# Learning Computer Science Concepts in Scratch

Department of Science Teaching

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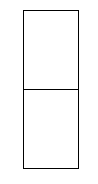
## Interim test

### Question 1

Here is a script for the cat sprite:

when the green flag is clicked, 
point in direction 90,
move 50 steps,
wait 1 secs,
point in direction 0,
move 50 steps,
wait 1 secs,
point in direction -90,
move 50 steps,
wait 1 secs,
point in direction 180,
move 50 steps

1. (Multi Applying) How many steps will the cat take from the time the green flag is clicked until the end of the script?
   1. 0
   2. 50
   3. 90
   4. 200
2. (Uni Applying) In what direction does the cat face at the end of the script?
   1. -90
   2. 0
   3. 90
   4. 180
3. (Multi Applying) Draw the path that the cat takes when the script is run.
4. (Multi Creating) Add instructions to the script so that the cat will move in the path described by the figure:



### Question 2

Here is a script for the cat sprite:

when the green flag is clicked,
go to x: -100 and y: 100,
point in direction 90,
repeat 10 the following two instructions:
1. move 10 steps,
2. wait 1 secs,
after the repeat is over, 
turn 180 degrees,
repeat 10 the following two instruction:
1. move 10 steps
2. wait 1 secs

1. (Uni Applying) What is the position (coordinate) of the cat after the green flag is clicked and the first instruction is run?
2. (Multi Applying) What is the position (coordinate) of the cat after the entire script is run? In what direction is the cat facing?
3. (Multi Applying) How many times is the instruction move 10 steps run?
4. (Uni Creating) Add an instruction to the script so that the cat never stops.

### Question 3

Here is a script for the cat sprite:

when the green flag is clicked
go to x: -100 and y: 100,
point in direction 90,
repeat the following two instructions until touching dog
1. move 10 steps,
2. wait 1 secs,
after the repeat is over,
turn 180 degrees,
repeat 10 the following two instruction:
1. move 10 steps,
2. wait 1 secs

1. (Multi Applying) If the dog sprite is at position x=100, y=100, how many times is the instruction move 10 steps run?
2. (Uni Creating) Change the script so that the cat changes his direction only when he reaches the edge of the stage.
3. (Uni Creating) Change the script you created in the previous question so that when the cat reaches the edge of the stage he says “Oh” for 2 seconds.