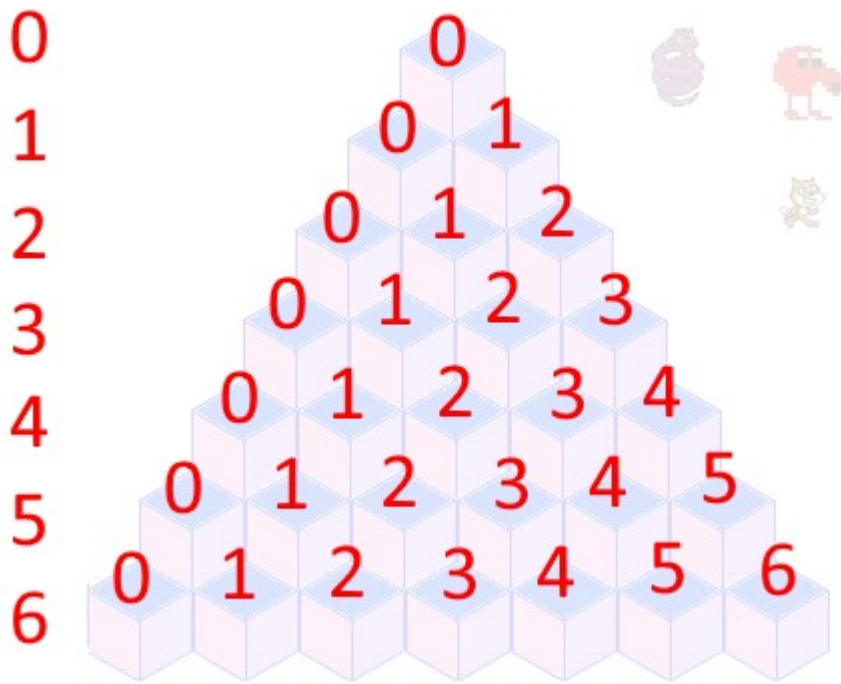
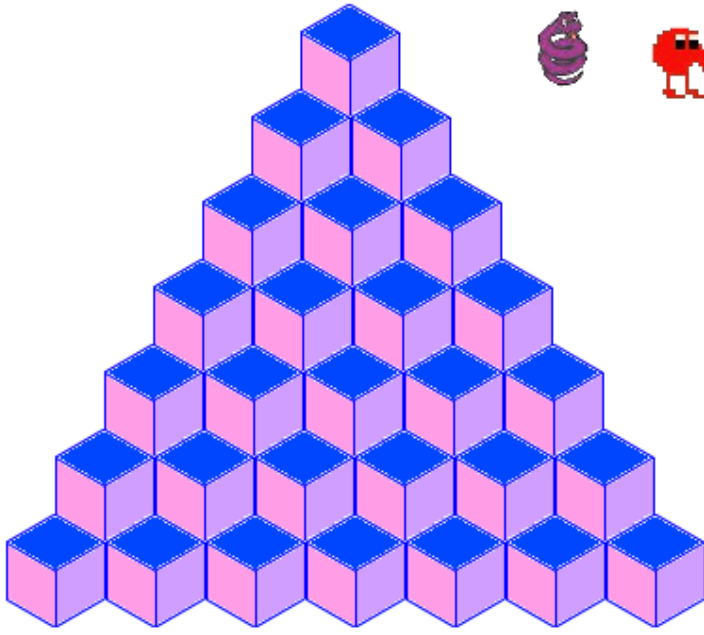


The numbering of the spaces



The variables

Arrows and Boxes copy
by michaeladamkatz (unshared)



Scripts

- Motion
- Looks
- Sound
- Pen
- Data**
- Events
- Control
- Sensing
- Operators
- More Blocks

