

$$P(x) = \frac{(x-x_2)(x-x_3)(x-x_4)}{(x_1-x_2)(x_1-x_3)(x_1-x_4)} Y_1$$

$$+ \frac{(x-x_1)(x-x_3)(x-x_4)}{(x_2-x_1)(x_2-x_3)(x_2-x_4)} Y_2$$

$$+ \frac{(x-x_1)(x-x_2)(x-x_4)}{(x_3-x_1)(x_3-x_2)(x_3-x_4)} Y_3$$

$$+ \frac{(x-x_1)(x-x_2)(x-x_3)}{(x_4-x_1)(x_4-x_2)(x_4-x_3)} Y_4$$

$$Y_{12} = \text{FLINE}(X_1, Y_1, X_2, Y_2, X) \\ = \frac{Y_1(X_2 - X) + Y_2(X - X_1)}{(X_2 - X_1)}$$

$$Y_{23} = \text{FLINE}(X_2, Y_2, X_3, Y_3, X) \\ = \frac{Y_2(X_3 - X) + Y_3(X - X_2)}{(X_3 - X_2)}$$

$$Y_{34} = \text{FLINE}(X_3, Y_3, X_4, Y_4, X) \\ = \frac{Y_3(X_4 - X) + Y_4(X - X_3)}{(X_4 - X_3)}$$

$$Y_{123} = \text{FLINE}(X_1, Y_{12}, X_3, Y_{23}, X) \\ = \frac{Y_{12}(X_3 - X) + Y_{23}(X - X_1)}{(X_3 - X_1)}$$

$$Y_{234} = \text{FLINE}(X_2, Y_{23}, X_4, Y_{34}, X) \\ = \frac{Y_{23}(X_4 - X) + Y_{34}(X - X_2)}{(X_4 - X_2)}$$

$$Y_{1234} = \text{FLINE}(X_1, Y_{123}, X_4, Y_{234}, X) \\ = \frac{Y_{123}(X_4 - X) + Y_{234}(X - X_1)}{(X_4 - X_1)}$$



$$Y_{1234} = \left[ \frac{Y_{12}(x_3 - x) + Y_{23}(x - x_1)}{(x_3 - x_1)(x_4 - x_1)} \right] (x_4 - x) \\ + \left[ \frac{Y_{23}(x_4 - x) + Y_{34}(x - x_2)}{(x_4 - x_1)(x_4 - x_2)} \right] (x - x_1)$$

$$Y_{1234} = Y_{12} \left[ \frac{(x_3 - x)(x_4 - x)}{(x_3 - x_1)(x_4 - x_1)} \right] \\ + Y_{23} \left[ \frac{(x - x_1)(x_4 - x)}{(x_3 - x_1)(x_4 - x_1)} + \frac{(x_4 - x)(x - x_1)}{(x_4 - x_1)(x_4 - x_2)} \right] \\ + Y_{34} \left[ \frac{(x - x_2)(x - x_1)}{(x_4 - x_1)(x_4 - x_2)} \right]$$

$$Y_{1234} = \left[ \frac{Y_1(x_2 - x) + Y_2(x - x_1)}{(x_2 - x_1)} \right] \left[ \frac{(x_3 - x)(x_4 - x)}{(x_3 - x_1)(x_4 - x_1)} \right]$$

$$+ \left[ \frac{Y_2(x_3 - x) + Y_3(x - x_2)}{(x_3 - x_2)} \right] \left[ \frac{(x - x_1)(x_4 - x)}{(x_4 - x_1)} \right] \left[ \frac{(x_4 - x_2) + (x_3 - x_1)}{(x_3 - x_1)(x_4 - x_2)} \right]$$

$$+ \left[ \frac{Y_3(x_4 - x) + Y_4(x - x_3)}{(x_4 - x_3)} \right] \left[ \frac{(x - x_2)(x - x_1)}{(x_4 - x_1)(x_4 - x_2)} \right]$$

