[Code for a guessing game (in Scratch)]

Let's create a simple game using the things we've learnt so far, along with a key component of games: a random number generator. So the guessing game has the following structure: the computer thinks of a number (it does this using a random number generator) and so we'll need to store that as one of the variables, then asks the player to guess the number. So each time the player will guess, and we'll have an if-then situation, because either the game is over, or they can guess again.

As with many coding scenarios, we can do this in a number of ways. Let's set it up so that the person gets 3 guesses until the game is over and they lose. On the other hand, if the number is guessed, then we'll introduce a command that stops the loop.

Now if the answer is equal to the number to guess, then the cat can say so, and then we need to break the loop. If we stop "just this script" then the code will continue running what's outside the loop afterwards, however if we write, "stop all" then the whole program will stop. This works similarly to having a stopping condition in the loop. So if we allowed unlimited guesses, we could use the "repeat until loop".

Alternatively, we could set up an additional variable to represent our stopping condition. We could also include a counter here as a variable, and update it each time. This would allow us to say how many turns are left.

Now this last example clearly seems much more complicated – but it's worth observing how many different ways there are to implement what is essentially the same game. You'll develop your own style when it comes to coding and have your own way of designing algorithms, but you also need to be able to understand code that you don't write yourself. It sometimes helps to map things

out, or carefully translate it into your own way of looking at it.