

$$a = f[x_0, x_1, x_2]$$

$$b = f[x_0, x_1] - (x_0 + x_1)f[x_0, x_1, x_2]$$

$$c = f(x_0) - x_0 f[x_0, x_1] + x_0 x_1 f[x_0, x_1, x_2]$$

$$f[x_0, x_1] = \frac{y_1 - y_0}{x_1 - x_0}$$

$$f(x) \cong f(x_0) + f[x_0, x_1](x - x_0) + f[x_0, x_1, x_2](x - x_0)(x - x_1).$$

$$f(x) \cong f(x_0) + \frac{f(x_1) - f(x_0)}{x_1 - x_0} (x - x_0) + \frac{f[x_1, x_2] - f[x_0, x_1]}{x_2 - x_0} \cdot (x^2 - x_1 x - x_0 x + x_0 x_1)$$

$$f(x) = f(x_0) + \underbrace{\frac{f(x_1) - f(x_0)}{x_1 - x_0}}_{C_1} (x - x_0) + \underbrace{\frac{\frac{f(x_2) - f(x_1)}{x_2 - x_1} - \frac{f(x_1) - f(x_0)}{x_1 - x_0}}{x_2 - x_0}}_{C_2} \cdot (x^2 - x_1 x - x_0 x + x_0 x_1)$$

$$f(x) = f(x_0) + C_1 (x - x_0) + C_2 (x^2 - (x_1 + x_0)x + x_0 x_1)$$

$$f(x) = f(x_0) + C_1 x - C_1 x_0 + C_2 x^2 - C_2 (x_1 + x_0)x + C_2 x_0 x_1$$

$$f(x) = f(x_0) - C_1 x_0 + C_2 x_0 x_1 + C_1 x - C_2 x_1 x + C_2 x_0 x + C_2 x^2$$

$$f(x) = f(x_0) - C_1 x_0 + C_2 x_0 x_1 + (C_1 - C_2 x_1 + C_2 x_0)x + C_2 x^2$$

$$c = f(x_0) - C_1 x_0 + C_2 x_0 x_1$$

$$c = f(x_0) - \frac{f(x_1) - f(x_0)}{x_1 - x_0} x_0 + \frac{\frac{f(x_2) - f(x_1)}{x_2 - x_1} - \frac{f(x_1) - f(x_0)}{x_1 - x_0}}{x_2 - x_0} x_0 x_1$$

$$c = f(x_0) - f[x_0, x_1] x_0 + f[x_0, x_1, x_2] x_0 x_1$$

$$b = C_1 - C_2 x_1 + C_2 x_0$$

$$b = \frac{f(x_1) - f(x_0)}{x_1 - x_0} - \frac{\frac{f(x_2) - f(x_1)}{x_2 - x_1} - \frac{f(x_1) - f(x_0)}{x_1 - x_0}}{x_2 - x_0} x_1 + \frac{\frac{f(x_2) - f(x_1)}{x_2 - x_1} - \frac{f(x_1) - f(x_0)}{x_1 - x_0}}{x_2 - x_0} x_0$$

$$b = f[x_0, x_1] - f[x_0, x_1, x_2] x_1 + f[x_0, x_1, x_2] x_0$$

$$b = f[x_0, x_1] - f[x_0, x_1, x_2] (x_1 + x_0)$$

$$a = C_2$$

$$a = \frac{\frac{f(x_2) - f(x_1)}{x_2 - x_1} - \frac{f(x_1) - f(x_0)}{x_1 - x_0}}{x_2 - x_0}$$

$$a = f[x_0, x_1, x_2]$$