

SCRATCH ANIMATION 3

Who said programming is for geeks!? We just now illustrated that the programming is so much fun right? We saw a friend of ours doing jumping jacks we made him do repeatedly and we also saw how we can make a flight land and take off right? So we will see one more fun exercise before we stop our adventure scratch.

Hello guys, hope you would have seen a lot of fun filled activities that you can do using scratch, so you would have seen jumping jacks recently that is nothing but we are using some two different images and we are alternating displaying them in a smart way that it appear to the user that the person is actually jumping, so something like that you can do a lot of cool stuff, sir has given you some exercises I suppose, please do try them also do explore still what all could be done, you use your creativity do a lot of stuffs and this is how you can improve your logical listening and the ability to get things done using a computer. So please do explore scratch to the fullest possible and in this programming screen cast we would see yet another fun activity, we are not going to use this cat in this I hope you had used the cat a lot you had made her do a lot of work so let me say this cat must be hidden, so I will hide her, so in looks category you have an option 'hide' let me say hide and say double click on it, she is hidden done! So if not cat what am I going to use? So I am trying to stimulate eagle catching a snake, so this is what I am trying to stimulate, for that we need to check out the sprites for eagle and snake, some sprites are available in the library from scratch or you can also draw your a new sprite as per your wish or if you have an image file something like that you can upload it or you can readily take from your web cam as well. These are the options provided in scratch, I have an image file I am going to upload it because in this library I had checked animals category eagle snake is not provided in this library, so I am going to use image that I had taken from the internet ok, so let me that is available in my system right now so let me go to it and let me download, I had downloaded and kept it so let me take that image, eagle ok and open it ok so I want the eagle to be positioned here so eagle would be flying in the sky right? So this gives an illumination that the eagle in the sky so I had positioned it here so roughly the co ordinates you can say one eighty six, one eighty nine so let me set it so that the eagle comes, if you want to repeat the exercise again and again the eagle comes back to this position and starts flying from this position, let me set the position for the eagle, set 'x' to one eighty six ok, and set 'y' to one twenty nine or may be slightly above one thirty ok? So given that I have set so eagle has come to this position see one eighty six, one thirty two eagle has come to this position and I wanted to catch a snake, so we wanted a snake that is happy that is happily lying on the ground, the eagle has spotted the snake while flying and so it flies down, it will fly down and come and catch the snake. That is what we wanted, so let us upload the image of the snake, for this the snake is very happy that's what I said let me show you the image as well, first let me show you the image I guess it's better if I can show you the image ok, so here in downloads I have it ok, so smile and cry there are actually two images see this is the image of the snake, see the snake is smiling right? So the snake has been smiling and happily lying on the ground so when the eagle

catches the snake it shouldn't remain happy, it should cry so when the eagle catches the snake we should make it cry, so but how can we make it cry? Same old trick that we used in jumping jacks we will have another image of a crying snake and we let that particular snake appear when the eagle catches this snake and this snake would be hidden, this is what we are going to do. It will be clear as the programme proceeds, if you don't clearly understand what I am telling now it will be clear don't worry please observe it this is the smiling snake image that I had downloaded and another is a crying snake image ok let me, see the snake has been crying you can see the tears flowing from here. The snake has been crying see the snake is crying alright? So I am going to use these two images, I have to upload the images so let me click this icon to upload it from the file so my first is the smiling snake tats what I want smie.png file let me upload it so this particular snake, snake, I want it here see we had set the position for the eagle that is not visible when we click on the snake so please do understand that scratch treats each of the sprites as independent objects so when we want this particular snake to do something on the event of the eagle we need to use something on the event of the eagle doing something, we need to use the options given under this category events so in this programming screen cast you will learn about the options given here, how to make use of them this will be major take home lesson out of this programming screen cast ok? So this is the position we want our snake to be ok? Let me say this is our snake, this is in position minus one seventy nine minus one twenty nine so let me set it set 'x' so that 'y' do I set the position because in case if you want to repeat the experiment you cannot every time adjust the snake adjust the eagle to ask it to do as you wish, you wanted to get adjusted automatically you want to adjust once and set it once it is set that has to get adjusted automatically that is what you want them to do right? So that is why we are setting it, so 'x' is minus one seventy nine and 'y' is minus one twenty nine so set 'y' to minus one twenty nine so if you don't understand how the coordinates are being set please you can refer here the positions are shown here may be I will this particular portions, this particular place you can see the coordinates. Ok? So please note the coordinates minus one seventy nine and minus one twenty nine and this is the position we want our crying snake also to come so let me upload the crying snake to the name is cry.png this one let me upload it so crying snake has appeared here so let me set the position minus one seventy nine and minus one twenty nine let me set them set 'x' to minus one seventy nine and set 'y' to minus one twenty nine initially I don't want the crying snake to be, see now the smiling snake and crying snake are in the same position so it is imposed one above the other, super imposed so I don't want the crying snake to appear now so let me hide it hide options is available in the looks that you would have seen in the cat right? Let we don't need it so we had hidden it so let me hide it so now let me double click ok so the crying snake is hidden now alright. So now we have to start animating with the eagle so let us say the snake is happily lying on the ground the eagle has spotted the snake it has to fly down and catch the snake, so how would you instruct it to fly down? Move few steps it keeps moving in the straight line it can't hit the snake so it has to move few steps slightly change its direction again move change its direction move change its direction this is how the eagle has to fly, this is how we have to instruct the eagle to fly, so let us do that. So in motion category we have this thing move ten steps for the eagle please note that all these instructions we are giving for the eagle so eagle so you can see the blue box around the eagle which denotes that this particular instruction are given for the eagle sprite

