

SCRATCH ANIMATION 1

So let's do one thing, you can in fact take some other object here not necessarily a cat. How about taking an aeroplane and making it take off, take off exactly it will go for some time on the ground and then take off, go for some time in air and then land let's say, how would you do this? Make it move forward, ok! Chase the angle of the aeroplane gradually may be and move it straight perfect. And then again change the angle, change the angle perfect right and move it straight, straight! I also told you it should also land and then rotate it again, rotate back and then land it down, land it down you must ensure that you don't land like this, gradually come like this and then go ahead ok? Shall we try to see if we can do it or not? Yeah. Ok perfect.

So let us try to build the programme for aeroplane taking off and then landing so first of all what we need do here is, we have cat as the sprite here and we need aeroplane! So how can you do that? In scratch you have many different options of sprite, here you can go to new sprite you can choose any sprite from the library, so I will just do that just click on it and see how many sprites do you have? You can choose any one, any sprite that you want so here since we need aeroplane, I will just click on it you just double click and you will get sprite here on your scratch screen, now we have aeroplane and cat sprite here so we need only aeroplane so I will just delete the cat sprite here just right click on the sprite and select option delete. So here is the aeroplane and I want to reduce its size since it won't fit into the screen of scratch so I just you can even increase the size of the sprite as well as decrease the size of the sprite and now but I want to shrink it so I will just use shrink there are two options here as you can see, one is grow and another is shrink so I will use shrink here just choose it and click on the sprite and yes it is shrinking so here we have the sprite. Yeah! I think this is the perfect size for the aeroplane that it can fit into our screen ok, so I think you know how the aeroplane takes off and then land let us try to build the programme for this, scratch programme for this. So first of all, what do we need to do here is? We have to move the aeroplane on the run way yes! We have to move the aeroplane on the run way so I will just click on the motion category and we have move options so first of all I just click here move ten steps ok so maybe I want to move it twenty steps or fifteen steps say so let us try to do that, it is just moved fifteen steps but since we need aeroplane, we need to show aeroplane running on the run way I will use move with the delay options, how can you do that? So first of all I will just say move five steps and then I will insert a delay and then move ten steps and insert delay and then move ten steps insert delay and this way you can see the aeroplane moving on the run way, I will just show you what is the difference, here if I just enter move fifteen steps here we have it will just move fifteen steps but if I enter move five steps and then insert some delay and then I insert one second delay and after that I insert move ten steps how will it move? Let us see? Here move five steps, move ten steps here you can see the aeroplane moving and it looks good to see the aeroplane moving this way on the run way rather than just having fifteen steps in one go so for that you have to insert a delay, how can you insert delay? With wait option and where if the wait option? Wait option will come in

the control category, in control category you have wait one second ok in this way you can make the aeroplane move on the run way, first of all, we have to move the aeroplane on the run way and that is done, so what is next thing to do? Then we have to rotate the aeroplane, yes by some degrees so here we have turn fifteen degrees so I will just use this option I will just say turn fifteen degrees here since it has to rotate on the left side I will just use this option here you will have to move, you have to turn the aeroplane by fifteen degrees after that I will again like to insert a delay so, I will just insert wait one second after that it should move some steps so I just write move ten steps yes so let us have a look how does, how does it look like here in scratch? First one move five move ten then rotate and then move ten steps yes, it look perfect! So let me try to run it again so that you get the clear idea of, how it is functioning here, first of all move five then ten then rotate then again move ten, yes this looks perfect. This is how aeroplane should take off, yes. So here we have the aeroplane taking off after that the plane was the plane is rotated by fifteen degrees? After that what we can do here is, we can move it by some steps, you can move the aeroplane by say hundred steps for that what you have to do here is? For that I will again like to insert a delay here so let us insert the delay here and wait one second and then I will again go to the motion category and I have to rotate, I have to move the plane by hundred steps, so instead of ten you have to write hundred here ok? Now we are done with rotating and moving the aeroplane in the air ok, once it has reached the position let us try to run this piece of code. It rotates and then it moves ten steps and then it moves hundred steps, so now our aeroplane is in air, now again what should we do, we should rotate it by fifteen degrees, so again we have to rotate the aeroplane by fifteen degrees for that I will again insert a delay here so that it looks kind of real and now I have to rotate it, so last time we rotated it left hand side now we will rotate it to the right hand side. So we will use this option, turn fifteen degrees after that what should we do? We should move the aeroplane by some steps in the air after it has been rotated so just take move ten steps, after that again insert delay, wait one second so I will just run this piece of code so that you can get the clear idea of what is happening over here, yes. So let us try to run it, move five steps move ten steps and rotate then move ten steps and then again hundred and then rotate and then move ten steps, this is how aeroplane is working here. Now we have the aeroplane in the air, it is moving in the air for that to make it look real what you have to do here is, we have to move it by say twenty steps and then wait for some time then move twenty steps and then wait for some time I will insert this code again and again so that it looks real that the plane is moving in the air so let us do that. I will just write here move say like no no no ah this is wrong, here I will just write move twenty steps then wait for one second then move twenty steps again and wait for one second ok I will insert it again move twenty steps and then wait for one second ok once more we have to insert it, move twenty steps and then wait for one second ok so now our aeroplane is moving in the air ok? Let us try to run this piece of code, so that you can get the clear idea of what is happening, move five steps move ten steps then turn and move ten steps and move hundred turn move ten twenty twenty twenty twenty so it has moved twenty steps four times, that means it has moved eighty steps ok, now we have to in order to land the aeroplane we have to again rotate it so, I will just use the option of rotate here, what we have to do here is we have to turn the aeroplane by fifteen degrees again so we have to turn the aeroplane again by fifteen degrees so I will just use it, turn by fifteen degrees and then move ten steps also with that after that

