# Monotone Cubic Interpolation

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Given a set of data points $(x_1, y_1), \ldots, (x_n, y_n)$ in which both coordinates strictly increase moving down the list (i.e. $x_1 < \ldots < x_n$ and $y_1 < \ldots < y_n$), how can we define a function $f(x) = y$ which passes through all points and which has positive slope everywhere? Drawing line segments between adjacent points almost works, but the derivative is generally undefined at each point, since the slopes of the segments on either side may be different.