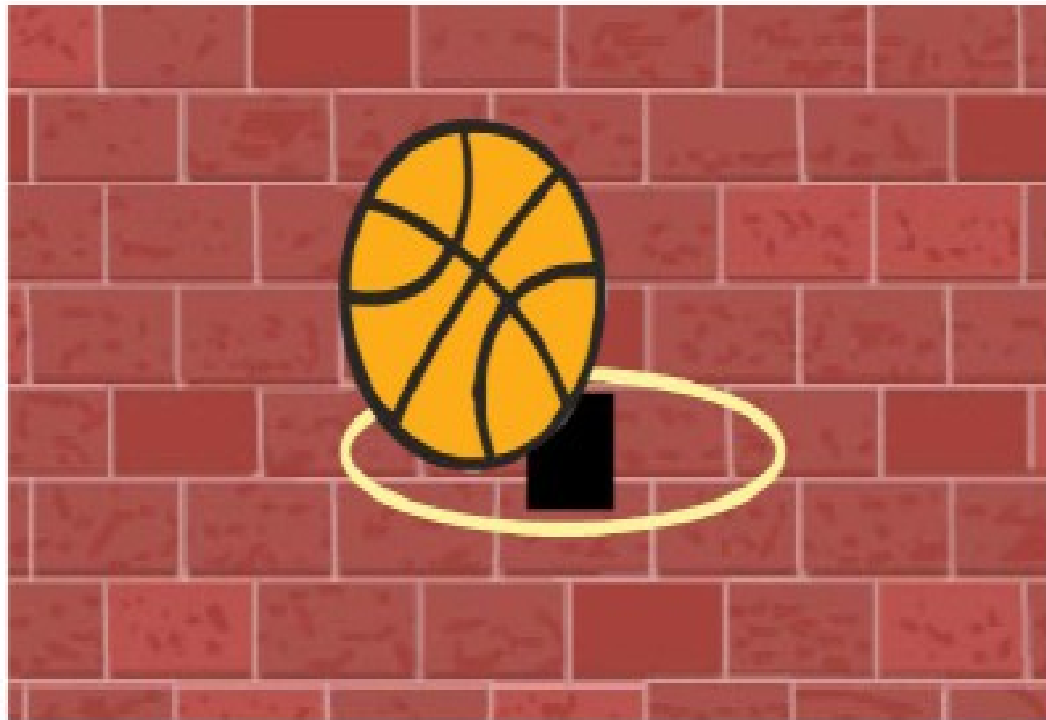


# SHOOTING HOOPS



# SHOOTING HOOPS

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# CAT - CODE 1

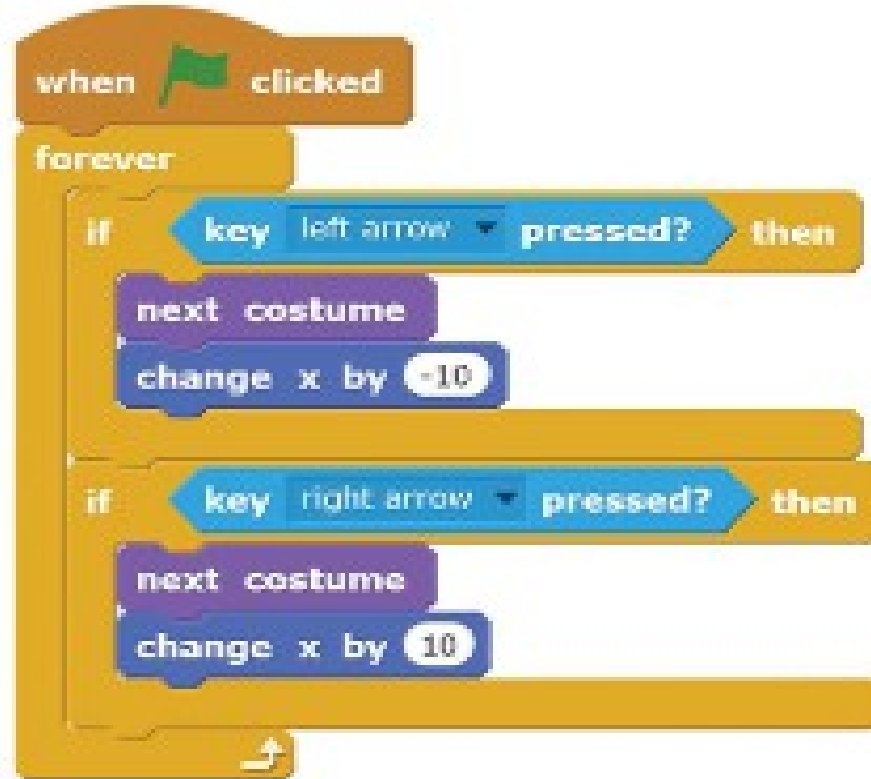
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```
when clicked
  set y velocity to 0
  forever
    change y by y velocity
    if y position > -130 then
      change y velocity by -2
    if y position < -130 then
      set y to -130
      set y velocity to 0
```

The image shows a Scratch script starting with a 'when clicked' event block. It sets 'y velocity' to 0. A 'forever' loop follows, containing a 'change y by y velocity' block. Two 'if' blocks are nested within the loop: the first