Backward Difference Formula

$$P(x) = y_0 + p\nabla y_0 + \frac{p(p+1)}{2!}\nabla^2 y_0 + p(p+1)(p+2)\nabla^3 y_0$$

$$+ \frac{p(p+1)(p+2)(p+3)}{4!}\nabla^4 y_0$$