Easing

Easing functions describe functions that control the way an interpolation between 0 and 1 is done.

The most basic easing function, linear, is just a linear interpolation at constant speed. Other more advanced easing functions can have acceleration at the beginning, the end or both or deceleration, or even bouncing or elastic effects.

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Preliminary note

In the functions using easing, there are usually 3 optional parameters. Most functions don't need them at all, the ones needing one or more parameters are listed in the table below. When providing optional parameters, all the parameters before a given parameter must be filled, even if the easing function you intend to use doesn't require such a parameter. In this case, simply use 0 for the parameters you don't need. Examples:

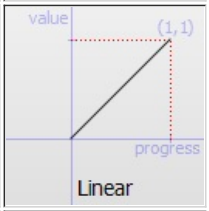
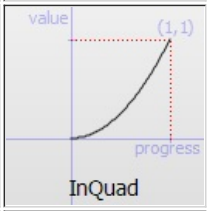
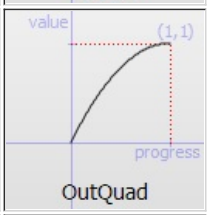
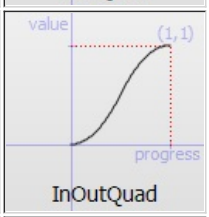
- *"Linear"* can be used simply with *getEasingValue(fProgress, "Linear")*
- *"OutElastic"* can define *fEasingPeriod* and *fEasingAmplitude* so it can be used with *getEasingValue(fProgress, "OutElastic", 0.3, 1.0)*
- *"InBack"* can define *fEasingOvershoot*, but since it comes after *fEasingPeriod* and *fEasingAmplitude* in the order of parameters, 0 must be used for the others with *getEasingValue(fProgress, "InBack", 0, 0, 1.7015)*

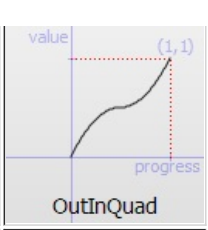
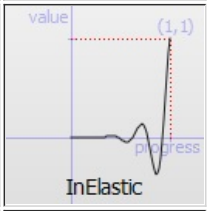
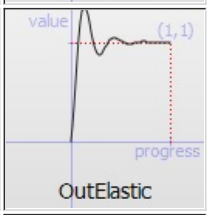
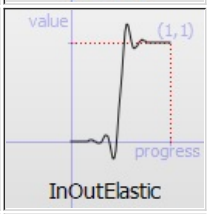
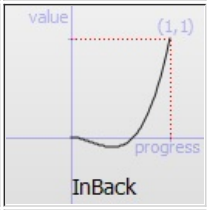
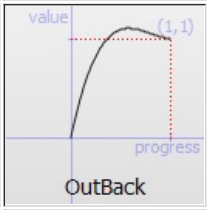
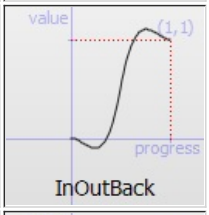
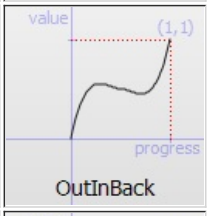
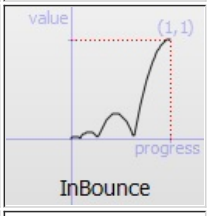
Easing functions

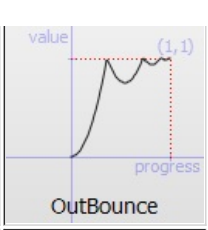
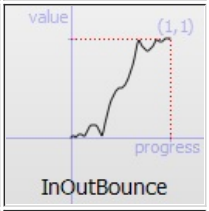
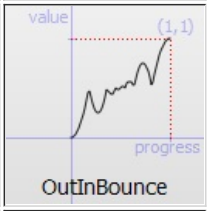
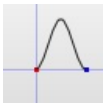
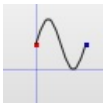
```
--List of builtin easing functions
builtins={ "Linear", "InQuad", "OutQuad", "InOutQuad", "OutInQuad", "InElastic", "OutElastic", "InOutElastic", "OutInElastic"
, "InBack", "OutBack", "InOutBack", "OutInBack", "InBounce", "OutBounce", "InOutBounce", "OutInBounce", "SineCurve", "CosineC
urve" }
```

Default values are (when a function can use a parameter but it's not defined by the user):

- *fEasingPeriod:* 0.3
- *fEasingAmplitude :* 1.0
- *fEasingOvershoot:* 1.701

Easing function	Function profile	Uses fEasingPeriod	Uses fEasingAmplitude	Uses fEasingOvershoot	Comments
Linear					
InQuad					
OutQuad					
InOutQuad					

OutInQuad					
InElastic		yes	yes		Due to the elastic effect, this easing function produces some values < 0
OutElastic		yes	yes		Due to the elastic effect, this easing function produces some values > 1
InOutElastic		yes	yes		Due to the elastic effect, this easing function produces some values < 0 and > 1
OutInElastic		yes	yes		Due to the elastic effect, this easing function produces some values < 0 and > 1
InBack				yes	Due to overshoot, this easing function produces some values < 0
OutBack				yes	Due to overshoot, this easing function produces some values > 1
InOutBack				yes	Due to overshoot, this easing function produces some values <0 and > 1
OutInBack				yes	
InBounce			yes		

OutBounce			yes		
InOutBounce			yes		
OutInBounce			yes		
SineCurve					This easing function doesn't end at 1 but goes back to 0. In this case, for interpolation, the target value is just an edge but doesn't represent the stop value.
CosineCurve					This easing function both starts and stops at 0.5, going first to 1 then 0. In this case, for interpolation, the source and target values are just the edges but don't represent the start/stop values.