Programmatic Animation }

Advanced Multimedia Technologies

Programmatic Animation

- What is Animation?
- What is Programatic Animation?
- Interactive Animation
- Enterframe vs Timer /// make this still
- Conclusions

What is Animation?

an·i·mate -

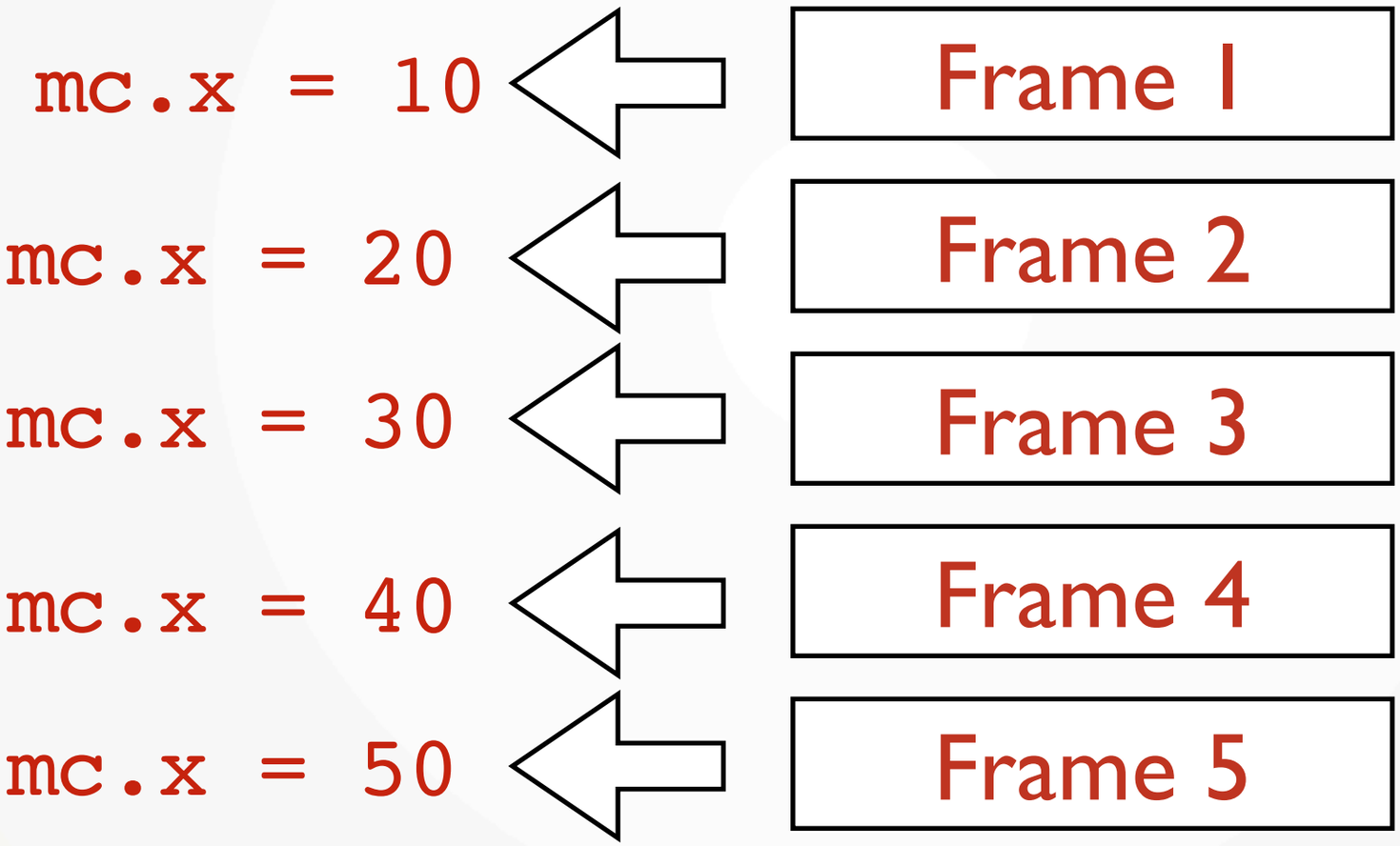
1. To give spirit and support to
2. To give live to.
3. To move to action

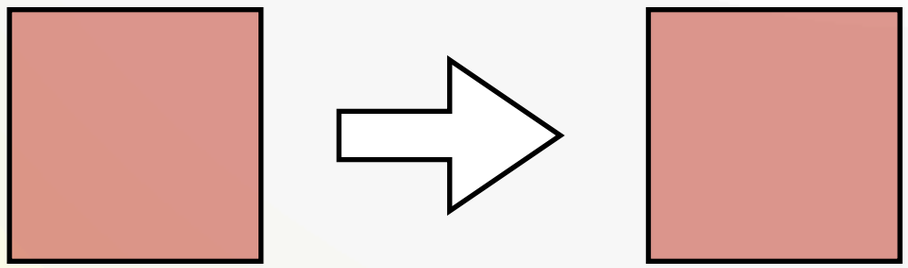
source: http://m-w.com

What is Programmatic Animation?