ok? So move ten steps then I need to move in this direction so this would be approximately you go thirty backwards in the 'x' axis and ten backwards in the 'y' axis that is the direction I wanted, this is just an approximation let us see how it works in case if it doesn't work how we wanted we can adjust the parameters any time, this is just an approximation an eye approximation that's it so and also note that this may differ with respect to the images, I had taken some images if you have some other image the based on the image dimensions of how much space it takes, based on that this image is a smaller image so it takes less space so for that these parameters may work but for any other image, if you take depends on that image parameters may change so it's better you can, you try once and then you finalise the code that's what I am going to do now to so I am asking it to move ten steps see it moves ten steps see it moving in the backward directions so I need to ask it to come here so I should say to change your x position you move change your x position and y position this is what I am going to say, change your 'x' position by this is your visual approximation I guess minus thirty and change your y position by minus ten I feel this would be better let us check how it goes ok yeah its approaching towards the snake see its approaching towards the snake so I keep clicking for each click it displaces by some amount of distance so I just, I need to use repeat loop so that it approaches here till the snake so let me use a repeat loop control repeat ten times, let me try with ten times so let me again restart. I set the eagle to the initial position now let me repeat it ok, it has come half way so let us give a try for twenty times ok, let us give it a try now. It is in its initial position and let us give a try, oh it is crossing the snake so let me try nineteen times because for ten it is not very closer to the snake and for twenty it is crossing. so I am slowly decreasing the value from twenty but it is just a hit and try last. I had said it depends totally on the image whatever image you have downloaded based on that the things may change that's why even I am showing you the hit and trial method. Ok so I had set the eagle to the initial position let me execute this ok so it has touched the snake, no! Not fully right? This portion, this portion has to touch this is just the tail part has touched the snake so what should I do now? The 'x' position is perfect 'y' position it has to come slightly down that is the tail portion is touching the snake it has the eagle has to come down so that it can completely touch the snake, so I have to make it come down, to make it come down I should change the 'y' value 'y' position means the 'y' position controls whether it has to go up or down if you give a positive value it goes up for a negative value it goes down, similarly 'x' position is for left and right if an 'x' is given in a negative scale the object will move to the left and for the positive value it will move to the right. This is how the working is so I want it to come down so I should give a negative value of 'y' let me say I will experiment this is purely an experiment so let me experiment change 'y' by minus ten how far it moves, let me see ok, change y by minus ten ok? Let me again restart it is set to its initial position, let me repeat. Ok perfect I guess now it's perfect or shall we move still down we will try, ok let me make it minus twenty ok, it is set to the initial position let me repeat ok perfect it is now it can easily bend down and take the snake that's it means the snake is much reachable to the eagle currently so this position is perfect, so eagle has been moving like this so based on this, this snake has to cry so how will we do that? We have to hide the smiling snake and make the crying snake appear, that is what we are going to do, so but in jumping jacks and here what is the difference is in jumping jacks you had the alternating of pictures after few seconds so it is alternated in a cycle something like that you had, you waited for sometime it has alternated in