Make a Variable

- box within row
- jumping
- n
- qbert x
- qbert y
- row

set jumping to 0


change jumping by 1

show variable jumping

hide variable jumping

Make a List

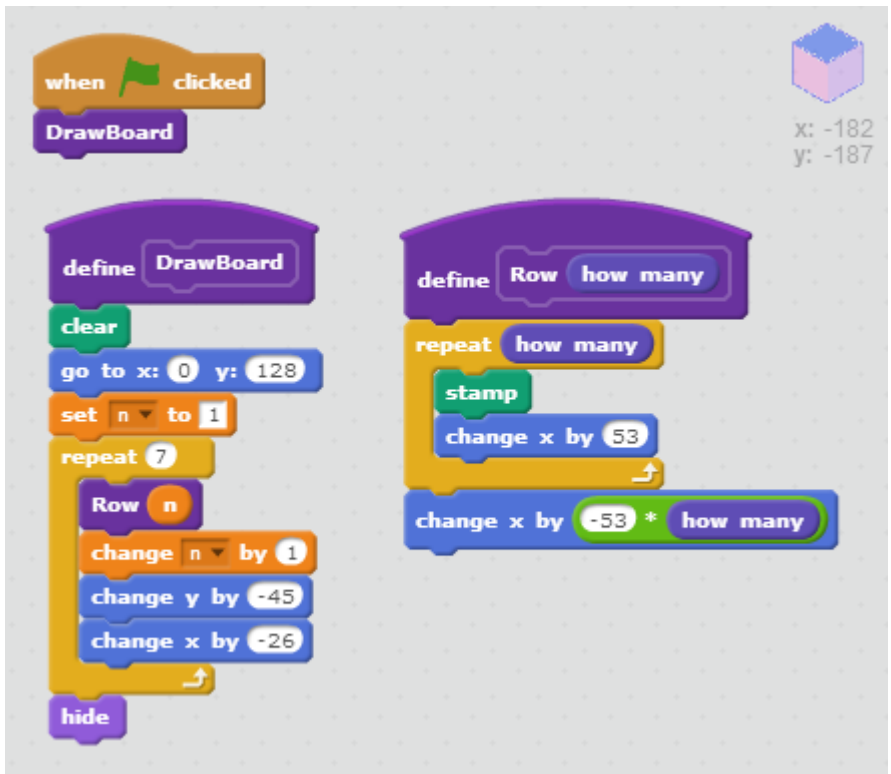
Sprites

New sprite: 

- Stage
1 backdrop
- box
- qbert
- snake

X: 240 Y: -43

The box script



The image shows a Scratch script on a grey grid background. At the top left, there is a 'when clicked' event block followed by a 'DrawBoard' block. In the top right corner, there is a small blue cube icon and the coordinates 'x: -182' and 'y: -187'. The script consists of two main parts: a 'define DrawBoard' block and a 'define Row how many' block. The 'define DrawBoard' block contains a 'clear' block, a 'go to x: 0 y: 128' block, a 'set n to 1' block, a 'repeat 7' loop containing a 'Row n' block, a 'change n by 1' block, a 'change y by -45' block, and a 'change x by -26' block. The 'define Row how many' block contains a 'repeat how many' loop with a 'stamp' block and a 'change x by 53' block, followed by a 'change x by -53 * how many' block.

```
when clicked
  DrawBoard

define DrawBoard
  clear
  go to x: 0 y: 128
  set n to 1
  repeat 7
    Row n
    change n by 1
    change y by -45
    change x by -26
  hide

define Row how many
  repeat how many
    stamp
    change x by 53
  change x by -53 * how many
```

The Qbert script

```
when green flag clicked
  Initialize Qbert

define Initialize Qbert
  set size to 60 %
  switch costume to qbert1
  set row to 0
  set box within row to 0
  Compute Coordinates
  go to x: qbert x y: qbert y
  set jumping to 0

when d key pressed
  Jump qbert1 1 1

when a key pressed
  Jump qbert2 1 0

when e key pressed
  Jump qbert3 -1 0

when q key pressed
  Jump qbert4 -1 -1

define Check Death

define Jump c row change box change
  if jumping = 1 then
    stop this script
  set jumping to 1
  switch costume to c
  change row by row change
  change box within row by box change
  Compute Coordinates
  glide 0.25 secs to x: qbert x y: qbert y
  set jumping to 0
  Check Death

define Compute Coordinates
  set qbert x to row * -27 + box within row * 53
  set qbert y to 130 - row * 45 + 30
```

Easier challenges:

- Play a (not too loud) sound each time Qbert lands on a square.
- Copy the Qbert sprite and make a second Qbert character that uses other keys. One person can control the first Qbert and another person can control the other one.
- Write the “Check Death” function. The function should consider the variables “row” and “box within row” and figure out if qbert is off the board. If he is, have him say something funny for a couple seconds, then call “Initialize Qbert” to put him back on the start space.

Harder challenges:

- Make the snake jump around the board randomly, but don't let it jump off the board.
- Use “broadcast to send a message to the block to have it change the block color when Qbert lands on a block. Do this by “stamp”ing the block in that position.
- Can you figure out when the board is complete and Qbert has won? This is not so easy. It probably requires using a list.