you should wait for one second, wait for one second say and then what we have to do here is we have to move the aeroplane down in the downwards direction, so you have to move the aeroplane down, so I will just move the aeroplane by some, by some steps here so I will just write move say fifty steps here, after it has moved fifty steps here then you have to again rotate the aeroplane, after it has moved fifty steps you have to again rotate the aeroplane so what do we need to do with that? For that we have to use the turn option so then as an always inset some delay and then use the turn option you have to turn it by fifteen degrees and then you have to move ten steps again and then wait for some time after it has rotated now it is on the run way again because it is landing, since it is landing then you have to move it by some steps, it is your choice how much steps that you want to move here, I will just use wait I just use move ten steps here and then wait for one second, wait for one second then again I will move it by ten steps so let us try to run this again and see how this aeroplane is taking off and landing so it goes up in the air then it moves there for some time and it rotate and comes back, see we did a mistake here while taking off we moved it by hundred steps but while landing it is only moving by fifty steps, so what we will do, I will again insert move here and this time I will move it by fifty steps so that it looks real and again you have to insert a delay so that it doesn't appear has crashing on the ground so again will run it, double click and run yeah it is going ahead in the air then straight for some time about eighty steps then it has coming down and then again come down and now it is on runway ok, so this is how you can make the aeroplane take off and land in scratch through a scratch programme but you can see that there are many repetitive instructions here, we are using for example here we are rotating it by fifteen degrees then moving it by ten steps and again we are using this code again and again so what we can do here is we can actually group them in a repeat loop. I hope you are already familiar with the loop concept here so what will we do, we will group the repetitive instructions here so that it becomes easy for us to write the programme and the programme becomes short so what we will do here is for the repetitive instructions we just we will just group them in one loop, I will just use the repeat loop here for example here we have move five steps then wait then move then turn then wait move then move by hundred steps and wait so we can't insert a repetitive loop here because here we are moving by ten steps and in the next step we are moving by hundred steps then turn then move, move, move wait move wait here we can insert a repeat loop here because we are moving twenty steps four times so we can insert a repeat loop here and we can repeat it four times this set of instructions move twenty steps and then wait for one second after that we have to move turn then move then move move turn and then move and then we have to move again and again so ah I will just insert a repetitive loop here, a repeat loop here four times in place of this instructions so what will I do is, I will just copy this but we have to do just duplicate it and keep it here so I will just insert a repeat loop here in place of move twenty and wait one second ok? So what will I do here, I just take this loop and what we have to do, we have to repeat it four times yes and you can now delete this and insert it here so let us now, see how this programme with repetitive loop works. So let us see, it is moving then again in the air then straight one two three four yes perfect then it is coming down and then landing yes!! So as you see this programme is same as this programme but the length is somewhat shorter because we used a repeat loop here, so let us now get back to sir and see what is happening in the other end.