a cycle but here the appearance of another image depends on some other event so event management is what we are going to do so when the here we have set the kite! Set the eagle ready to fly so let me say it has to pass a message, broadcast a message that is it has to pass a message but it has been it is flying so let me broadcast the message I can create a new message I will say flying so the eagle will broadcast a message that I am flying something like that so it is broadcasting the message that I am flying so given that it broadcasting the message only then the smiling snake has to come. And the crying snake has to be hidden if the message, broadcast message has been received so let us first configure that, it should not remain hidden if you so this it will remain hidden forever we want it to be hidden only till it is flying, till the eagle is flying the snake is unaware of the eagles arrival so it is smiling once the eagle has reached closer to the snake, only then that it starts crying only then the crying snake should appear till that it should be hidden, so when it is flying this crying snake has to hide that is what we wanted so when it is flying? How do we do that? Yeah we have a block when I receive flying so the eagle has been telling right I am flying so when it has been flying the crying snake sprite can be hidden so this is achieved here and the smiling snake has to be shown if it has been flying means when the eagle has been flying in the sky, the smiling snake is not aware of it so it is happy so the smiling snake has to be sure so let me say when I receive flying when the smiling! The message flying is sent the smiling snake has to be shown so let me say show from the loops. So when it starts flying it sends out a message that I am flying so in that stage the snake is unaware of the eagle approaching it has to smile that is why the smiling snake sprite we had set it has, when I receive flying message it should be shown, I have to be shown and for the crying snake it is an opposite, if it is flying then no need for the snake to cry, if it is flying in the air so this has to be hidden so we have set it here ok then ahh when the snake touches the eagle sorry I am sorry! When the eagle touches the snake the snake has to start crying so this snake has to disappear the smiling snake has to disappear and the crying snake has to appear so when it touches, how will these two come to know? If it is a living object they would know that someone is being touched, disturbing us all these they know they would react but here we have some images that's it we are making the image behave as it is a real object so. how would we get things done here? So for that again same like how flying message have been sent we need to sent out another broadcast message if this particular thing is touching this thing, so for that let me see touch is under sensing yeah! This colour is touching this colour something like that we have an option maybe we can use it if this colour is touching this colour let us use that, if some condition then that block we will use it now, we will use it so if some condition, the condition is if the colour is touching this colour so the colour you can change it, how would you change it is? You click on it and just check which colour you just wanted to appear, just click there you would get that colour see this colour is this the brown appeared here and now this colour should be this one ok green appeared here ok let us bring this, I am fitting here ok, if this colour is, if the brown colour touches this colour then it has to send out another message so for that again we are using the broadcast option but this time the message is not it's flying, you have to send a new message so may be for the situation I will use 'trapped', so if it is sends out a message 'trapped' this snake will have to disappear, and the crying snake has to appear so I will configure it here, the smiling snake have to say when I receive 'trapped' it has to be hidden, so hide ok so we have configured the smiling snake let us go ahead with the

