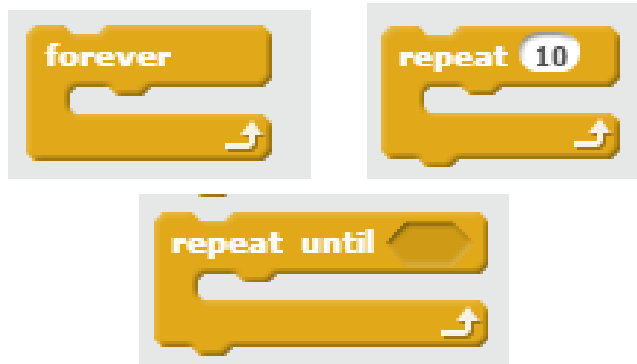


We have explored three different types of loops



Can you say what the differences are between these types of loops?

Challenge 1

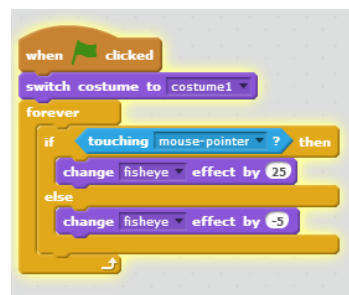
Use the program Breakdance (<http://scratch.mit.edu/projects/15121976/>) to create a program of your own. The breakdancer only has three costumes.

Challenge 2


Explore this program.

What does it do?

How does it work?



Challenge 3

Can you write a program using the  to draw a square? To draw a triangle? To draw any sided shape?



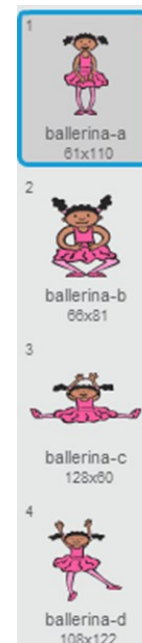
Repeating things with Loops

Kim the ballerina wants to dance.

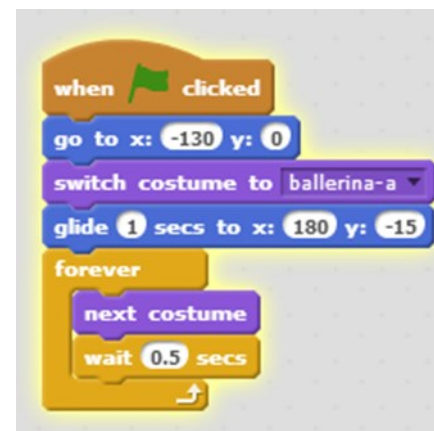
If using the Browser version of scratch then load this file

<http://scratch.mit.edu/projects/15119075/>

She has four moves – or costumes as Scratch calls them.



What do you think the program will do?



Click on the Green flag and see what happens.

We do not want Kim to be dancing all the time. We would like her to change so that she only dances for a number of times.

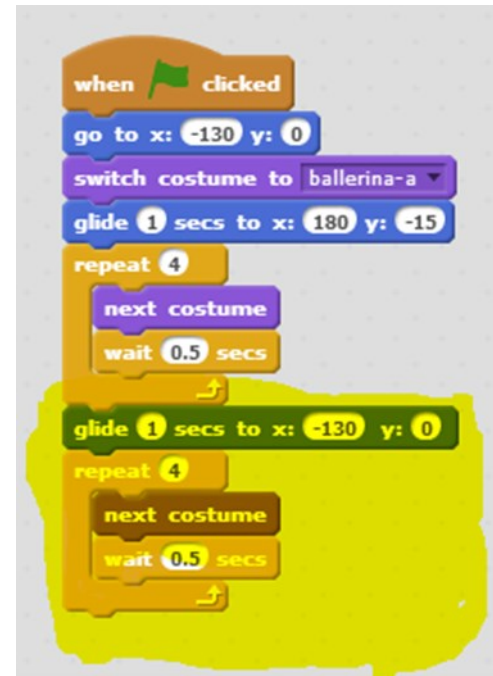
Change the program so that it looks like this:



```
when green flag clicked
  go to x: -130 y: 0
  switch costume to ballerina-a
  glide 1 secs to x: 180 y: -15
  repeat 4
    next costume
    wait 0.5 secs
```

