Getting a Mixing Parameter

\[
\text{if create a value of 0. or 1. from the value of } x \text{ wrt edge:}
\]
\[
\quad t = \text{step}(\text{float edge, float } x);
\]

\[
\text{if create a value in the range 0. to 1. from the value of } x \text{ wrt edge0 and edge1:}
\]
\[
\quad t = \text{smoothstep}(\text{float edge0, float edge1, float } x);
\]

### Using that Mixing Parameter to Blend Two Quantities

\[
\text{if use the returned value from step( ) or smoothstep( ) to blend value0 to value1:}
\]
\[
\quad T\text{ out} = \text{mix}(T\text{ value0, T value1, float } t);
\]

where T can be just about any type: float, vec2, vec3, vec4, ...

\[
\text{out} = (1.-t) \ast \text{value0} + t \ast \text{value1}
\]

One would expect \(0. \leq t \leq 1.\), but that doesn’t have to be true. After all, these are just numbers.

For a fun exercise with this, change the morphing slider to go beyond \(0.-1.\).

As we will see later, there are really good uses for going beyond the range \(0.-1.\).
Both go from 0. to 1.
Both have initial and final slopes of 0.
The quintic has initial and final curvatures of 0.

\[ y = 10x^3 - 15x^4 + 6x^5 \]

\[ y = 3x^2 - 2x^3 \]