Programmatic Animation-
Change Properties over time

Programmatic Animation





moves on the x

Programmatic Animation Flavors

- Tween Class
- EnterFrame
- Timer

Tween Class

Programmatic Animation Example

```
import fl.transitions.Tween;
import fl.transitions.easing.*;

var myTween:Tween;
myTween = new Tween(mc, "x",Bounce.easeOut, 0, 300, 3, true);
```

Programmatic Animation Example

```
import fl.transitions.Tween;
import fl.transitions.easing.*;

var myTwee       en;
myTween = ne   Twee                                    300, 3, true);
```

Importing Tween Class

Programmatic Animation Example

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import fl.transitions.Tween;
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var myTween:Tween;
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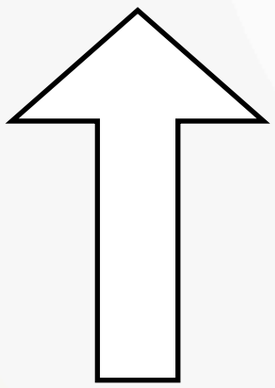

Creating a Tween Object

Programmatic Animation Example

```
import fl.transitions.Tween;
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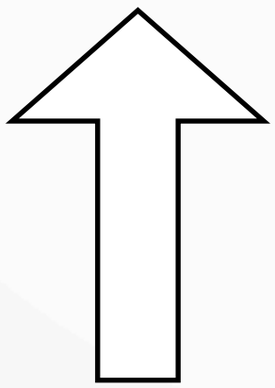

name of the MovieClip Object

Programmatic Animation Example

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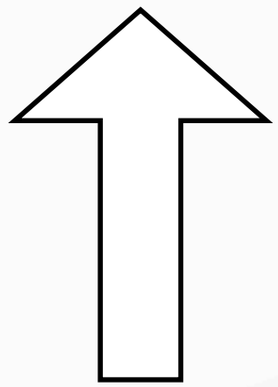
```

Type of easing



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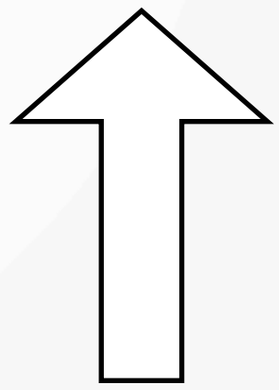
```

start and stop values



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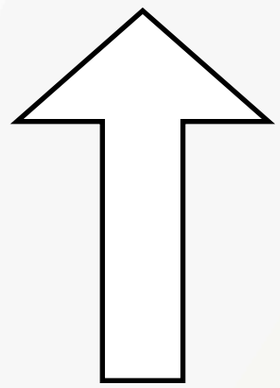
```

number of seconds



Programmatic Animation Example

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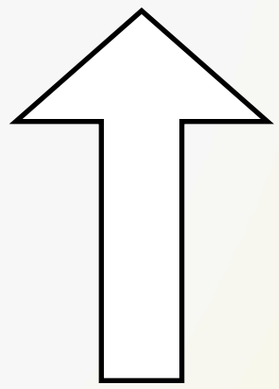
```

actual seconds or milliseconds



Enterframe }

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EnterFrame

```
// assuming mc is a moviclip on your stage

mc.addEventListener(Event.ENTER_FRAME, onEnter)

// This will move mc at a rate of 240px every second

function onEnter(e:Event):void{

  e.target.x+=10;

}
```

Timer

Timer

```
// assuming mc is a moviclip on your stage

var timer:Timer = new Timer(1000)

timer.addEventListener(TimerEvent.TIMER, onT)

// This will move mc at a rate of 10px every second

function onT(e:TimerEvent):void{

  e.target.x+=10;

}

// Starts the timer
timer.start()
```

Distribution

Distribution

```
// assuming MC is library reference in your library

for(var i:int=0; i<10; i++)
  var mc:MC = new MC
  addChild(mc)
  mc.x = Math.random()*300
  mc.addEventListener(Event.ENTER_FRAME, onEnter)
}

// This will move mc at a rate of 10px every second

function onEnter(e:Event):void{

  e.target.x+=10;

}
```

Interactive Animation

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Interactive Animation

```
mc.addEventListener(MouseEvent.CLICK, onClick);


function onClick(e:MouseEvent){
    mc.x+=20
}
```

Interactive Animation

```
mc.addEventListener(MouseEvent.CLICK, onClick);
```

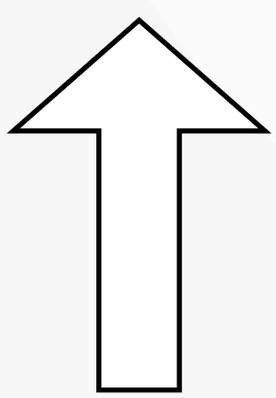
```
function onCli
    mc.x+= ;
}
```

registering a click event on the MovieClip Object

Interactive Animation

```
mc.addEventListener(MouseEvent.CLICK, onClick);


function onClick(e:MouseEvent){
    mc.x+=20
}
```



function to handle
the click event

Interactive Animation

```
mc.addEventListener(MouseEvent.CLICK, onClick);


function onClick(e:MouseEvent){
    mc.x+=20
}
```

The MovieClip object will move across the screen 10 pixels for every mouse click

Conclusions

Conclusions

- Any property that can change is animate-able
- Programatic Animation is the changing of properties over time
- Animation can be Event driven
  - *i.e. Mouse Click*

Programatic Animation: Summary

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