

Additional Math Functions (bl_math)

Miscellaneous math utilities module

bl_math.clamp(value, min=0, max=1)

Clamps the float value between minimum and maximum. To avoid confusion, any call must use either one or all three arguments.

PARAMETERS:

- **value** (*float*) – The value to clamp.
- **min** (*float*) – The minimum value, defaults to 0.
- **max** (*float*) – The maximum value, defaults to 1.

RETURNS:

The clamped value.

RETURN TYPE:

float

bl_math.lerp(from_value, to_value, factor)

Linearly interpolate between two float values based on factor.

PARAMETERS:

- **from_value** (*float*) – The value to return when factor is 0.
- **to_value** (*float*) – The value to return when factor is 1.
- **factor** (*float*) – The interpolation value, normally in [0.0, 1.0].

RETURNS:

The interpolated value.

RETURN TYPE:

float

bl_math.smoothstep(from_value, to_value, value)

Performs smooth interpolation between 0 and 1 as value changes between from and to values. Outside the range the function returns the same value as the nearest edge.

PARAMETERS:

- **from_value** (*float*) – The edge value where the result is 0.
- **to_value** (*float*) – The edge value where the result is 1.
- **factor** (*float*) – The interpolation value.

RETURNS:

The interpolated value in [0.0, 1.0].

RETURN TYPE:

float