Look, it's almost an artwork!

Don't you think?

I've created code to get a random blue square and then a red square and then a green square.

It works but it's very, very long as you can see it doesn't even fit on my screen.

So for this of course we also want to create our own block, but the problem is here maybe you've done the exercise again, what is similar and what is different we see that these blocks are all similar, but we have a different color, blue color, a red color and a green color.

So if we create our own block what do we do with the colors?

Let me show you, put this away, I'll create my own block and I call it 'random square', now here we have random square.

This is the code that is the same, from here if I put it next to each other you can see it a bit better, from here this is all the same, except for that 'set pen to color'.

So what I can do is I could set the color to blue before I create the blocks.

So if I do it like this let me show you, now this is the block.

This you can forget for a while, we don't need that anymore.

So what happens now is first I have black, black lines, three this way and tree that way.

Then I set the color to blue and then I do a random square and then this is a random square.

It is better of everything we had before, go to a random position and make a square.

Let's execute it we get three lines, one, two one, two, one, two, and now we get a Blue Square.

This works but we want three squares of course.

So we could use a repeat three around the square, if we do it like this we would get three blue squares, but we want the color to change every time.

So if we go to pen there's a change pen color.

So now with every square we change the color a little bit.

You can play with numbers, you can pick what you want, 10 is a little bit less so then it will look like blue and blue and a bit more blue.

So if you for example pick 30, so we set the color to blue and then with every square the color changes a little bit.

Let's go one, two, four, five, six, and we got three different squares!

You see?

In three different colors, blue, purple and red.

And as I said you can play with the colors a little bit.

Play with the numbers until you get something that you think looks nice.

But it's -oh - we're getting to look a little bit already like a Mondriaan painting.

One thing that we can change though is that the square now is open.

It's not solid, it's not filled.

And it would be nicer if we would make filled squares and I will show you how to do that.

So if you would do it with a pen, probably you would do something like this for filling a square – sssssr.

It's possible to Scratch as well but it's a little bit hard.

What is easier to programming in Scratch, we take a square and then we fill it with a smaller square and a smaller square and a smaller square and a smaller square, because we already have a variable for the size, it's called number of steps.

So we're going to rename number of steps because it's not really a good name anymore, what it means now it's the size of the square and when we used it in pen program, it was about how many steps do I take in the painting.

But now it means what is the size of my square.

So if I click it holding the shift button, I can call this 'size of the square', which is a bit nicer, because it looks a little bit more like what it actually means.

So what we can do now is go to a random position, we have the size of the square and every time every step we want to make it smaller and smaller and smaller.

Let me show it to you.

Every time so, let's do it for example just to show you ten times will make this nicer in a little bit, ten times I'm going to fill the square and every time I make the size of the square a little bit smaller.

So every step I change it by five.

So I get a random size and every time for ten times smaller smaller smaller smaller.

So I clear everything, you see?

Let me show you again, I have a square and I make it smaller smaller smaller smaller smaller and smaller.

But you see now I'm only doing it ten times, a fixed number of times, and this will sometimes work but if we have a bit now it will work, but if we have a bigger square you see there's still a little bit white left and if you have a bigger square the white gets better, bigger.

So we don't need to repeat it ten times, what we would want is to repeat it until we're ready.

Until the size of the square that we're painting is entirely zero.

We could do that we need a new block for that the repeat until block which is a little bit like the 'wait until' block, block that we used in the Giga game, we wait until we hit the green wall and then we go back.

Now we repeat until the size of the square is almost zero and then we stop.

So we repeat until the size of the square is smaller than zero and it's shrunken entirely.

We put this in so instead of doing it ten times, we now will do it until the square is ready.

Let's go, clear everything, and now we get a filled square!

Everywhere!

We can glue it back together and play the entire program, we get a line, a line and another line another, line, two more lines, and then three random filled squares!

There we go one two three!

They're on top of each other, yeah that's the downside of random squares, but if you play it a number of times.

Then maybe you've got squares that don't overlap.

This is the end of the week however, there's one extra video that's a little bit more advanced because what would be even nicer is if the lines and the squares are glued together.

But we will need a little bit more advanced programming.

So the next video, feel free to watch it but be aware that it might be a bit hard if you haven't done that much programming before.

Maybe I'll see you in the next video and otherwise I'll see you next week.