

For Loop

In the Previous exercise, we saw one type of looping with the while action. This tutorial focuses on the for looping action. Let's recap what the for loop does and how its constructed:

A For loop is useful when you know exactly how many times you want something to loop in a sequence. A For loop has 3 conditions:

For (Init; Condition; Next)

Here's an example in ActionScript:

```
For (I=0; I<10; I++)
```

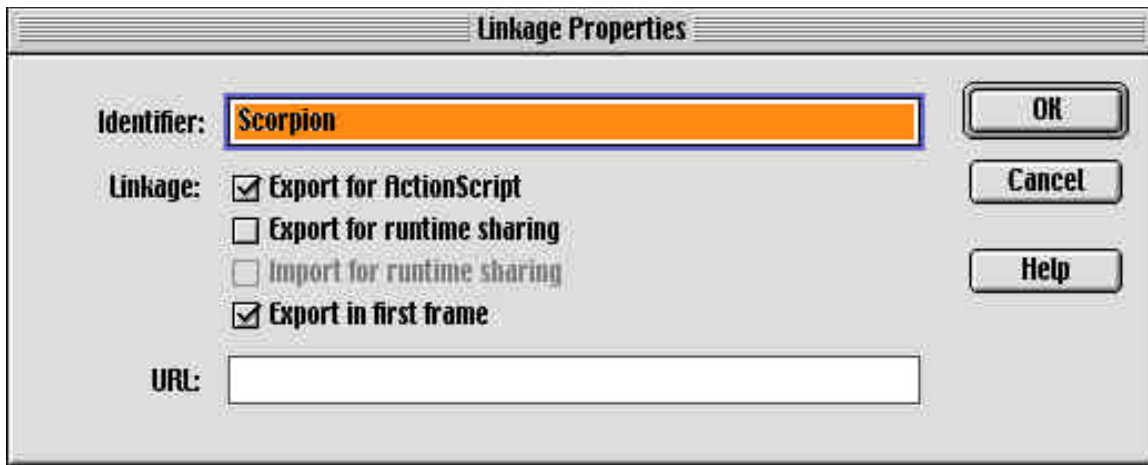
Here you initialize a counter with the I=0, which fulfills our Init condition. Next, you create the circumstance, like you would with an if conditional, to look for, in this case I is less than 10. Then you increment the counter (sometimes decrement) with the I++ condition. ++ is the increment operator. So if the counter begins at 0 and is incremented, the numbers will increase until the Condition we set: I<10 is met. Once the counter reaches 10 the loop is done, there's no need to tell it to stop.

In this particular example, we want to duplicate a Movie Clip across the stage into different positions and then affect its rotation. In this case we'll be using 2 for loop statements, 1 for the duplication and another for the rotation.