checks if 'y position' is greater than -130 and changes 'y velocity' by -2; the second checks if 'y position' is less than -130 and sets 'y' to -130 and 'y velocity' to 0.

# CAT - CODE 2

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# CAT – CODE 3

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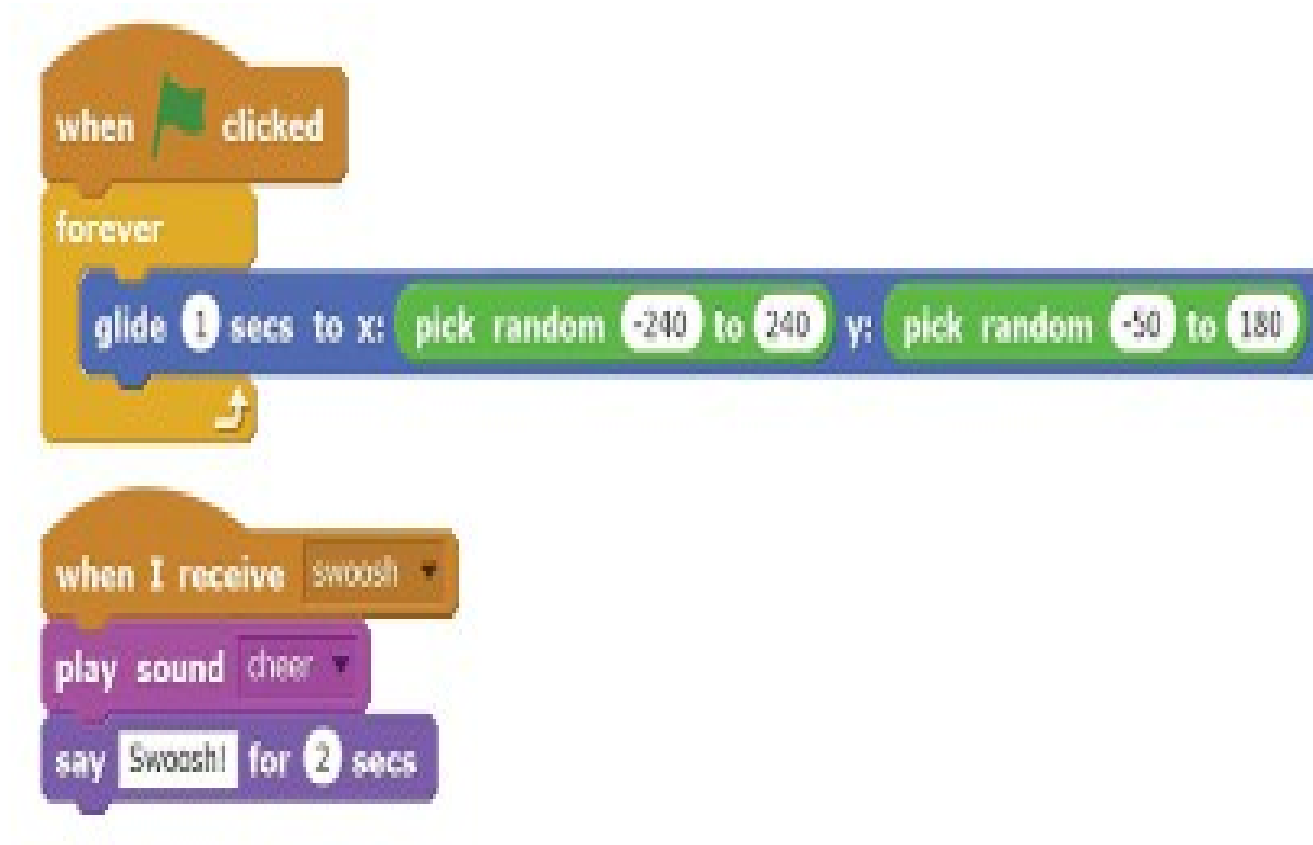
# HITBOX - CODE

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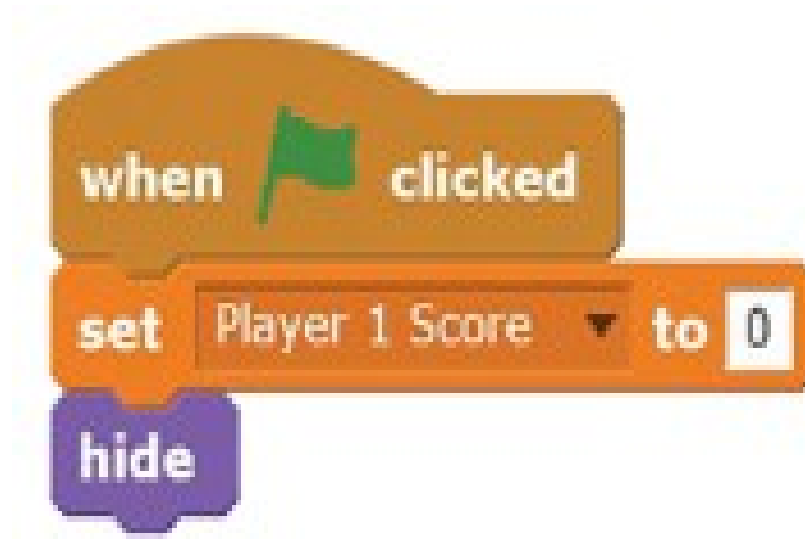
# HOOP - CODE

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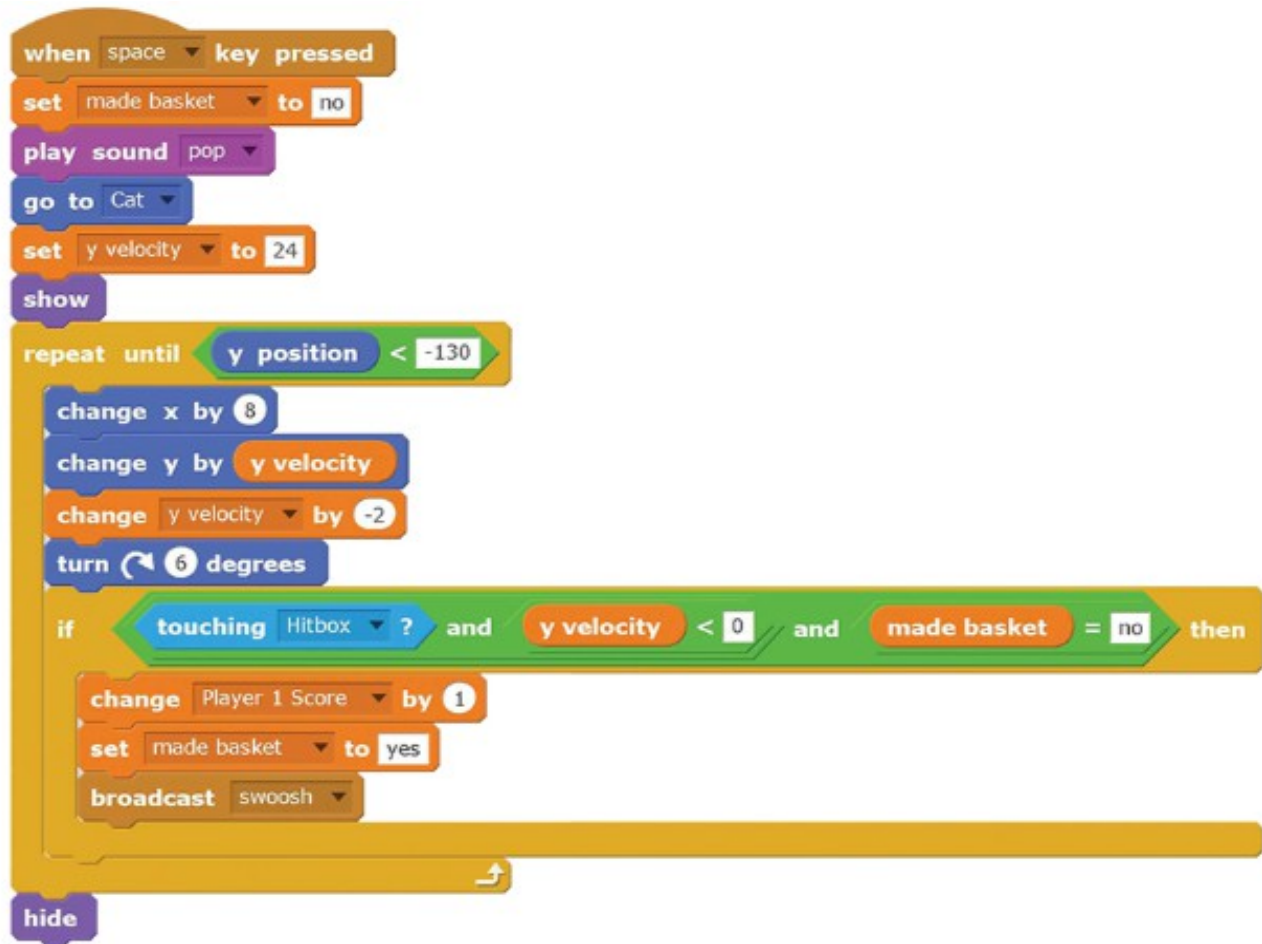
# BASKETBALL – CODE 1

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# BASKETBALL – CODE 2

