In this first lesson we are going to do some basic programming to animate the cat and using the keyboard, make it move around the screen.

Follow the instructions on the right and look at the images on the left to see what code blocks and areas of the interface you need to use.

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| **Blocks to use** | **Instructions** |
|  | Click on FILE on the menu bar then click on NEW to open a new project.  Click on save to save your project and give it a name you will remember eg CatControls. |
|  | Click on the CAT sprite to select it. |
|  | Click on control buttons |
| WhenClicked.PNG | Drag and drop when clicked control onto script area |
|  | Click on motion control icon |
| gotoXorY.PNG | Drag and drop go to x: y: icon onto script area and connect it to the when clicked block.  Use your mouse to find the bottom left corner of the stage and use this coordinates in the go to block.  Click on the green flag to test that the sprite is in the correct position and adjust the x: y: coordinates if you need to.  It should now look something like this. |
| When_keyPressed.PNG  Drop down menu | Now we are going to move the cat around the screen using the arrow keys and make it jump using the space bar.  Go to control buttons and drag when key pressed to script panel  Click on drop down menu and select right arrow |
|  | Go to motion buttons and drag onto script panel:  Point in direction – select right  Move 10 steps – change to 20 steps |
|  | Click on LOOKS buttons |
|  | Drag next costume to script panel  and attach it below the move steps block.  This will animate the cat to make it look as if it is walking. |
|  | To change the speed the cat walks at go to controls and drag WAIT to script panel  Change to 0.1 seconds  You can experiment with changing the speed the cat walks by changing the time between costume changes. Try it and find out what happens. |
|  | Your script will now look like this.  Now go back and repeat the steps above and add controls for the left arrow, up and down.  Or you can right click on your script and select duplicate. This will copy the script and then all you have to do is change which button is pressed and the direction you want to go in when that button is pressed. E.g For left arrow change point in direction -90 or left. |
| When_keyPressed.PNG | Making the cat jump is a little trickier.  Drag when key pressed to script panel and select space from drop down menu.  To make the cat jump we have to change the Y coordinates. |
|  | First you have to move the cat up the Y axis  Drag – change y – from motion icons and set to 75.  This will move the cat 75 pixels up the y axis. |
|  | We now have to bring the cat down again and so that it isn’t trying to do two things at the one time we add a WAIT command.  Set the time to 0.2 seconds |
|  | We now bring the cat down again by adding another change y block and setting it value to  -75 |
|  | Your script should now look like this. |
|  | At the moment when you press the space bar the cat will stop moving left or right and jump.  To allow the cat to jump over objects we have to check to see if certain things are happening.  We have to check if the left or right arrow key is being pressed at the same time as the space bar and if one of them is being pressed we have to find out which one.  We then have to tell the cat to jump and move in whatever the direction they are moving in.  To do this we use a condition statement which checks to see what the current condition is. |
|  | To do this we us an IF control.  Drag an if control onto the script panel |
|  | We now have to use a sensing control to see what button is being pressed. |
|  | Click on the sensing button and drag onto the script area and place it within the hexagon on the if statement. Use the drop down box to change space to left arrow.  This will check to see if the left arrow is being pressed |
|  | Go to motion blocks and drag a change x by block into the if statement. Set the value to -50.  This will move the cat 50 pixels along the x-axis to the left while it is jumping if the left key is pressed. |
|  | Repeat the above instruction and set the drop down menu to right arrow. Set the value to 50.  This will move the cat 50 pixels to the right if the right arrow key is pressed. |
|  | Your finished script to make the cat move and jump at the same time should look like this. |
|  | Now you have finished all your script you have to test you programme to make sure it works ok. |
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| Your whole script should now look like the script on the left.  Click on the green flag above the stage to test your programme.  **Extension.**  You can experiment with the values to see what happens to the programme.  Try changing the number of move steps.  Try changing the waiting times.  Change the x and y coordinates in the jump command to see how high or far the cat can jump.  If you forget some of the original values reset them to the values on the left. |