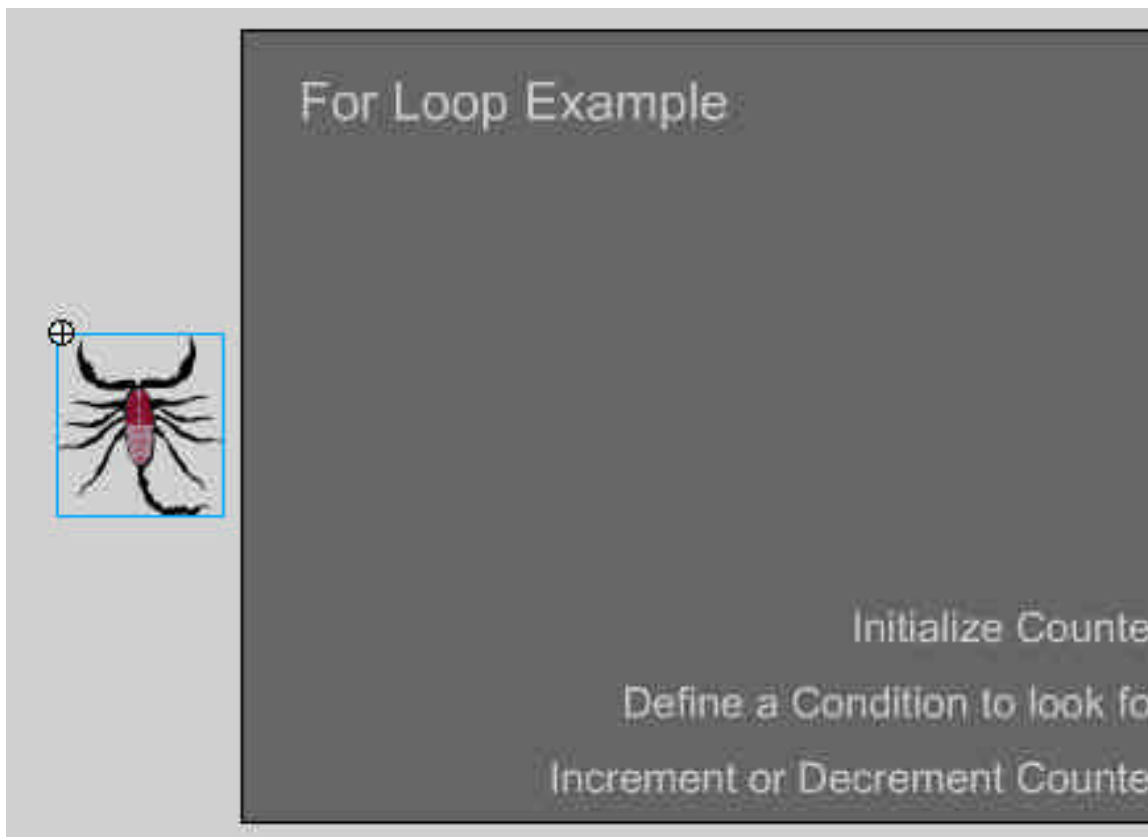
Setting Up the Movie

We'll only be working with 1 movie clip on the stage and our actions will be confined to the MovieClip actions.

1. Open the movie for_example fla
2. Open the Library Panel: Window > Library
3. Click on the Scorpion Movie Clip in the Library.
4. In the top right-hand corner of the Library Panel, click the options button and select Linkage.



5. In the Identifier field type in the word scorpion. Be sure that Export for ActionScript is checked and Export in First Frame is also checked and click OK.
6. Drag a copy of the scorpion Movie Clip out of the Library and outside of the left side of the stage.



7. With the Align to stage option set in the Align Panel, horizontally align the Movie Clip to the center. Note the Y axis in the Info Panel. It should be 115. Save your movie.

Setting Up the Actions

All of the Actions for this movie will be placed on the Movie Clip using the Movie Clip event handler actions.

8. With the Movie Clip still selected, go to the Actions Panel: Window > Actions.
9. Set the Actions Panel mode to Expert by clicking on the icon in the upper right-hand corner and choosing Expert Mode. You can also set the Actions Panel to always open in the Expert Mode in the Preferences dialog box.
10. Enter the first Event Handler in the ActionScript Panel:

```
onClipEvent (load) {
```

11. Hit the Enter key twice and type in the following code:

```
// create 10 movie clips
```

This is a comment tag, much like you can create comments in HTML. The purpose of comments in scripts is to write notes to yourself or others who are working on the same project as reminders or developmental learning.

12. Hit the Enter key and then the Tab key to set up the next line of code. By hitting the Tab key, you are indenting the code which is helpful when viewing the code. Note that in the first line of code you entered, you opened up a curly brace ({}). That brace is opening up a statement and the actions inside the curly braces will be run on the Event Handler onClipEvent(load). This means that on the loading of this Movie Clip, run the following actions. Type in the following script next:

```
for(i=0;i<10;i++) {  
    _root.attachMovie("scorpion","scorpion"+i,i);
```

Here we set up our first for loop. We're initializing a counter `i=0`. Then we define the condition `i` is less than 10. Finally we increment the counter with the `i++` statement. Indenting the next line of code, we run the `attachMovie` action to duplicate the scorpion Movie Clip that's in the Library. We are actually calling on the scorpion Movie Clip in the Library instead of something on the stage, which is really cool. Note the absolute path `_root.attachMovie` telling the script where to place the copies. In the parentheses we first tell the `attachMovie` action which Movie Clip we want to duplicate ("scorpion"), then we give the duplicate copies new names ("scorpion"+`i`). Instead of having to name our duplicates `scorpion1`, `scorpion2`, etc., we let the script number each duplicate with the value from our counter. Finally, we assign a depth to the duplicate copies (`i`) and again, we use the value from the counter for each. So `scorpion1` is at level 1, `scorpion 2` is at level 2, etc.