crying snake when I receive trapped its trapped this has to be shown so the crying, snake will cry but still will the eagle leave the snake? No, it will eat the snake, so let us wait for some time till the eagle eats the snake, so let us give a wait, wait for one second, one second is lesser for a living eagle but this is a computer image for this one second is too much so one second would be enough it would eaten the snake so after one second this has eaten the snake the snake that would appear should disappear so again I will give a hide option, a hide option alright so hmmm I hope you are clear here if the crying snake has got means when the message trapped has been sent that is when it will be sent? When the particular colour, this portion of the eagle touches this portion, that is the eagle has touch with the snake so when it has touched the trapped message will be sent and because of the trapped message the smiling snake would disappear and the crying snake would appear, which makes the user fevered due to the eagle now caught the snake the snake is crying. So the crying snake would appear even though the snake cries eagle would not leave it, it would definitely eat that snake so this is why we are given a wait loop, it cries but still the eagle is merciless it eats the snake and after it has been eaten the snake should not appear here that's why we are hiding it. So now here after it has been trapped the eagle will be happy that it has got a food so we need a sound effect there right? So let us have a sound effect, sounds you have an option here let's see if we have something from the sound library something you can record it with your microphone or if you have a sound file you can upload it as well these are the options available here. See, from the library animal I don't have a eagle sound so that is why I had taken an eagle sound that I will be using it, I have a sound file basically I will be using it, you can get the eagle sound from the internet as well you can use it so eagle.mp3 this is my sound file let me open it and show you how the sound is, I will play, this is how the sound of the eagle will be hence it has caught the prey so that we are going to use it here so we have loaded the sound into our project ok once it has sent out a message that it has trapped it, it has to happily give the sound that it has got the food so we have to insert a sound, play sound eagle! Yeah you have an option let us use it here, it will play this sound. So after it has played this sound the crying snake would appear and it will eat the snake and once the snake has been eaten that snake would disappear also the eagle would come back to its original position that is what we wanted to be done, so we have to wait for it to be eaten so once it is eat it has eaten the snake it will rest for some time and then it will fly back right? So let us give the wait loop but slightly more time than the snake, snake had got one second waiting time, that is one second it has eaten and one second let it take rest let me say wait for totally two seconds so there is a wait loop and once the wait is over it will again fly back so all these I have in pieces so this particular thing is nothing but I will create a blocks for it so I will say fly, fly is a block so this is my fly block and this I could say as target, target ok! So this would be my target block and or maybe I could club these two because if it is targeting it will come near the snake and it will stop that will never happens right? It will bounce opens the snake and it will eat it so I can club these two blocks as well so this is my target this is the flying part and this is the targeting of the snake part sp these are the two parts so now let me use these blocks initially the eagle has to been shown let me say show then it starts flying then it aims at the target then once it has eaten the snake it is satisfied it will go away so that I am denoting by height that is, it has gone away, it has gone out of the frame so it has gone somewhere so I am hiding it so basically this is what I am trying to do this is the portion of smiling snake and the crying

snake, ok let me check this how it works? Let me double click on this particular block which instructs it, wow! That was so good let me show once again, is the flying too fast? Do you feel that some more delay could be better so that you can feel that it is actually flying, it looks like the eagle is running! So maybe we can insert a delay, this is the computerised image so obviously the speed of the computer is much higher than what! Other living beings are so definitely it would look as it is running so let me insert a delay so that appears as it is flying, one second is too much delay so let me use the delay loop but ok, let me say wait for point one second, that is better I guess zero point one seconds let me wait and now let me again run this, let me double click wow! Now you could see that the eagle was flying just observe one second the eagle is flying it has touched the snake, the snake cry, still it ate the snake and then once it is satisfied the eagle has also gone. See it doesn't wait for me to given description, computers are so fast ok still we will try once again eagle is flying got the snake, snake crying, eaten eagle is flown fine! Wow this is so nice you can try in more creative versions of this as well you can do a lot of things with scratch please do explore a lot this would improve your logical reasoning ability and thanks for watching this screen cast have a nice day! That was again a lot of fun! Did you see how you could pick different pictures and make eagle catch a snake and then go forward right? So you can actually animate, have your own animations, put people over there and then create a story out of it, any more questions in mind? Sir any one can create animations? Absolutely yup, you can create a animation made a video out of it and put it on you tube as well, you should probably try doing that, you have any other challenging exercise in mind? How about this? A bus comes, there are four people are standing, a bus comes picks one person and goes away and same bus comes picks the second person and then goes away third person goes away, fourth person goes away that's it. Each time number of people should reduced, should reduced yeah reduce by one ok? Try doing that and a good challenge would be make a ball bounce in that rectangle region where you animated, you create a ball which is an object and that ball should bounce around and stuff like that so you see there are actually many games written just using scratch, very beautiful games in fact they are addictive you can probably create snakes game, heard of snakes game yeah! Use your arrow keys and the snake moves the things like that a little complicated but it is not so difficult, you probably should try doing it, there are a whole lot of live examples on scratch website itself where in you will be getting code on how exactly a game works and you can see through the code and understand how you can create a variant of them.