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```
when space key pressed
  set made basket to no
  play sound pop
  go to Cat
  set y velocity to 24
  show
  repeat until y position < -130
    change x by 8
    change y by y velocity
    change y velocity by -2
    turn 6 degrees
  if touching Hitbox ? and y velocity < 0 and made basket = no then
    change Player 1 Score by 1
    set made basket to yes
    broadcast swoosh
  hide
```

The image shows a Scratch script for a basketball game. It starts with a 'when space key pressed' event. The script then sets 'made basket' to 'no', plays a 'pop' sound, moves the cat sprite to the 'Cat' layer, and sets the 'y velocity' to 24. The cat is shown, and a 'repeat until' loop begins when the 'y position' is less than -130. Inside the loop, the 'x' coordinate is increased by 8, the 'y' coordinate is increased by the current 'y velocity', the 'y velocity' is decreased by 2, and the cat is turned 6 degrees. An 'if' condition checks if the cat is touching a 'Hitbox' object, if the 'y velocity' is less than 0, and if 'made basket' is 'no'. If all conditions are met, the 'Player 1 Score' is increased by 1, 'made basket' is set to 'yes', and a 'swoosh' sound is broadcast. Finally, the cat is hidden.

# CHALLENGE

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- 1) Create a 2-player game
- 2) Create a mode where the hoop is frozen.