13. Enter the next lines of code:

```
// set the location  
    _root["scorpion"+i]._x = i*50+50;  
    _root["scorpion"+i]._y = 115;  
}
```

```
}
```

You've seen the comment tag before and here we're using it to remind us what we're doing with the next set of code, which will be to set the X/Y location of the duplicates on the stage. So for each duplicate copy ["scorpion"+I], the `_x` and `_y` property is being set. The X location is taking the value of our counter and multiplying it by 50 then adding 50 to that. You can play with these values to create more spacing or less. The Y location is being set to 115, which will line up the duplicates to the same exact Y location as the scorpion Movie Clip that's already on the stage. Be sure to put the closing curly braces, otherwise the script will NOT work. You'll notice that the curly braces will align themselves to the opening statement that they close. Also, spacing is irrelevant in ActionScripting, however, I use it personally to break things up visually.

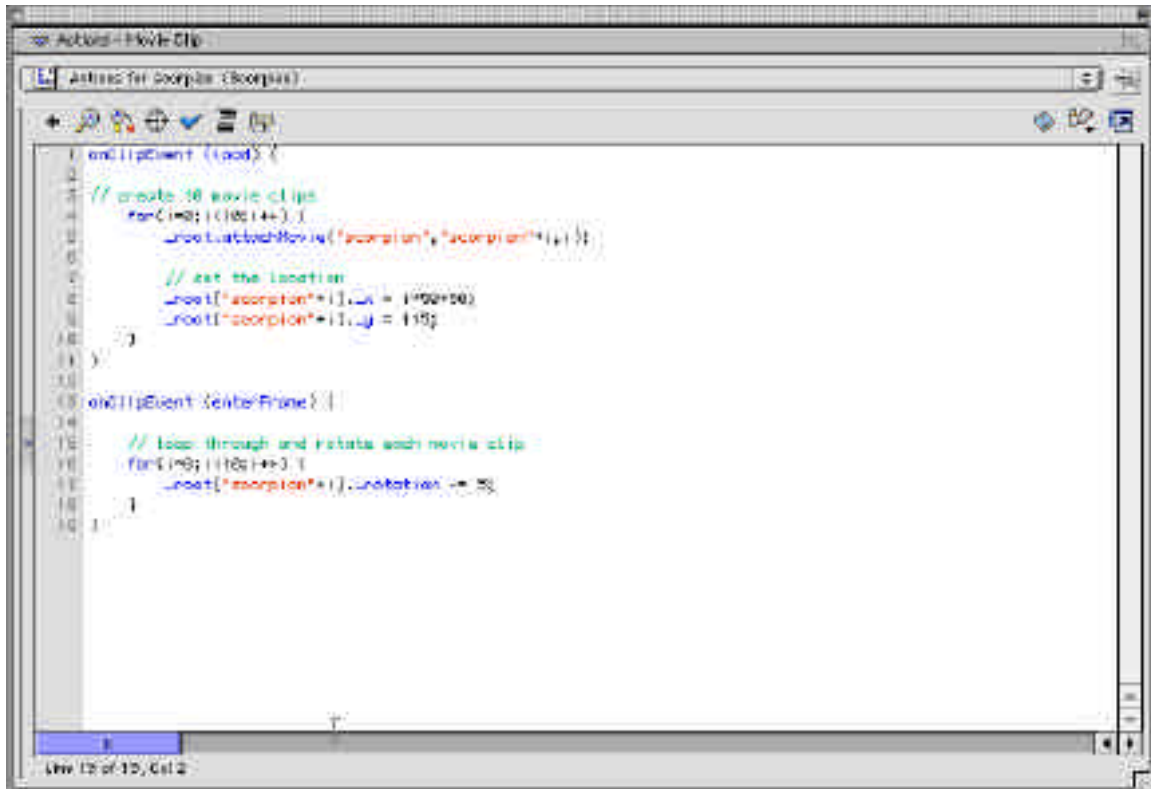
14. Hit the Enter key and start the next Event Handler:

```
onClipEvent (enterFrame) {
```

15. Hit the Enter key and then the Tab key and write the final lines of code which will rotate our duplicate Movie Clips:

```
    // loop through and rotate each movie clip
    for(i=0;i<10;i++) {
        _root["scorpion"+i]._rotation -= 5;
    }
}
```

Here we start with another comment tag. Then we open our second for loop. We're using the same counter, the same condition, and the same increment for the parameters. Then we set the rotation property of each duplicate to `-=5` which will incrementally rotate the duplicates `-5` degrees. This process loops over and over causing the duplicates to rotate 360 degrees. Your final script should look like this:



16. Go to the Control Menu > Test Movie and view the final product. The original scorpion Movie Clip is duplicated 10 times and each one rotates 360 degrees. Look Ma, no Tweening!

Resources: Flash Fun And Games by Sham Bhangal. FriendsofEd press. ISBN: 1-903450-32-2.