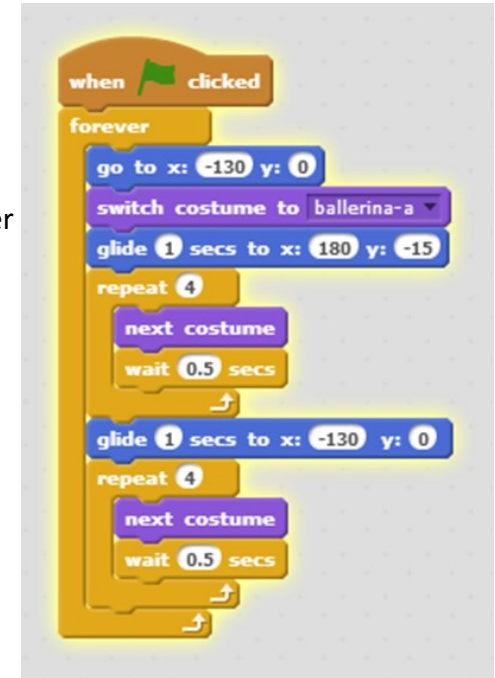
Click on the green flag and see if it works

If we want Kim to move to the left of the stage and dance we will need to add these steps



```
when green flag clicked
  go to x: -130 y: 0
  switch costume to ballerina-a
  glide 1 secs to x: 180 y: -15
  repeat 4
    next costume
    wait 0.5 secs
  glide 1 secs to x: -130 y: 0
  repeat 4
    next costume
    wait 0.5 secs
```

We could make her dance forever by adding a forever loop around these commands



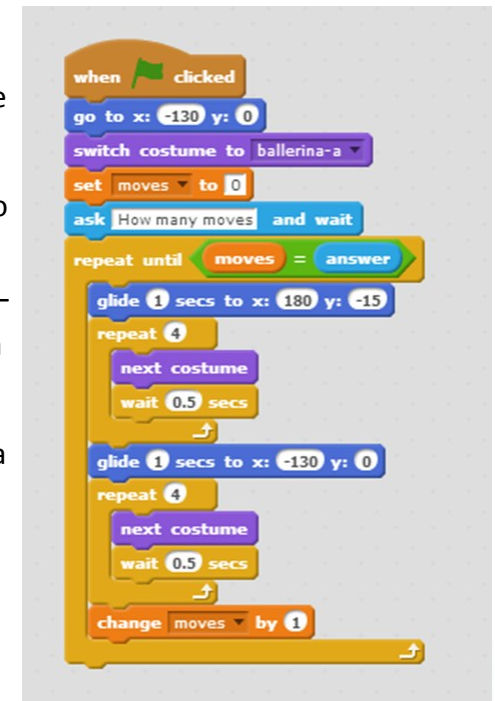
```
when green flag clicked
  forever
    go to x: -130 y: 0
    switch costume to ballerina-a
    glide 1 secs to x: 180 y: -15
    repeat 4
      next costume
      wait 0.5 secs
    glide 1 secs to x: -130 y: 0
    repeat 4
      next costume
      wait 0.5 secs
```

We can control the number of times she moves across the stage by using another type of loop.

Before we can do this we need to add a counter to record the number of moves she will make – in computer terms this is called a variable.

Click on the Data box and Make a variable and call it 'moves'.

We now change the program to look like this:



```
when green flag clicked
  go to x: -130 y: 0
  switch costume to ballerina-a
  set moves to 0
  ask 'How many moves' and wait
  repeat until moves = answer
    glide 1 secs to x: 180 y: -15
    repeat 4
      next costume
      wait 0.5 secs
    glide 1 secs to x: -130 y: 0
    repeat 4
      next costume
      wait 0.5 secs
  change moves by 1
```